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BRITANNICA
BOOK OF THE YEAR
1953



"Happy and Glorious"—Her Majesty the Queen on her way to open Parliament on November 4, 1952.

BRITANNICA BOOK OF THE YEAR

1953



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PREFACE

THE memorable period which this edition of the *Book of the Year* records touched the deepest emotions of the English-speaking peoples. The death of King George VI, a beloved sovereign, the servant of his subjects, brought sadness to all; the accession of his daughter, our Queen, Elizabeth, a resurgence of confidence and loyalty. In the United States, where events in Britain had been followed almost with feelings of family, a great soldier, General Eisenhower, to whom the free world owed much, was elected President.

All these events and many more the *Britannica Book of the Year 1953* recalls by word and illustration. For the press photographers, 1952 was a year of golden opportunity superbly taken: King George's last, sad farewell to his daughter at Heathrow (p. 443), Queen Elizabeth's return to her capital (p. 269), the lying-in-state in Westminster hall (p. 268), the proclamation of the coronation (p. 363) and the ' Happy and Glorious ' of our frontispiece are examples of their power to hold a moment of time beyond forgetfulness.

The *Book of the Year* contains few new titles. Two of them, EUROPEAN DEFENCE COMMUNITY and MUTUAL SECURITY PROGRAMME, are notable contributions to a clear understanding of developments in western Europe. Others, no less weighty, are ULTRASONICS and COST OF LIVING, which subject is removed from PRICES to be given extended and enlightening treatment on its own. SPELEOLOGY, for the intrepid only, appears for the first time, so do POTTERY AND PORCELAIN and HOME GUARD; SAUDI ARABIA is separated from ARABIA and OLYMPIC GAMES makes its one in four appearance.

Following custom, some major articles are picked out and prefaced with historical paragraphs covering a longer period than one year. EDUCATION is one of these and TRANSPORT, a new title, surveys the attempt to integrate road and rail services in Britain. Abroad, the situation in Southeast Asia is clarified by the special treatment given to MALAYA, FEDERATION OF, INDOCHINA and INDIA.

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(JOHN) TERENCE REESE Bridge Correspondent, *Observer* and *Evening News*, London Author of *Reese on Play*; *The Elements of Contract* (with Hubert Phillips), etc

T.V.H. **Athletics** (*in part*); **etc.**
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V.E.F. **Antarctica**
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V.E.Y. **Plastics Industry**
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V.S.S. **Paper and Pulp Industry**
VINCENT STANLEY SMITH Paper mill advertising consultant, London

V.T.E. **Austria**
VICTOR THOMAS EGGER, B Sc (Econ), Ph D Director of London branch of Austrian publishers and printers Broadcaster on politics and economics

W.A.D. **Theatre** (*in part*)
WILLIAM AUBREY DARLINGTON, M A Dramatic Critic, *Daily Telegraph*, London, and London Drama Correspondent, *New York Times* Author of *The Actor and His Audience*, etc

W.As. **Heavy Engineering; Light Engineering**
WILLIAM ANDREWS, B Met , F I M Technical Editor, *The Times Review of Industry*, London

W.B.Dy. **Boxing** (*in part*)
WILLIAM HENRY BARRINGTON DALBY Writer and broadcaster on boxing, London; Administrative Steward, British Boxing Board of Control

W.B.F. **Anthropology** (*in part*)
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W.B.Hd. **Geology**
WALTER BRIAN HARLAND, M A Fellow of Gonville and Caius College, Cambridge, Lecturer in Geology, University of Cambridge

W.C.An. **Spanish Literature**
WILLIAM CHRISTOPHER ATKINSON, M A. Stevenson Professor of Spanish, University of Glasgow Author of *Spain, a Brief History*, etc

W.Dk. **Blood, Diseases of the**
WILLIAM DAMASHEK, M D. Professor of Clinical Medicine, Tufts College Medical School, Medford, Massachusetts, Senior Physician and Haematologist, New England Center Hospital, Boston, Editor-in-Chief, *Blood—the Journal of Hematology*, New York

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W.G.P. **Indonesia; etc.**
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W.H.A. **Salvation Army**
WILLIAM HERBERT ASHWORTH Brigadier, Salvation Army. Publicity Director, Press Officer and Advertising Manager, Salvation Army International Headquarters, London

W.Han. **Motor Industry** (*in part*); **Motor Transport** (*in part*)
WOODTHORPE JUDE HARRISON, B.A Economist, London

W.H.Ctr. **Council of Europe**
WILLIAM HORSFALL CARTER, M.A Head of Publications Office, Council of Europe, Strasbourg; Editor, *The Fortnightly*, London, 1937-39, formerly Laming Travelling Fellow, The Queen's College, Oxford. Co-author of *The Life of Leonid Krassin*; translator of books from French, German and Spanish.

W.H.G. **Roads** (*in part*)
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W.H.Is. **Central African Federation; Gold Coast; etc.**
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W.H.McC. **Astronomy**
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W.H.Oe. **Surgery**
SIR (WILLIAM) HENEAGE OGILVIE, K B.E , M A , M.Ch., M D , Hon LL D , Hon. F.A.C.S , Hon F R.C.S C , Hon.F R A.C S., Hon M.S. Senior Surgeon to Guy's Hospital, London, and Lecturer in Surgery, Guy's Hospital Medical School (University of London); Surgeon to the Royal Masonic Hospital, London; late Vice-President, Royal College of Surgeons, London; Editor, *Practitioner*. Author of *Recent Advances in Surgery*; *Forward Surgery in Modern War*, *Surgery Orthodox and Heterodox*; etc.

W.H.R. **Beekeeping**
WILLIAM HENRY RICHARDSON Methodist Minister; Fellow of the Royal Entomological Association; Honours Diploma Lecturer and former Chairman, British Beekeepers' Association.

W.H.We **Philosophy**
WILLIAM HENRY WALSH, M A. Fellow and Tutor, Merton College, Oxford, Lecturer in Philosophy, University of Oxford Author of *Reason and Experience*, *An Introduction to Philosophy of History*.

W.J.Cl. **Co-operative Movement** (*in part*)
WALLACE JUSTIN CAMPBELL Director, Washington Office, Co-operative League of the U S A.

W.J.G.C. **Spices**
WILLIAM JOHN GAVIN COWIE, M A Economic Assistant, Commonwealth Economic Committee, London.

W.K.F. **Pharmacy**
WILLIAM KENNETH FITCH, M P.S Editor, *Pharmaceutical Journal*, London, Publications Manager, Pharmaceutical Society of Great Britain Author of *Gas Warfare*.

W.L.Be. **Eye, Diseases of the**
WILLIAM L BENEDICT, M.D Emeritus Professor of Ophthalmology, University of Minnesota Graduate School, Mayo Foundation, Rochester, Minnesota

W.Mr. **Organization of American States**
WILLIAM MANGER, Ph D Assistant Secretary-General, Organization of American States, Washington.

W.N. **Words and Meanings New** (*in part*)
WALTER NASH, M A. Lektor in English, University of Lund, Sweden

W.O.L.S. **Youth Employment** (*in part*)
WILLIAM OWEN LESTER SMITH, LL D , M.A Professor of the Sociology of Education, University of London (at the Institute of Education) Author of *To Whom do Schools belong?*, *Education in Great Britain*; etc

W.P.Ma. **Telegraphy** (*in part*)
WALTER P. MARSHALL President, Western Union Telegraph Company, New York

W.P.Ws. **Co-operative Movement** (*in part*)
WILLIAM PASCOE WATKINS, B A. Director, International Co-operative Alliance, London Author of *Co-operation A Survey of the Principles and Organisation of the Co-operative Movement in Great Britain and Ireland* (jointly with Professor F Hall)

W.R.W. **Veterinary Medicine** (*in part*)
WALTER REGINALD WOOLDRIDGE, M Sc., Ph D , M.R C V.S., F R I.C Scientific Director, Animal Health Trust, London Author of *War Gases and Foodstuffs*; *Animal Health on the Farm*.

W.Ss. **Field Sports**
WILSON STEPHENS. Editor-in-Chief, *The Field*, London

W.T.Ws. **Judiciary, British; Law and Legislation** (*in part*)
WILLIAM THOMAS WELLS, B A. Barrister-at-Law. Member of Parliament Member, Lord Chancellor's Committee on the Practice and Procedure of the Supreme Court and Magistrates' Courts Rules Committee Author of *How English Law Works*.

W.V.P. **Hong Kong**
WILFRED VICTOR PENNELL. Assistant Editor, *South China Morning Post*, Hong Kong.

W.V.Wt. **Prices** (*in part*)
WILLIAM V WILMOT, Jr. Instructor, Department of Economics, University of Wisconsin, Madison, Wisconsin.

W.W.Bn. **Education** (*in part*)
WILLIAM W. BRICKMAN. Associate Professor of Education and Chairman, Department of History of Education, New York University; President's Research Fellow, Brown University, Providence, Rhode Island, 1950-51. Former Editor, *Education Abstracts*; author of *Guide to Research in Educational History*.

W.W.G. **Cambridge University**
WALTER WYATT GRAVE, M.A., Ph.D. Principal, University College of the West Indies, St. Andrew, Jamaica. Formerly Registrary, University of Cambridge, and Fellow of Emmanuel College, Cambridge.

W.W.Rr. **Stocks and Shares** (*in part*)
WILLIAM WOTHERSPOON ROGER. Assistant Editor, *Financial Times*, London.

X.
ANONYMOUS.

DIARY OF EVENTS, 1952

JANUARY

1: **Egypt.** Egyptians opened fire on British positions in the curfew area of Ismailia. Exchanges of fire continued for 3 hr.

2: **Great Britain-Libya.** The Treasury announced that from Jan. 3 Libya would be included in the sterling area for purposes of the Exchange Control act.

United Nations. The general assembly resumed at the Palais de Chaillot, Paris.

3: **Burma.** Burma became a member of the International Monetary fund and of the International Bank for Reconstruction and Development.

Cricket. Australia beat the West Indies by one wicket in the fourth test match at Melbourne, thereby winning the series.

4: **Egypt.** The British army closed all roads into Suez.

Cricket. The third test match between England and India ended in a draw at Calcutta.

5: **India-United States.** The prime minister and the U.S. ambassador signed an agreement setting up an Indo-American fund for economic development.

United States-Great Britain. Winston Churchill, British prime minister, arrived in Washington for talks with President Harry S. Truman

7: **Great Britain.** R. A. Butler, chancellor of the exchequer, announced that the gold and dollar reserves of the sterling area had fallen, in the last quarter of 1951, by nearly £334 million.

France. René Pleven, prime minister, resigned following his defeat in the assembly by 339 votes to 245 in the first of eight votes of confidence connected with the Finance bill.

8: **Germany.** Final figures in the 1950 census showed that more than 9,600,000 persons had moved into western Germany during and after World War II.

9: **Belgium.** Joseph Pholien, prime minister, together with his Christian Social government, resigned after criticism by his own party of the government's economic policy.

France. Georges Bidault, M.R.P., agreed to try to form a government.

10: **United States.** R. B. Russell, chairman of the Senate Armed Services committee, said that the total strength of the armed forces was expected to reach 3,578,000 by the end of June.

The U.S. cargo ship "Flying Enterprise" sank about 40 mi. from Falmouth, Cornwall.

11: **Canada.** Winston Churchill arrived in Ottawa for a four-day visit.

France. General Jean de Lattre de Tassigny, high commissioner and c.-in-c. in Indochina, died in Paris.

German Fed. Rep. The Bundestag ratified the treaty setting up a European Coal and Steel community by a majority of 89 votes.

United Nations. The general assembly adopted the western disarmament proposals by 42 votes to 5 with 7 abstentions.

12: **Egypt.** A large-scale action was launched in the Tel el-Kebir area by about 100 Egyptians of the National Liberation army. British losses were one killed and two wounded, and Egyptian losses 12 killed, 15 wounded and 41 captured.

Persia. The government demanded the closing of all British consulates in Persia by Jan. 21.

13: **Norway.** A Norwegian trawler stopped the Grimsby trawler "Paynter" on the ground that it was fishing inside Norwegian waters.

14 **Tunisia.** Several thousand ex-servicemen and trade unionists clashed with police outside the courthouse in Tunis when demonstrators tried to rescue the trade-union leader Abdel Aziz el-Mestiri who was being tried for taking part in a forbidden demonstration.

Awards to Inventors. Sir Robert Watson-Watt was awarded £50,000 for his initiation of radar and his contribution to its development

Cricket. England beat India in the fourth test at Cawnpore by 8 wickets.

15: **Great Britain.** Damage in the Orkneys estimated at about £1 million was caused by storms with winds of hurricane force.

Commonwealth. A conference of Commonwealth finance ministers to discuss the balance of payments crisis opened in London.

Belgium. The king approved a new government headed by Jean Van Houtte.

Korea. The Communist delegation accused the United Nations of having bombed a prisoners' camp at Kandong, east of Pyongyang, the previous night.

Malaya. General Sir Gerald Templer was appointed British high commissioner for the Federation of Malaya.

United States. Military aid to Persia was suspended because that country had failed to sign the mutual security pact.

16: **Egypt.** British forces surrounded and searched the villages of Tel el-Kebir and El Hamada.

A crown prince was born to Queen Narriman and named Prince Ahmed Fuad.

France. Edgar Faure agreed to try to form a government, Georges Bidault having failed

Indochina. It was learned that the Vietminh had concentrated more than 100,000 troops for an attack in the Red river delta.

United States-Great Britain. Winston Churchill returned to Washington from Canada.

17: **Southern Rhodesia.** Sir Godfrey Huggins, prime minister, arrived in London for discussions on Central African federation.

United States-Great Britain. Winston Churchill addressed a joint session of congress on international problems confronting the U.S. and Great Britain.

18: **Great Britain-United States.** Details were announced in London of the agreement reached by Winston Churchill and Harry S. Truman on mutual assistance between Great Britain and the U.S. in supplies of steel, aluminium and tin.

Egypt. A state of emergency was proclaimed in Cairo after gangs of Moslem brotherhood sympathizers had forced bars and cabarets to close early because they objected to public entertainment while their colleagues were fighting in the canal zone.

France. Edgar Faure was elected prime minister in the National Assembly by 401 votes to 101.

Tunisia. Habib Bourguiba, president of the nationalist Neo-Destour party, and about 11 other Neo-Destour and Communist party leaders were arrested in Tunis by order of the resident-general.

19: **Greece.** *Dimokratiki*, the official newspaper of the E.D.A. (Union of the Democratic Left), was proscribed.

Tunisia. Rioting by nationalists broke out in Mateur, southwest of Bizerta; casualties were reported as 8 killed and 26 wounded.

United Nations. The assembly endorsed by 40 votes to 5 with 3 abstentions the Political committee's decision of Jan. 17 to refer the new Soviet disarmament proposals to the special disarmament commission.

20: **Egypt.** British troops occupied a large section of Ismailia on the northern bank

CALENDAR 1952

JANUARY

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DECEMBER

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Bank Holidays in 1952

Good Friday	April 11
Easter Monday	April 14
Whit Monday	June 2
August 4	
Christmas Day	December 25
Boxing Day	December 26

of the Sweet Water canal. This followed several hours of skirmishing during which an American nun was killed.

Indochina. French and Vietnamese troops launched an attack south of the road from Hoa-Binh to Hanoi against the main body of Vietminh forces attempting to cut off Hoa-Binh.

Tunisia. All copies of the Neo-Destour newspaper *Liwa El-Horia* were seized as they came off the press.

21: **Commonwealth.** The Finance Ministers' conference ended in London.

Iraq. A British subject, an Israeli and two Iraqis were sentenced by a special court in Baghdad to five years' hard labour for espionage on behalf of Israel.

Malaya. It was announced that 1,025 terrorists had been killed during 1951 and that 201 had surrendered.

Persia. The nine British consulates were closed.

United States. President Truman asked for a total expenditure of $85,400 million in his budgetary recommendations for the fiscal year ending June 3, 1953.

22: **Italy.** Alcide De Gasperi, prime minister, outlined his government's budget proposals which included military expenditure of 250,000 million lire over two years.

23: **Belgium.** The House of Representatives passed by 103 votes to 97 a vote of confidence in Van Houtte's government.

24: **Canada.** Vincent Massey, former Canadian high commissioner in London, was appointed governor-general in succession to Field Marshal Viscount Alexander of Tunis

Egypt. The British embassy in Cairo warned that there could be no basis for negotiating with the Egyptian government until action was taken to end attacks on British forces in the canal zone.

Nepal. King Tribhuvana proclaimed a state of emergency and vested absolute powers in the prime minister following a revolt in which the semi-military Raksha Dal organization played a leading part.

United Nations. A delegation representing 13 Arab and Asian states asked Padillo Nervo, president of the general assembly, to intercede with the French delegation with a view to ending of French " repressive " measures in Tunisia

25. **Egypt.** During a three-hour battle British troops took by force the two principal police buildings in Ismailia after the Egyptian police, acting on orders from Cairo, had refused to surrender.

Tunisia. The total number of dead in the riots reached 67.

26 **Egypt.** King Farouk proclaimed martial law throughout Egypt and appointed the prime minister, Nahas Pasha, as military governor in Egypt after a day of rioting and arson in Cairo.

European Army. A conference attended by the foreign, defence and finance ministers of France, Belgium, the Netherlands, Italy, Luxembourg and the German Federal Republic opened in Paris.

United Nations. The general assembly endorsed, by 49 votes to none, the Soviet *bloc* abstaining, a $250 million relief programme for Palestine refugees.

27: **Egypt.** King Farouk dismissed the prime minister, Nahas Pasha, and called on Ali Maher Pasha to form a government.

Korea. The U.N. delegation at the truce talks presented the Communists with full Allied terms for an armistice.

Motor Racing. Sidney Allard, driving an Allard saloon car, won the Monte Carlo rally.

28: **Great Britain.** Earl Alexander of Tunis was appointed minister of defence, to take effect from March 1.

Winston Churchill arrived in London from the United States.

Egypt. A British military train was blown up by a mine near Kantara. Four British soldiers were injured and 20 yd. of track destroyed.

European Army. The conference ended in Paris.

Saar. The government announced that an envoy designated " head of the Saar deputation for European problems " would be sent to Paris.

United States-Great Britain. Averell Harriman, U.S. director of mutual security, announced the decision to grant Great Britain $300 million of military aid in the current fiscal year.

29: **Great Britain.** R. A. Butler, chancellor of the exchequer, announced the government's proposals for meeting the United Kingdom's adverse trade balance. These included further cuts of $150 million in imports.

Cricket. Australia won the fifth test match against the West Indies at Sydney by 202 runs and the series by four games to one.

30. **N.A.T.O.** It was announced that Admiral Lynde D. McCormick, U.S. navy, had been appointed supreme Allied commander, Atlantic.

31· **Great Britain.** An opposition amendment expressing no confidence in the government's economic policy was defeated by 309 votes to 278.

Royal Tour. Princess Elizabeth and the Duke of Edinburgh left London by air for Nairobi on the first stage on their journey to Australia and New Zealand.

Egypt. The cabinet dismissed and replaced 10 officers concerned with law and order, including the director-general of police and the director-general of public security.

German Fed. Rep. Police raided the offices throughout western Germany of the Communist and Socialist Reich parties and seized documents for evidence in support of the government's petition to the Constitutional court asking that the two parties should be declared unconstitutional.

Persia. A government official announced that Persia had signed a barter agreement with Hungary for the sale of Persian oil.

FEBRUARY

1: **Great Britain.** Anthony Eden arrived in Paris for talks with French ministers.

Royal Tour. Princess Elizabeth and the Duke of Edinburgh arrived at Nairobi, Kenya.

United Nations. The general assembly approved *nem. con.*, the Soviet *bloc* abstaining, the resolution recommending the admission of Libya to the United Nations.

Fine Arts. Dr. A. Scharf gave 10,500 gns. for Pieter Brueghel the elder's " Christ and the Woman taken in Adultery ", a record price in England for that painter's work. In 1834 the same painting had been sold for 10 gns.

2: **Egypt.** The arrest was announced of Ahmed Hussein, Socialist party leader.

3: **Royal Tour.** Princess Elizabeth and the Duke of Edinburgh arrived at Nyeri, Kenya.

Korea. The Communists presented a nine-point programme for the exchange of prisoners which omitted the principle of voluntary repatriation but included a ban on the re-enlistment of repatriated prisoners-of-war.

4: **Sudan.** The formation was announced of the Sudan party, advocating an independent Sudanese republic within the Commonwealth.

5: **Belgium.** The Senate ratified the Schuman plan treaty by 102 votes to 4 with 58 abstentions.

Jordan. King Talal returned to Amman after a fortnight's visit to Italy, France and Switzerland.

Southern Rhodesia. Sir Godfrey Huggins, prime minister, left London after talks on Central African federation.

United Nations. The general assembly ended its session in Paris.

United States. The Senate Foreign Relations committee unanimously approved the Japanese peace treaty and the mutual security pacts between the U.S. and Japan, the Philippines, Australia and New Zealand

6: **Great Britain.** King George VI died at Sandringham, Norfolk. Queen Elizabeth II and the Duke of Edinburgh left by air for Uganda to return to the U.K.

7. **Great Britain.** Queen Elizabeth and the Duke of Edinburgh arrived in London

Egypt. It was announced that police operations against terrorists had led to the arrest of more than 500 persons in the canal zone and to the discovery of large stocks of arms and ammunition.

Malaya. General Sir Gerald Templer, the new high commissioner, arrived in Kuala Lumpur

8: **Great Britain.** Queen Elizabeth II made her accession declaration at her first Privy Council and her accession was publicly proclaimed throughout Great Britain and in many parts of the Commonwealth.

German Fed. Rep. The Bundestag carried by 204 votes to 156 with 6 abstentions a government resolution pledging a German defence contribution to the European Defence community on condition that Germany was accepted in the community as a sovereign and equal partner.

Italy-U.S.S.R. The Italian government sent a note of protest to the Soviet Union against the repeated use by the latter of the veto in the U.N. Security council to obstruct Italy's admission to the United Nations.

9: **Malaya.** Troops were parachuted into the jungle for the first time to take part in operations against terrorists.

U.S.S.R. The Soviet navy journal *Red Fleet* announced that the Soviet Union's economic strength was double that of 1940.

10. **German Fed. Rep.** A conference of trade union delegates at Munich, representing 900,000 members, rejected unanimously a German contribution to European defence.

Cricket. India beat England in the fifth and last test match at Madras by an

innings and eight runs. The series was thus drawn.

11: **Great Britain.** The body of King George VI was brought from Sandringham church, Norfolk, to London for the lying-in-state at Westminster hall.

Egypt. General Sir George Erskine's H.Q. announced that all military road blocks and check points on the main Port Said-Ismailia-Suez road had been removed and that 40 Egyptian police at Ismailia had been rearmed.

12: **Northern Ireland.** Cities and towns throughout Northern Ireland proclaimed the accession of Queen Elizabeth II.

Belgium. The Christian Social government was defeated by 91 votes to 84 with 1 abstention on a motion of censure for the decision that King Baudouin should not attend the funeral of King George VI.

United States. A State Department official said that Great Britain had declined a U.S. offer of testing sites for the trial of the first British atomic bomb

13 **Israel.** David Ben-Gurion, prime minister, announced a partial devaluation of the Israeli pound.

14: **Germany.** The eastern German government sent a letter to the four occupying powers proposing the initiation of talks on a German peace treaty.

Korea. The Communists presented a new nine-point plan for the exchange of prisoners.

Tunisia. It was learned that security operations in the Cape Bon and Sousse areas had resulted in 1,483 arrests, 453 releases, 710 compulsory removals to other districts and the recovery of 710 firearms.

15 **Great Britain.** The burial of King George VI took place at St. George's chapel, Windsor, after a state procession through London.

Egypt. Following the derailment of a train by mines at El Kap, six miles north of Kantara, General Erskine ordered the reintroduction of road blocks on the Port Said-Ismailia highway.

Italy. The Senate approved the bill endorsing the admission of Greece and Turkey to the Atlantic pact.

16: **Egypt.** General Erskine ordered the complete stoppage of all rail movement in the canal zone.

Japan. Hayato Ikeda, finance minister, announced new foreign exchange regulations designed to restrict exports to the sterling area and increase imports.

17: **Egypt.** In response to urgent Egyptian requests, General Erskine relaxed the restrictions on rail movement in the canal zone.

18: **Greece.** The bill to ratify Greece's accession to N.A.T.O. was passed by parliament.

Korea. The Communist delegation at the truce talks challenged the right of the United Nations to veto their choice of the U.S.S.R. as one of the neutral supervisors of an armistice.

19: **German Fed. Rep.** The report of the Temporary Council commission of N.A.T.O. recommended a German defence contribution of 11,250 million marks in the year beginning July 1, 1952.

Hungary. A government decree ordered the nationalization of all privately owned tenement houses, apartment and office buildings, storehouses, and some family residences.

Libya. Polling began in Libya's first general election.

Tunisia. Telegraph and telephone communications linking Tunis with Sfax and Sousse were cut by saboteurs.

20: **Malaya.** General Templer was installed as high commissioner.

Casualty figures up to Jan 31, 1952, were given as: Communists, 2,778 killed, 1,396 wounded, 1,553 captured or surrendered, civilians, 1,862 killed, police, 987 killed.

N.A.T.O. The ninth session of the council opened in Lisbon with Lester Pearson, Canadian minister for external affairs, in the chair.

Winter Olympic Games. Jeannette Altwegg (Great Britain) won the women's figure skating at Oslo.

21: **Great Britain.** N.A.T.O headquarters in London announced the appointment of Admiral Sir Arthur Power, c.-in-c. Portsmouth, to be first allied c.-in-c. Channel command, and Air Marshal A. C Stevens, air-officer commanding-in-chief, Coastal command, to be allied air c.-in-c. Channel command.

H. F. C. Crookshank, minister of health, announced the abolition of identity cards.

22: **Great Britain.** It was announced that S. J L. Hardie, chairman of the Iron and Steel corporation, had resigned because of disagreement with the government on steel prices.

Korea. General Ridgway's H.Q. announced that 69 Korean prisoners and one U.S. soldier had been killed and 142 prisoners and 23 U.S. soldiers wounded in a riot at a civilian internment camp on Koje island on Feb. 18

N.A.T.O. The council at Lisbon approved plans for a close working relationship between N A.T.O and the proposed European Defence community.

Pakistan. After riots in Dacca, it was agreed that Bengali, as well as Urdu, should be a state language.

23. **Egypt-U.S.S.R.** A barter agreement was concluded.

Korea. The Communist delegation protested about the Korean civilian casualties during the riot at the internment camp on Koje island

Peking radio charged the U N. with using germ warfare in Korea.

24: **Indochina.** The withdrawal of French and Vietnamese forces from Hoa Binh and from Colonial Highway no. 6 was announced.

N.A.T.O. The council at Lisbon issued a communiqué stating that member nations would provide in 1952 approximately 50 divisions in appropriate conditions of combat readiness and 4,000 operational aircraft in Europe (including Great Britain).

25: **Great Britain.** Duncan Sandys, minister of supply, announced in the House of Commons that he had authorized an average increase of £4 a ton in the controlled maximum prices of iron and steel.

Defence estimates of £1,377,200,000 for 1952-53 were presented to parliament.

N.A.T.O. The ninth session of the North Atlantic council ended at Lisbon.

New Zealand-Great Britain. The prime minister of New Zealand announced an agreement to resume chilled beef shipments to Great Britain.

26: **Great Britain.** An opposition motion expressing approval of the government's far eastern policy but censuring Winston Churchill for not having given it adequate expression when he was in the U.S , was defeated by 318 votes to 285.

Australia. John McEwen, minister of agriculture, announced that there would soon be a general decline in all food imports into Great Britain.

German Fed. Rep. It was announced that the Federal German government had agreed to base its defence contribution in the N A.T.O. year 1952-53 on the figure recommended by the Temporary Council committee (DM 11,250 million).

Korea. The Communist delegation refused to consider a U.N. proposal to have four neutral nations supervising a truce instead of six.

N.A.T.O. About 200 British, U.S, French and Italian ships and hundreds of aircraft began a nine-day training exercise in the Mediterranean.

27 **Great Britain.** Estimates of £2,553,407,415 for the civil and revenue departments, and the Ministry of Defence, were presented to parliament.

It was announced that all fares for services provided by the London Transport executive and by the Railway executive in London would be increased from March 2

Australia. The bill to ratify the Japanese peace treaty was passed in the House of Representatives by 54 votes to 46.

Korea. General Ridgway's H.Q. rejected Communist charges that U.N. forces had adopted germ warfare.

28. **Canada.** Vincent Massey assumed office as the first Canadian-born governor-general of Canada

29: **France.** Edgar Faure's government resigned after being defeated by 309 votes to 283 on the second motion of confidence to raise all taxes by 15% to provide revenue for military expenditure. President Vincent Auriol asked Paul Reynaud, right-wing Independent, to try to form a government.

N.A.T.O. Admiral L. D. McCormick, supreme allied commander, Atlantic, arrived in London for discussions.

MARCH

1: **Egypt.** Ali Maher's government resigned following the resignation of Zaki Abd ul-Mataal, finance minister, and Ahmad Murtada al-Maraghi Bey, minister of the interior.

Formosa-Japan. A conference to negotiate a peace treaty between the Chinese Nationalist government and Japan opened in Taipeh.

German Fed. Rep. Heligoland was officially returned to the Federal Republic by the British authorities.

Uruguay. The new constitution came into effect. It replaced the president by a national council of government elected by a general assembly.

2: **Egypt.** Ahmad Neguib el-Hilaly, the new prime minister, announced that he had formed a government.

France. René Pleven declined the invitation to try to form a government, Paul Reynaud having failed.

3: **Egypt.** Parliament was adjourned for one month by royal decree.

France. Antoine Pinay agreed to try to form a government.

Korea. Moscow Radio, Peking Radio and Pyongyang Radio repeated the

Communist charges that U S. planes had dropped fleas carrying bubonic plague over North Korea. The U S. Defence Department said in Washington that the plague was the result of a collapse of the Communist medical services

4: **Great Britain-German Fed. Rep.** A trade agreement for 1952 was concluded in London.

Australia. The bill to approve the security treaty between the United States, Australia and New Zealand was passed in the House of Representatives

Germany. The east Berlin authorities cut west Berlin's supply of electric power. The west German government retaliated by cutting an equal amount of current from Hamburg to Mecklenburg.

United States. Dean Acheson, U S secretary of state, repudiated Communist charges that the United Nations were using germ warfare in Korea.

5: **Great Britain.** The official opposition amendment to the government motion on defence was defeated by 314 votes to 219

Korea. The United Nations asked the Communists to account for 173 U.N. prisoners of war not on the Communist list of 11,150 submitted on Dec. 18, 1951.

6: **France.** Antoine Pinay was elected prime minister in the National assembly by 324 votes to 206

Libya. Final results of Libya's first general election were. Istiqlal party, 44 seats, Congress party, 8

United States. President Truman sent a message to congress calling for a continuation of the Mutual Security programme after June 30, with an expenditure of $7,900 million (£2,821 million) in the 12 months to June 30, 1953

U.S.S.R. Moscow Radio announced that the Soviet Union planned to devote 113,800 million roubles (about £10,100 million), or 23 8% of its total budget, to military expenditure

7: **European Army.** The six-power conference resumed in Paris

8: **Australia.** R. G. Menzies, prime minister, announced that as an emergency measure all imports, including those from the sterling area, would be subject to immediate restrictions.

France. Antoine Pinay, prime minister, succeeded in forming a government.

Korea. General James Van Fleet, commander of the U.S. Eighth army, estimated the Communist strength in Korea at 900,000 men, of whom about 450,000 were in the front line.

9: **Indochina.** Emperor Bao Dai broadcast an announcement that a National assembly was to be created representing the three states, Tongking, Annam and Cochin China, to consist of 85 members of whom about half would be elected.

Malaya. The British frigate H.M.S. "Amethyst" successfully bombarded Communist camps after sailing up the Sungai Perak river in northern Malaya.

10: **Cuba.** General Fulgencio Batista, ex-president of Cuba, deposed President Carlos Prío Socarrás and assumed control.

U.S.S.R. The government sent a note to the governments of Great Britain, France and the United States containing proposals for the discussion of a peace treaty with Germany.

11: **Great Britain.** R. A Butler, chancellor of the exchequer, opened his first budget. Food subsidies were cut by £160 million a year, income tax rates were lowered and the bank rate was raised from 2½% to 4%.

The Parliamentary Labour party passed a resolution "to impose such standing orders as will make it obligatory on all members to carry out decisions of the parliamentary party".

Burma. The foreign minister announced that Burma had decided to participate in the Colombo plan.

Italy-U.S.S.R. A trade agreement was signed.

Nigeria. The House of Representatives was formally opened.

12: **Great Britain.** The Marquess of Salisbury was appointed secretary of state for Commonwealth relations in succession to Lord Ismay who was appointed secretary-general of N.A.T.O.

Burma. Ba U was elected president.

New Zealand. Lieut.-General Sir Willoughby Norrie was appointed governor-general in succession to Lieut.-General Lord Freyberg.

South Africa. E. H. Louw, minister of economic affairs, announced that imports of consumer goods for 1952 would be 40% of 1948 imports, as against 60% in 1951.

13: **Korea.** A riot among prisoners of war at Koje island, near Pusan, led to South Korean prison guards' and soldiers' killing 12 prisoners and wounding 26.

South Africa. The Van Riebeeck festival fair was opened in Capetown as part of the celebrations of the tercentenary of the landing of Jan Van Riebeeck to establish a victualling station at the Cape

14: **United Nations.** The Disarmament commission held its first meeting in New York.

15: **Italy.** The Senate ratified the bill embodying Italy's adherence to the Schuman plan.

16: **Denmark.** The foreign ministers of Denmark, Norway and Sweden after a conference in Copenhagen announced their decision to set up a Nordic council to discuss matters of common interest.

Indochina. A heavy attack was begun on Vietminh positions 25 mi. south of Hanoi.

Korea. General Lee Sang-Cho, head of the Communist delegation, critized the U.N. representatives for their handling of the rioting on Koje island.

18: **France.** The secretary of state for the budget announced that total expenditure for 1952 would amount to 3,860,000 million francs. This would result in a deficit of 200,000-300,000 million francs.

19: **Egypt.** King Farouk ordered three police chiefs and the acting governor of Cairo into retirement because of their failure to control the riots of Jan. 26.

20: **Egypt.** British forces withdrew from the occupied areas of Ismailia.

Korea. The two delegations agreed upon ten ports of entry in which neutral inspection teams could watch the operation of a truce.

South Africa. The Supreme court judged the Separate Representation of Voters act, putting Cape Coloured voters on a separate roll, to be invalid. D. F. Malan, prime minister, stated that his government did not propose to accept the position.

Trieste. About 30 people were injured after Italian demonstrations in favour of the return of the Free Territory to Italy.

United States. The Senate ratified the peace treaty with Japan by 66 votes to 10.

21: **Finland.** Urho Kekkonen resigned the premiership following the refusal of a right-wing parliamentary group of Agrarians to accept a Cabinet decision to reduce the price of butter. He agreed to remain in office until April 2.

Gold Coast. The assembly elected Kwame Nkrumah first prime minister of the Gold Coast by 45 votes to 31, with 8 abstentions.

Morocco. It was learnt that the sultan had delivered a memorandum asking the French government for revision of the protectorate treaty.

South Africa. D. F. Malan, prime minister, announced that the government would introduce legislation to put the sovereignty of parliament beyond doubt.

World Health Organization. The U.N. secretary-general announced that the W.H.O. had sent to China and to North Korea a telegraphed offer to help control the epidemics in North Korea.

22: **Ceylon.** Don Stephen Senanayake, prime minister, died in Colombo of injuries received in a riding accident.

Egypt-Great Britain. Exploratory talks on an Anglo-Egyptian settlement were opened between the British ambassador and the Egyptian prime minister and foreign minister.

Trieste. Rioting broke out led by organized Fascists who attacked British centres and stoned British soldiers. About 150 persons were injured.

23: **Korea.** The U.S. Eighth army announced that in the previous week U.S. aircraft had shot down or damaged 33 MIG15 planes without loss

United States. President Truman allocated $4,300,000 for the reception and resettlement of refugees from Soviet-controlled countries under the Mutual Security programme.

24. **Colombo Plan.** The fourth meeting of the committee was opened in Karachi by the prime minister of Pakistan.

Egypt. King Farouk dissolved parliament at the request of the government.

Trieste. Demonstrations against the allied military government in Trieste and in favour of the return of the Free Territory took place in Rome, Milan and other towns in northern Italy

25: **Great Britain.** A retrospective award of £51,252,000 for the central pool for doctor's remuneration under the national health service was announced for the year ended March 31, 1951.

German Peace Treaty. British, French and U.S. notes, replying to the Soviet note, were presented in Moscow. They stated that free all-German elections would be a prerequisite of a peace treaty

Israel. A demonstration of more than 15,000 persons, organized by the Freedom (Cherut) party, took place in Tel Aviv in protest against the negotiations at The Hague on collective compensation for Nazi crimes against the Jews.

Kashmir. The Constituent assembly, meeting in Jammu, unanimously elected ten persons to represent the state in the Indian parliament.

Libya. The first Libyan parliament was opened in Benghazi by King Idris.

Malaya. Twelve persons, including two British officials, were killed and eight others wounded in an ambush near Tanjong Malim.

26: **Burma.** U Nu, prime minister, announced that "major military operations" had been launched against Chinese Nationalist troops in Burma near the eastern frontier.

Ceylon. The governor-general appointed Dudley Shelton Senanayake, son of the deceased prime minister, to be prime minister.

Tunisia. Mohammed Shenik, prime minister, and three other Tunisian ministers were arrested by order of Jean de Hautecloque, resident-general.

United Nations. Yakov Malik, Soviet delegate, rejected the proposal that the

International Red Cross should investigate the charges of bacteriological warfare in Korea and repeated his demand that the Disarmament commission should deal with the matter.

27: **Great Britain-Bechuanaland Protectorate.** The British government announced their decision to make final and permanent the former Labour government's provisional refusal to recognize Seretse Khama as chief of the Bamangwato.

German Fed. Rep. A bomb, addressed to Konrad Adenauer, German Federal chancellor, exploded at Munich police headquarters.

Malaya. General Templer, high commissioner, imposed a 22-hr. curfew and a reduction of the rice ration on the people of Tanjong Malim as a collective punishment for non-co-operation.

28: **South Africa.** The Senate rejected by 20 votes to 14 a motion asking the government to accept the appeal court's judgment on the Separate Representation of Voters act or resign.

Tunisia. The bey appointed Salah ed-Din Bakkush to replace Mohammed Shenik as prime minister.

29: **European Federal Union.** The fourth annual congress opened at Aachen attended by 250 delegates from 12 countries.

Malaya. The appointment of Major-General Sir Hugh Stockwell as g.o.c., Malaya, was announced

Rowing. Oxford won the boat race by a canvas (about 10 ft.) in 20 min. 23 sec.

30: **Persia.** The government imposed martial law and a curfew

Thailand. Marshal Pibul Songgram formed a new government.

United States. President Truman announced that he would not stand for re-election as president.

31: **U.S.S.R.** Moscow radio announced a cut of 10%-20% in retail food prices.

APRIL

1: **France-Indochina.** It was announced that Jean Letourneau, French minister for the associated states, had been entrusted with the full powers of high commissioner in Indochina.

Netherlands. Queen Juliana and the Prince of the Netherlands left Amsterdam for a three weeks' visit to the U.S.

2: **Great Britain.** Polling began in county council elections

Anglo-Egyptian Sudan. Sir James Robertson, the civil secretary, presented to the legislative assembly a draft new constitution.

Finland. Urho Kekkonen, prime minister, withdrew his resignation after receiving a full vote of confidence.

France. The council of the Republic ratified the Schuman plan by 182 votes to 32.

3: **Great Britain.** Talks on Trieste between British, U.S. and Italian representatives began in London.

France. The National Assembly passed by 351 votes to 212 the clause of the Finance bill enabling the government to impose by decree cuts in expenditure of 110,000 million francs.

U.S.S.R. A Soviet-sponsored international economic conference opened in Moscow attended by over 400 delegates.

4: **Great Britain.** R. A. Butler, chancellor of the exchequer, stated in the House of Commons that the total gold and dollar deficit for the first quarter of 1952 was $636 million, as compared with $940 million in the last quarter of 1951.

In the London County council elections the Labour party obtained 92 seats and the Conservative party 37.

Indochina. French Union forces claimed a break-through to the sea 65 mi. southeast of Hanoi, thereby completing the encirclement of large Vietminh forces.

Korea. Prisoner-of-war exchange talks were postponed indefinitely.

Spain. A. M. Artajo, foreign minister, left Madrid on an official tour of near eastern Moslem states. General Franco broadcast a message of good will to Moslems.

5: **Greece.** Parliament passed, in the absence of Greek Rally deputies, a "pacification and leniency" bill providing for commutation to life imprisonment of all death sentences except those imposed for espionage.

Korea. U.N. headquarters in Tokyo reported widespread epidemics of disease in China and North Korea

Malaya. A questionnaire from General Templer, high commissioner, was delivered to every householder in Tanjong Malim asking for information about Communists in the area

Horse Racing. H. Lane's Teal, ridden by A. P. Thompson, won the Grand National at Aintree, Liverpool.

6: **Indochina.** General Gonzalès de Linares, French Union commander in northern Vietnam, announced that the Vietminh 320th division no longer existed as a formation. He said Vietminh casualties since March 1 were 1,568 killed and 2,280 prisoners.

7 **Anglo-Egyptian Sudan.** The legislative assembly declared its full agreement in general with the draft new constitution

United States. The government suspended all exports of steel and banned all deliveries of steel in anticipation of a steel strike ordered by the Steelworkers' union to start at midnight on April 8.

8: **France.** The Finance bill was passed in the National Assembly by 311 votes to 206 after ten votes of confidence had been taken on its various clauses.

Morocco. The Spanish minister in Tangier announced that the Spanish government had demanded a revision of the Tangier convention and a return to the conventions of 1923 and 1928.

United States. An order was issued authorizing the resumption of steel exports and lifting the embargo on steel deliveries to manufacturers. The president of the Steelworkers' union called off the steel strike after President Truman ordered the industry to be taken over by the Department of Commerce.

9: **Bolivia.** A nationalist revolution broke out in La Paz under the leadership of General A. Saleme, General H. Torres Ortiz and H. Siles Suazo.

Italy. Preliminary results of a census taken on Nov. 4, 1951, showed the population to be 47,138,235, comprising one million more females than males.

Malaya. The curfew on Tanjong Malim was eased and the rice ration increased.

New Zealand. The government announced a tightening of control of motor car imports from the United Kingdom and the banning of imports of motor cars from the United States.

U.S.S.R. A Soviet note in reply to the western note of March 25 rejected the proposal that a U.N. commission should investigate the conditions for elections in Germany and suggested that the investigation should be undertaken by a commission of the four occupying powers.

10: **Malaya.** General Templer, high commissioner, ordered punishment, including a curfew and a cut in rations, for the village of Sungei Pelak, Selangor, for supplying food to terrorists and refusing to co-operate with security forces.

11: **Great Britain.** Final results in the county council elections showed that of the 62 counties in England and Wales Labour controlled 12, Conservatives 7, a combination of Conservatives, Independents and others 9, Liberals 1, and that Independents controlled the remainder.

Bolivia. After three days' fighting with estimated casualties of 200 dead and 800 wounded, the rebels overcame government resistance and a truce was signed about 70 mi. from La Paz.

France-India. The National Assembly ratified a treaty with India transferring the territory of Chandernagore from French to Indian sovereignty.

Malaya. Collective punishment was imposed on a large resettlement area five miles north of Kuala Lumpur for non-co-operation with the security forces.

United States. It was announced that General Dwight D. Eisenhower, supreme commander, Allied powers in Europe, had asked to be relieved of his command by about June 1.

12: **Bolivia.** A new government assumed office under Hernandez Siles Suazo.

France. At the second reading in the National Assembly, the Finance bill was adopted by 330 votes to 208.

13. **Moscow International Trade Economic Conference.** The conference ended after resolving to appeal to the U.N. to call an international trade conference

14. **Korea.** General James Van Fleet, Eighth army commander, said that, while U.N casualties in the past year had been 66,000, the enemy's had been 530,696.

Trieste. Trieste Slovenes of all political parties assembled in a Slovene village near Trieste to protest against the London talks. About 300,000 persons attended a meeting in Belgrade to protest against the London talks on Trieste.

15: **Great Britain.** The government issued a statement declaring the intention of the United Kingdom to associate itself as closely as possible with the European Defence community while Britain was a party to the North Atlantic treaty.

United States. President Truman signed the Japanese peace treaty and the three security treaties with Australia and New Zealand, with Japan, and with the Philippines.

16: **Bolivia.** Victor Paz Estenssoro was declared president.

Egypt. Abd-el Fattah Amr Pasha, Egyptian ambassador to Great Britain, who had been recalled to Egypt in Dec. 1951, returned to London.

South Africa. J. G. N. Strauss, leader of the opposition, announced that the

Labour party and the Torch Commando had agreed on a common front with the United party to oppose the government's attempts to upset the rule of law.

17. **N.A.T.O.** Sir Frederick Hoyer-Millar was appointed permanent U.K. representative on the North Atlantic council

18· **Japan.** About a million workers joined in a one-day strike in protest against the government bill on subversive activities

19. **Austria.** About 2,000 Communists clashed with the police after the U.S. military commander had banned a Communist meeting in the U.S. sector of Vienna.

Italy-German Fed. Rep. A one-year trade agreement was signed in Milan.

20. **Egypt.** King Farouk signed a decree giving the government full powers to purge the administration of corruption.

German Dem. Rep. The Socialist Unity party called for "urgent and disruptive" action to prevent the German Federal Republic from signing the proposed treaties with the west.

21: **Great Britain.** Sir Stafford Cripps, former chancellor of the exchequer in the Labour government, died at Zürich

A de Havilland Comet jet airliner flew from London to Rome in 2 hr. 17 min

Yugoslavia. A Soviet *emigré* was sentenced in Belgrade to life imprisonment for espionage for the U.S.S.R.

22 **Greece.** The publisher and head printer of the Athens opposition newspaper *Embros* were arrested for publishing a secret military report.

Indochina. French Union forces claimed to have almost completely destroyed the 98th Vietminh regiment east of Hanoi Over 1,000 of its men were killed and 690 taken prisoner.

Spain. Don José de Lequerica, Spanish ambassador to the U.S., said that Spain was willing to join N.A.T.O. and could offer an army of 2 million men to fight Communism.

United States. A Republican amendment in the Senate denying the president the right to use government funds for the operation of the steel mills failed to gain a two-thirds majority.

An atomic bomb was exploded in the Nevada desert

23 **Central African Federation.** A conference was opened in London by the Marquess of Salisbury, secretary of state for Commonwealth relations

German Fed. Rep. A government resolution declaring, *inter alia*, that under international law the Saar was a part of Germany and that present conditions there had no basis in law was passed in the Bundestag by 191 votes to 135

24: **Persia.** The government announced that Martial law in Tehran would be extended for two months.

Yugoslavia-U.S.S.R. The Yugoslav Foreign Ministry demanded the recall of the Soviet first secretary in Belgrade because of alleged espionage activities.

25· **International Court of Justice.** The text was published of the British case in the Persian oil dispute as well as the British reply to the Persian argument that the court had no jurisdiction in the matter.

South Africa. The United party, the Labour party and the Torch Commando held a demonstration in Capetown to launch the united front campaign against the government's bill to set up a High Court of Parliament.

United States. The State Department announced that it had been decided to resume U.S. military aid to Persia.

26: **Egypt-Spain.** A cultural treaty was signed in Cairo.

Malaya. Long Pin, commander of the 1st regiment of the Malayan Races Liberation army, was killed with three of his bodyguard by British troops.

Association Football. Walthamstow Avenue beat Leyton by 2 goals to 1 in the Football Association amateur cup final at Wembley, Middlesex.

27: **Korea.** The total number of prisoners held by the U.N. was estimated at nearly 170,000 of whom only 70,000 had expressed a wish to return to communist territory.

United States. The U.S. destroyer "Hobson" sank after colliding with the U.S. aircraft carrier "Wasp", during manoeuvres in mid-Atlantic There were 61 survivors from "Hobson's" crew of 237, and no casualties in "Wasp".

28: **Great Britain.** Enrolment began for a new Home Guard.

India-Japan. The state of war between the two countries was formally ended.

Japan. The Japanese peace treaty came into force. It had been ratified by Argentina, Australia, Canada, Ceylon, Japan, Mexico, New Zealand, Pakistan, the United Kingdom and the U.S.

An amnesty granting pardons, reductions of sentence or restoration of civic rights to 1,303,000 persons was promulgated.

Japan-Nationalist China. A separate peace treaty was signed at Taipeh, Formosa, under which Japan renounced any title to Formosa and the Pescadores and her former assets in China.

N.A.T.O. General Matthew B. Ridgway was appointed supreme Allied commander in Europe.

Netherlands. Queen Juliana and the Prince of the Netherlands returned to Amsterdam after a visit to the U.S.

29: **Australia.** The Pacific Security pact between Australia, New Zealand and the United States came into effect.

Germany. A French airliner flying from Frankfurt to Berlin was attacked by two Soviet fighters. Two passengers were severely injured.

United States. A federal district judge ruled in Washington that President Truman's order of April 9 for the seizure of steel mills was illegal.

30· **Great Britain-Australia.** £A British grant of £A 561,000 to the Australian sugar industry was announced.

Malaya. The federation government announced increased rewards for the killing or capture of leading Malayan Communists.

United States. The Court of Appeals restored the government's seizure of the steel mills and gave the administration until 4.30 P.M. on May 2 to file a petition for a review of the case with the Supreme Court. More than 600,000 workers were idle as a result of the strike.

MAY

1 **Egypt.** The British minister submitted to the Egyptian foreign minister a claim for £E 1·5 million for damage to British property during the Cairo riots of Jan. 26.

United States. The U.S. Circuit Court of Appeal rejected an application by the steel companies to prevent the administration from granting wage increases to workers in the seized steel mills.

The State Department banned all travel to Communist countries by U.S. citizens without specific permission.

2 **Great Britain.** The annual report of the Colonial Development corporation stated that the total deficiency attributable to the corporation during 1951 was £2,905,290, or about twice that of 1950.

Egypt. Leave for British troops was allowed again after having been suspended for six months.

United States. The president of the Steelworkers' union called off the strike in response to President Truman's appeal. Both the steel companies and the administration applied to the Supreme court for a decision on the legality of the president's seizure of the steel mills.

3. **Association Football.** Newcastle United (the holders) beat Arsenal 1-0 in the F.A. cup final at Wembley, Middlesex.

Aviation. On the first flight of a new jet air liner service a British Overseas Airways corporation Comet arrived in Johannesburg from London having taken 23 hr. 38 min. for the 6,724-mi. flight.

4. **Korea.** Pyongyang Radio broadcast an alleged confession by two captured U.S. airmen that they had dropped germ bombs on North Korea on Jan. 13 and that they had been trained in germ and atomic warfare since Aug. 15, 1951.

5: **Great Britain.** The first experimental television programme for schools was transmitted by the B.B.C.

Central African Federation. The conference in London ended. It was announced that agreement had been reached on a draft constitutional scheme for the federation of Southern Rhodesia, Northern Rhodesia and Nyasaland.

6 **Great Britain.** The movement of farm stock throughout England and Wales was halted because of outbreaks of foot and mouth disease

Germany. It was announced that the German Federal and Democratic governments had signed a trade agreement.

India. Rajendra Prasad was declared elected president of India. He received 84% of the total poll.

7: **Great Britain.** The following government appointments were announced: H. F. C. Crookshank (formerly minister of health) to be lord privy seal; I. N. Macleod to be minister of health; A. T. Lennox-Boyd (formerly minister of state for colonial affairs) to be minister of transport and civil aviation; H. L. D'A. Hopkinson (formerly secretary for overseas trade) to be minister of state for colonial affairs.

Great Britain-Austria. Leopold Figl, Austrian chancellor, arrived in London for a four-day visit.

Korea. General Mark Clark arrived in Tokyo to assume his duties as supreme commander, Allied forces, far east.

Communist prisoners on Koje island seized the camp commandant, Brig.-General Francis T. Dodd, and held him as hostage.

Malaya. It was announced in the legislative council that the strength of the special constabulary would be raised to

42,000 and that 186 senior police posts would be created.

United States. The Foreign Affairs committee approved unanimously a $6,901 million Mutual Security bill.

Fisheries. The Grimsby trawler "Royal Marine" was arrested at Harstad, northern Norway, on a charge of fishing inside Norwegian territorial waters.

8: **Great Britain.** In a white paper on transport policy the government proposed that transport undertakings set up under the Road Haulage executive should revert to private enterprise.

Great Britain-Denmark. King Frederik of Denmark and Queen Ingrid arrived in London.

Great Britain-Korea. Anthony Eden, British foreign secretary, gave the revised estimate of U.N. prisoners in Communist hands as: U.S., 3,201, U.K., 919; other commonwealth, 12; Turkish, 234; other nations, 52; South Korean, 7,150.

Korea. U.N. aircraft attacked a Communist supply base at Suan, 40 mi S.E. of Pyongyang, in a raid described as the biggest of the war.

United States. Frank Pace, secretary of the army, gave in New York a full description of an atomic gun being developed by the U.S. army and said that soldiers were already being trained to use it.

9: **Great Britain.** Sir Walter Monckton, minister of labour, set up a court of inquiry to investigate the dispute about union membership between D. C. Thomson and Co., Ltd., Dundee publishers, and the printing unions.

Trieste. The Anglo-U.S.-Italian discussions in London ended. A communiqué was issued announcing arrangements for the administration of the British-U S. Zone A

10. **Korea.** Brig.-General Dodd was released by the Communists after his successor, Brig.-General C. F. Colson, had made a number of promises to his captors

11 **Great Britain.** As a result of local elections held on May 8 the Labour party claimed to have gained control of 11 county boroughs, 16 non-county boroughs, 27 urban district councils and 3 Scottish burghs.

Panama. Colonel José Remón was elected president with 133,208 votes, a majority of 55,028 over his chief opponent The results of the election were not announced until June 6

12: **Bulgaria.** Rationing was abolished and the currency was revalued.

European Defence Community. Lord Alexander, British defence minister, had discussions in Paris with René Pleven, French defence minister, on the co-operation of British armed forces with E.D.C

13. **Germany.** In reply to a Soviet note the western powers stated that they were ready to begin negotiations with a view to German unity, the election of a free all-German government and the conclusion of a peace treaty with that government.

Korea. Brig.-General C. F. Colson was relieved of his command of the U.N. prison camp on Koje island.

Tunisia. A bomb exploded in the central post office in Tunis killing 5 persons and injuring 11.

Yugoslavia. A memorandum addressed to the British and U.S. governments rejected the London agreement on Trieste as being contrary to the Italian peace treaty and a violation of Yugoslav rights.

14: **Great Britain.** The basic rates of purchase tax of 66⅔% and 33⅓% on garments, footwear, gloves and household textiles were reduced to 50% and 25%.

15: **South Africa.** The High Court of Parliament bill passed its third reading in the assembly by 82 votes to 57.

Trieste. The Yugoslav military government announced new measures radically modifying Zone B and linking it more closely with Yugoslavia.

United States-Great Britain. An informal agreement was announced under which some of the Caribbean bases leased to the U.S. in 1941 for 99 years in exchange for 50 old U.S. destroyers were returned to the U.K. for food production.

16: **Spain.** General Franco announced that food rationing would end on June 1.

18: **Burma.** It was announced that government forces had recaptured 50 villages from the Karen rebels in the previous four days.

19: **Great Britain-Germany.** The German debt conference reopened in London.

China. A note was received from the British government announcing the decision of British firms to close in China.

European Defence Community. The foreign ministers of the six participating powers met in Paris to examine the completed draft of the treaty.

India. Final results of the elections to the House of the People· Congress secured 362 seats, the Communists and allies 27, the Socialist party 12, Kisan Mazdoor Praja (peasants' workers' and peoples' party) 10, Independents 36, and other parties 6

Spain-Yemen. A treaty of friendship was signed in Cairo

20· **German Dem. Rep.** The government increased by 50% the duty on all goods entering eastern Germany from the west.

21 **Great Britain.** Seven masked men held up a Post Office van near Oxford street, London, and stole from it money estimated at £200,000.

Persia. Mohammad Mossadegh, prime minister, admitted that the government's efforts to sell oil abroad had failed, and that the oil industry was at a standstill

22. **German Fed. Rep.** It was announced that basic agreement had been reached by Konrad Adenauer, Federal German chancellor, and the Allied high commissioners on the terms of the contract to end the German Federal Republic's status as an occupied country.

United States. The Senate passed the McCarran bill to revise the immigration and naturalization laws.

23: **Korea.** Brig.-General Dodd and Brig.-General Colson, former commanders of Koje island prisoner-of-war camp, were demoted to the rank of colonel

South Africa. C. R. Swart, minister of justice, banned the Capetown weekly newspaper *Guardian* under the Suppression of Communism act.

United States. The House of Representatives finally approved, by 245 votes to 110, a $6,174,600,000 Foreign Aid bill.

U.S.S.R.-Persia. A Soviet note warned Persia that acceptance of U.S. aid involving certain military obligations would be incompatible with the good-neighbourly relations undertaken in the 1921 Soviet-Persian agreement.

24: **Australia-Great Britain.** R. G. Menzies, prime minister, arrived in London from the United States for a fortnight's official visit.

Korea. The South Korean government declared martial law over southeastern Korea including Pusan.

25: **France.** André Stil, editor of the Communist paper *Humanité*, was arrested on a charge of instigation to violence because an article in his newspaper called on Parisians to protest against General Ridgway's arrival on May 28.

Malaya. Manap Jepun, commander of a bandit regiment, who had $M 75,000 on his head, was killed by security forces.

U.S.S.R.-Germany. The Soviet reply to the western powers' note of May 13 complained that the western powers did not seem to desire a German peace treaty or German unification.

26: **Great Britain.** The appointment of General Sir John Harding as chief of the imperial general staff was announced, with effect from Nov. 1, 1952.

Council of Europe. The fourth session of the consultative assembly opened in Strasbourg. François de Menthon (France) was elected president in succession to Paul-Henri Spaak (Belgium).

German Fed. Rep. The German contract ending occupation and granting sovereignty to the Federal Republic was signed in Bonn by the United States, Great Britain, France and the German Federal Republic.

Korea. The commandant of the prison hospital on Koje island disclosed that, since July 2, 1951, at least 115 men had been sentenced to death and executed by their fellow-prisoners.

Persia. The conclusion of a contract for the sale of 3 million tons of oil a year to an unnamed U.S. firm was announced.

27: **German Dem. Rep.** The government cut off telephone communication between the Soviet zone and west Berlin.

European Defence Community. The E.D.C treaty was signed in Paris by the foreign ministers of France, Belgium, the German Federal Republic, Italy, the Netherlands and Luxembourg.

The foreign ministers of E D.C states, Anthony Eden, British foreign secretary, and the permanent representatives of N.A.T O states signed two additional protocols on the assistance to be given by E D.C. signatories to N A T.O. members and *vice versa*, in the event of armed aggression.

Roman Catholic Church. Fifteen cardinals, 300 bishops and thousands of pilgrims attended the opening of the 35th world Eucharistic congress in Barcelona.

28· **Great Britain.** Earl Alexander of Tunis, British minister of defence, gave U K. casualties in Korea as 513 killed, 1,601 wounded, 939 prisoners and 197 missing.

France. Over 700 persons were arrested, including Jacques Duclos, Communist leader, after Communist demonstrations in Paris against General Ridgway's arrival.

United Nations. Sir Gladwyn Jebb, U.K. representative, proposed a new disarmament plan on behalf of the three western powers for a maximum of between 1 million and 1 5 million men each for the total strength of the armed forces of the U S, the U S S.R. and China, and between 700,000 and 800,000 each for Great Britain and France.

United States. The Senate passed the Foreign Aid bill by 64 votes to 10.

Horse Racing. The Aga Khan's Tulyar, ridden by C. Smirke, won the Derby at Epsom, Surrey.

29: **Great Britain-U.S.S.R.** The Soviet embassy announced the recall of Gheorghy Zarubin, Soviet ambassador in London.

Italy. The official figures were published of the local government elections The Christian Democrat party emerged stronger than the left extremists as a whole, and with the rest of the centre

parties still had a majority over all extremists.

United States. President Truman asked congress for $3,341 million for further production of atomic weapons.

30: **Council of Europe.** The consultative assembly voted, *nem. con.*, in favour of merging the Organization for European Economic Co-operation with the Council of Europe.

German Debt Conference. The creditors rejected a German offer of DM. 170 million rising to DM. 270 million to meet prewar German debts.

Horse Racing. Capt. A. M. Keith's Frieze, ridden by E. Britt, won the Oaks at Epsom, Surrey.

31: **France.** Police raided all the principal Communist headquarters in France and seized large quantities of documents and arms.

India. Final figures for the 1951 census showed the total population to be 356,829,485 (excluding Jammu and Kashmir). There were 10 million more males than females.

U.S.S.R. The 63-mi. Volga-Don canal was opened.

JUNE

1: **Great Britain.** Court mourning for King George VI ended.

Ceylon. In the general election the United National party won 54 of the 101 seats in the House of Representatives

German Dem. Rep. Orders for sealing off the zonal frontier with west Germany were officially promulgated.

Roman Catholic Church. The 35th Eucharistic congress ended in Barcelona.

United States. General Eisenhower arrived in Washington having relinquished his appointment as supreme commander, Allied forces in Europe.

2: **Indochina.** Emperor Bao Dai dismissed the cabinet of Tran Van Huu and designated as his successor Nguyen Van-Tam, minister of the interior in the outgoing government.

Korea. U.S. tank troops entered the prisoner-of-war camp on Koje island and burnt Communist propaganda signs

United States. The Supreme court upheld a lower court's ruling of April 29 that President Truman had acted unconstitutionally in seizing the steel mills.

3: **Germany.** British troops and west Berlin police began a partial blockade of the Communist broadcasting station in the British sector of Berlin, as a protest against the Soviet seizure of territory belonging to the British sector.

Rumania. It was announced that Ana Pauker, foreign minister, had been severely criticized for "left and right deviationism" and refused re-election to the Politburo and central committee

United States. A joint conference of the House of Representatives and the Senate Foreign Affairs committees agreed on a new foreign aid programme of $6,447,730,750 for 1952-53.

Exploration. It was announced that bad weather had defeated both a Swiss attempt to climb Mt. Everest and a British "rehearsal climb", led by Eric Shipton, on the neighbouring Cho Oyu

4: **Aden.** Prince Ali Abdul Karim was unanimously appointed sultan of Lahej by the electoral body of the sultanate.

Argentina. General J. D. Perón was inaugurated president of Argentina for his second consecutive six-year term.

Jordan. The government announced the appointment of a regency council of three to act for King Talal because of his deteriorating health.

South Africa. About 2,000 persons, led by Torch Commando officials, took part in a procession in Capetown in protest against the High Court of Parliament act.

5: **Great Britain.** Queen Elizabeth II took her first salute as sovereign at the trooping the colour ceremony on the Horse Guards parade, London.

It was announced that Sir William Haley, director-general of the British Broadcasting corporation since 1944, had been appointed editor of *The Times* in succession to W. F. Casey

United States. The Department of Commerce prohibited the export of all steel mill products except those essential to defence production

6: **O.E.E.C.** Anthony Eden, British foreign secretary, was elected to succeed D. U Stikker as chairman.

7: **Great Britain.** The coronation of Queen Elizabeth II, to take place on June 2, 1953, was proclaimed in London

France. Communist party and Communist trade union offices in all major ports were raided by security police.

Greece. King Paul and Queen Frederika left Greece for a state visit to Turkey.

8: **Great Britain.** It was announced that Air Chief Marshal Sir William Dickson had been appointed chief of the air staff, to succeed Marshal of the R.A.F. Sir John Slessor on Jan. 1, 1953.

9: **France-India.** Representatives of the two countries exchanged the instruments of ratification of the cession by France to India of the settlement of Chandernagore, decided by a referendum in 1949.

India-Japan. A peace treaty was signed in Tokyo between representatives of the two countries.

International Court of Justice. Mohammad Mossadegh, Persian prime minister, opened the Persian case in the oral hearings on the Anglo-Persian oil dispute at The Hague.

United States. The Senate passed by 59 votes to 11 the $6,447 million Foreign Aid bill.

Cricket. England won the first test match against India at Headingley, Leeds, by seven wickets.

10: **Great Britain.** Earl Alexander of Tunis, minister of defence, arrived in Tokyo.

Germany. The British commandant removed the cordon round the Communist broadcasting building in the British sector of Berlin

Korea. In a two-hour battle between Koje island prisoners and U.N. troops who had entered one of the compounds to split up the inmates into smaller units 3 prisoners were killed and 139 wounded.

United Nations. Y. Malik, Soviet delegate to the Disarmament commission, rejected the western proposal for the limitation of armed forces.

11: **Australia-France.** R. G. Menzies, Australian prime minister, arrived in Paris for talks with A. Pinay, French premier.

Italy-Great Britain. The Italian under secretary for foreign affairs stated that the failure of Great Britain to provide employment for about 1,100 Italian miners who had been training there constituted a breach of contract.

12: **Great Britain.** R. A. Butler, chancellor of the exchequer, announced that the country's gold and dollar reserves had fallen by less than £10 million since the end of March, as compared with a loss of £334 million in the last quarter of 1951.

Belgium. The bill for the ratification of the Schuman plan was passed in the House of Representatives by 165 votes to 12 with 13 abstentions.

Kashmir. The constituent assembly decided to terminate hereditary rule and to elect its head of state under a new constitution to be framed.

13: **Great Britain.** Earl Alexander of Tunis arrived in Seoul, South Korean capital.

Great Britain-U.S.S.R. It was announced that Andrey Gromyko, Soviet deputy foreign minister, had been appointed ambassador to London.

International Court of Justice. Sir Lionel Heald, British attorney-general, opened the British case in the Anglo-Persian oil dispute

Korea. The South Korean government announced the discovery of a Communist plot to assassinate President Rhee

14: **China.** The completion of the Chungking-Chengu railway was announced.

Food and Agriculture Organization. The F.A.O council, in Rome, approved a proposal to create an emergency food reserve by which stocks could be stored and administered on an international basis, ready to meet famine

United States. President Truman attended the keel-laying of the first atomic-powered submarine, U.S.S "Nautilus", at Groton, Connecticut.

15: **Italy-N.A.T.O.** The cabinet approved the appointment of General Frattini as commander of N.A.T.O. land forces, southern Europe in succession to General Maurizio de Castiglioni

U.S.S.R.-Venezuela. *Tass* agency reported that the Soviet Union had broken off diplomatic relations with Venezuela in protest against the expulsion of two Soviet embassy officials

16: **Australia.** R. G. Menzies, prime minister, left London for Washington after talks with British ministers.

France-Yugoslavia. A one-year trade agreement was signed.

Italy. The Chamber of Deputies ratified the Schuman plan.

Sweden-U.S.S.R. Two Soviet fighter aircraft shot down a Swedish Catalina reconnaissance aircraft over international waters in the Baltic. The crew of seven, two of whom were injured, were rescued.

17: **Japan.** More than 800,000 workers went on strike and about 200,000 students stayed away from universities in protest against the government's anti-subversive activities bill and the revision of the labour law.

Korea. U.N. forces repulsed a heavy Chinese attack after five and a half hours of fighting. Chinese casualties were reported as 1,000 killed and wounded.

18: **Great Britain.** A four-day conference of British diplomats from 11 middle eastern counties opened in London.

France. The national assembly passed the military budget of 1,270,000 million francs by 507 votes to 99.

Italy. The Chamber of Deputies approved, by 410 votes to 34, the bill for the suppression of Fascist activities.

The Rome correspondent of *Pravda* was ordered to leave Italy for sending defamatory reports to Moscow.

N.A.T.O. The largest naval and air excercise since before World War II, involving the forces of nine N.A.T.O. countries, began in home waters under the command of Admiral Sir Arthur Power, Allied c.-in-c., Channel

Persia-Italy. The owners and agents of the tanker "Rose Mary", carrying a cargo of crude Persian oil to Italy on behalf of a Swiss firm, were restrained from removing any of the cargo at Aden.

19: **Great Britain.** Earl Alexander of Tunis, British defence minister, arrived in Ottawa.

Malaya. Sir Gerald Templer, high commissioner in Malaya, addressing a press conference in London, said that the Federal government had the wholehearted support of the Malayan people, and that of the terrorists killed since 1948, 2,845 were Chinese Total terrorist casualties since the start of the emergency were announced as 4,816, of whom 3,149 had been killed, 752 had surrendered, and 915 had been captured. In addition, it was estimated that 1,643 terrorists had been wounded. Security forces casualties were 1,438 killed and 2,229 wounded

20. **Venezuela.** The government broke off diplomatic relations with Czechoslovakia.

22. **Great Britain-United States.** Earl Alexander of Tunis, British minister of defence, arrived in Washington after talks with the Canadian government.

Australia. Flood damage in New South Wales was estimated at £A 10 million.

Korea. Chinese casualties in the Chorwon sector since June 10 were estimated at 3,500.

23: **Great Britain-United States.** Dean Acheson, U S secretary of state, arrived in London for talks with cabinet ministers.

International Court of Justice. Sir Eric Beckett concluded the British case in the Anglo-Persian oil dispute.

Japan. The government applied for membership of the United Nations

Korea. About 500 Allied aircraft bombed five hydro-electric plants near the Yalu river, which divides North Korea from Manchuria.

United States. The Senate Foreign Relations committee approved the Bonn agreement with the German Federal Republic.

24 **German Fed. Rep.** The German Federal contribution to the European Defence community was officially announced as 310, 000 men in the army and 100,000 men in all other services, the whole to be increased by about 90,000 men in wartime.

Japan-Great Britain. Shunichi Matsumoto, the first Japanese ambassador to Great Britain since World War II, presented his letters of credence to Queen Elizabeth II.

Korea. Eight power stations in North Korea were attacked by U.N. aircraft.

United States. The Senate Foreign Relations committee approved the Paris agreement extending the guarantee of the North Atlantic treaty to the German Federal Republic.

Cricket. England won the second test match against India, at Lord's cricket ground, London, by eight wickets.

25: **Great Britain.** Earl Alexander of Tunis, defence minister, arrived in London after his visit to the United States, Canada and the far east.

Burma-Pakistan. A five-year treaty of friendship was signed in Rangoon.

Korea. An attempt was made on the life of Syngman Rhee, South Korean president

Netherlands. At a general election for the second chamber the Labour party and the Catholic Peoples' party each won 30 seats, the Anti-Revolutionaries 12, Christian Historicals 9; Liberals 9; Communists 6, Christian Reform party 2; and National Catholics 2.

United States. President Truman vetoed the revised immigration bill on the ground that it continued the discriminatory system of quotas.

26 **United States.** The House of Representatives voted by 278 to 113 to override President Truman's veto of the McCarran-Walter immigration bill of June 25.

Yachting. R. S. Nye's "Carina" (United States) won the major trophy in the Newport-Bermuda race with a corrected time of 3 days 16 hr 5 min. 47½ sec. The British R.N S A yacht "Samuel Pepys", the smallest in the race, was fifth.

27 **Great Britain.** The Canterbury diocesan conference recommended that every beneficed clergyman should receive a minimum stipend of £500 a year

Malaya. The terrorist Moo Yat Mai, on whose head was a price of £1,500, surrendered at Taiping, Perak

United States. The Senate overrode President Truman's veto of the immigration bill of June 25, which thus became law.

28· **Egypt.** Hilaly Pasha, prime minister, resigned. King Farouk asked Hussein Sirry Pasha to form a government.

Pakistan-Poland. A trade agreement was signed.

30· **Great Britain.** The House of Commons select committee recommended a civil list of £475,000, including a margin of £95,000 for contingencies, as compared with £410,000 provided for King George VI.

United States. The Senate approved a military expenditure bill of $46,000 million by 66 votes to none.

Malaya. The Federal council unanimously approved the Federal Regiment bill providing for a force eventually to be entirely responsible for Malaya's defences.

United States. The Senate approved the $6,001,947,750 Foreign Aid bill.

4: **Korea.** The South Korean parliament surrendered its constitutional power to elect the president.

Lawn Tennis. Frank Sedgman (Australia) won the men's singles championship at Wimbledon, beating Jaroslav Drobny (Egypt) in the final.

5: **Persia.** Mohammad Mossadegh, prime minister, submitted his resignation to the shah.

Rumania. It was announced that Ana Pauker, foreign minister, had been relieved of her post and that Simion Bughici would succeed her.

Lawn Tennis. Maureen Connolly (U.S.) beat Louise Brough (U.S.) in the final of the women's singles at Wimbledon. Frank Sedgman (Australia), with K McGregor (Australia), won the men's doubles and, with Doris Hart (U S.), the mixed doubles.

Rowing. Leander beat Sydney Rowing club (Australia) to win the Grand Challenge cup at Henley. M. T. Wood (Australia) beat T. A. Fox (London Rowing club) in the Diamond Sculls.

6· **Great Britain.** London's last tramcar was taken out of service.

Persia. The Majlis nominated Mohammad Mossadegh to form a new government by 52 votes to 3 with 10 abstentions.

7· **Navigation.** The U.S liner "United States" beat the record for an Atlantic crossing by 10 hr. 2 min.

8. **Germany.** The U.S. commandant in Berlin protested to the Soviet authorities against the kidnapping of Walter Linse, an economist working for the "free lawyers" organization in the U S. sector.

9: **Great Britain.** The text of the Transport bill, to denationalize road haulage and to decentralize control of railways, was published.

Great Britain-N.A.T.O. General Matthew B. Ridgway, supreme Allied commander, arrived in London to acquaint himself with British problems relating to European defence

Eritrea. The assembly approved a constitution establishing Eritrea as an autonomous unit federated with Ethiopia.

10· **Indochina.** The French H.Q. announced that in an operation begun on July 8 south of Hué on the coast of Annam, Vietminh losses were 50 killed and 265 prisoners. French losses were 8 killed and 13 wounded.

Persia. Mohammad Mossadegh accepted the premiership

11: **Korea.** Heavy Allied air attacks were made on targets at Pyongyang, Hwangju and Sariwon. Sorties numbered 1,330 in 24 hr.

United States. General Dwight D. Eisenhower was nominated Republican candidate for the presidential election.

Golf. A. D. Locke (South Africa) won the open championship at Royal Lytham, Lancashire.

12: **Austria.** Passenger traffic on the Danube between Linz and Vienna was resumed for the first time in 12 years.

Korea. The U.S. far east air force announced that U.N. forces had lost 719 aircraft in the war against 524 lost by the Communists.

Aviation. Cyril Gregory (Sleaford, Lincolnshire) won the King's cup air race in a Taylorcraft monoplane at an average speed of 113·5 m.p.h.

JULY

1: **Great Britain.** An opposition motion criticizing the government for failing to secure effective consultation before the Yalu river bombing raids was defeated in the House of Commons by 300 votes to 270.

Iceland. Asgeir Asgeirsson was elected president of Iceland.

India. In Uttar Pradesh the Zamindari (landlord) system was abolished and ownership of land was thenceforth to be vested in the State government.

2: **Australia.** R. G. Menzies, prime minister, arrived in Australia after his seven-week tour of Europe and the U.S.

3: **Great Britain-Spain.** It was announced that the British government had allowed the export of arms to Spain, in furtherance of the export drive.

Japan. The upper house passed the government's Subversive Measures Prevention bill by 133 votes to 79.

Jordan. King Talal I arrived in Amman from Europe.

13: **South Africa.** Twenty-eight Africans were arrested in Cape Province for breaking the segregation laws.

14: **United Nations.** A report to the Security Council from the U.N. command in Korea stated that more than 100,000 prisoners in U.N. hands refused to be repatriated.

15: **South Africa.** Emil Sachs, former general secretary of the Garment Workers union, was sentenced to six months' imprisonment under the Suppression of Communism act.

16: **Greece.** It was officially stated that a Communist spy ring had been discovered along the Greek-Albanian border in the Konitsa area. Twenty-five persons had been arrested.

India-Kashmir. Sheikh Abdullah, Kashmir prime minister, arrived in Delhi for discussions.

Israel. The west German delegation offered Israel DM. 450 million (about £37 million) as reparations for Jewish victims of Nazi oppression.

Korea. Peking radio claimed that nearly 7,000 persons had been killed in U.N. air attacks of July 11 on Pyongyang and that 52 had been killed in Antung in Manchuria.

Persia. Mohammad Mossadegh resigned the premiership after the shah had refused to allow him to assume the war portfolio.

17: **Great Britain-U.S.S.R.** Pavel Kuznetzov, second secretary at the Soviet embassy, left the United Kingdom in compliance with a Foreign Office request.

Persia. Kavam es-Saltaneh was nominated prime minister in the Majlis by 40 votes with 30 National Front and 3 other abstentions.

18: **Great Britain.** Sir Walter Monckton, minister of labour, referred back proposals for wage increases submitted by 12 wages councils in distributive and allied trades representing more than a million workers

19: **United States.** The secretary of the Navy published details of the $12 million naval shipbuilding programme for 1952 which included a second 60,000-ton aircraft carrier of the "Forrestal" class and a second nuclear-powered submarine.

Cricket. England beat India in the third test match at Old Trafford, Manchester, by an innings and 207 runs.

Olympic Games. The XVth Olympic Games opened at Helsinki, Finland.

20: **Egypt.** Hussein Sirry Pasha, prime minister, resigned.

Persia. More than 100 demonstrators were arrested after disorders in Tehran.

21: **Egypt.** The king asked Hilaly Pasha, prime minister, March 2-June 28, to form a government.

Indochina. Vietminh troops attacked an undefended rest centre about 40 mi. southeast of Saigon and massacred 21 people; 23 persons were wounded

Nepal. The working committee of the Nepal Congress party directed the prime minister, M. P. Koirala, and his colleagues to resign.

Persia. Kavam es-Saltaneh, prime minister, resigned after failing to control riots and disturbances throughout the country.

22: **International Court of Justice.** The court upheld by 9 votes to 5 the Persian objection that it was not competent to deal with the Anglo-Persian oil dispute referred to it by the British government.

Nepal. The prime minister rejected the Congress party order of July 21.

Netherlands. Willem Drees asked to be relieved of the task of forming a coalition government. He had begun his efforts on June 27.

Persia. The shah reappointed Mohammad Mossadegh prime minister after he had been supported by 61 of the 64 deputies present in the Majlis.

23: **Egypt.** A military *coup* was carried out in Cairo without bloodshed by General Mohammed Neguib who proclaimed himself commander-in-chief. Later, Hilaly Pasha's government resigned.

Netherlands. L. J. Beel, Catholic party prime minister, 1946-48, and minister of the interior in the outgoing cabinet, was asked by the queen to form a cabinet.

24: **Australia.** The Ministry for Immigration announced that immigration would be reduced to 80,000 annually, or half the average for the preceding four years.

Egypt. A new cabinet was announced under Ali Maher.

United States. President Truman announced that the steel dispute had been settled

25: **German Fed. Rep.** The Schuman Plan treaty came into force and all Allied restrictions on German steel production were lifted.

Korea. After 18 meetings in secret session the United Nations agreed to a Communist request to resume open truce talks.

Puerto Rico. Under a new constitution Puerto Rico became a self-governing free commonwealth associated with the U.S., with control of domestic affairs.

26 **Great Britain.** Duncan Sandys, minister of supply, announced that guided rockets that could travel at more than 2,000 m.p.h. had been developed.

Belgium. Serious disorders occurred at Namur as a result of army demonstrations against the increase from 18 to 24 months of the conscription period.

Egypt. King Farouk abdicated at the demand of General Mohammed Neguib. The ex-king's son was later proclaimed King Ahmed Fuad II of Egypt and the Sudan. The ex-king and queen and the infant king left by sea for Europe.

United States. Adlai Stevenson, governor of Illinois, was nominated Democratic candidate for the presidential election.

27. **Nepal.** It was announced that M. P. Koirala, prime minister, and two other ministers had been expelled from the Congress party for three years because of their refusal to accept the party's mandatory list of new ministers.

29: **Great Britain.** R. A. Butler, chancellor of the exchequer, announced in the House of Commons new measures designed to achieve a balance of payments in the second half of 1952.

Belgium. A 24-hr. strike was begun at the steel works at Ougrée-Marihaye in protest against the extended period of military service.

30: **Great Britain.** An opposition amendment regretting the inadequacy of the government's economic programme was defeated in the House of Commons by 302 votes to 277, the government's motion was then carried by 299 votes to 277.

Australia-Malaya. R. G. Menzies, Australian prime minister, announced that Air Vice-Marshal F. R. W. Scherger, R.A.A.F., had been appointed air officer commanding, Malaya, from Jan. 1, 1953.

Egypt. The government abolished the titles of bey and pasha, formerly conferred by the king. It was announced that all political prisoners charged with crimes of *lèse-majeste* had been released by the prime minister's order.

Korea. A heavy Allied air raid was made on a metals factory near the Manchurian border.

Persia. The British Bank of Iran and the Middle East closed. Martial law was prolonged for another month by decree.

31: **German Fed. Rep.** It was announced that more than 13,000 refugees had arrived from eastern Germany during July, the highest figure ever recorded.

AUGUST

1: **Great Britain.** A government motion approving the Bonn and E.D.C. treaties and the protocol to the North Atlantic treaty was accepted in the House of Commons by 293 votes to 253 after an opposition amendment to it had been defeated, 294-260.

2: **Egypt.** The cabinet appointed a provisional council of regency.

3: **Cuba.** It was learned that ten men, of whom five were police officials, had been arrested for plotting against the régime.

Persia. The Majlis approved a bill to try Kavam es-Saltaneh, former prime minister, and confiscate his property.

Olympic Games. The XVth Olympic Games ended at Helsinki.

4: **Korea.** Truce talks were resumed by staff officers at Panmunjom. Two heavy Allied air raids were made on a military H.Q. near Pyongyang.

Pacific Council. The first session opened in Honolulu, attended by the foreign ministers of the U.S., Australia and New Zealand.

United States. As a result of the steel strike the army announced a strict ration of ammunition of calibre larger than ·50 in. for use by any but units in action or troops destined for combat in Korea.

5: **Japan.** Two British sailors were sentenced by the Kobe provincial court to two and a half years' imprisonment on charges of robbery with violence.

Japan-Nationalist China. Diplomatic relations were resumed with the ratification of the bilateral Japanese peace treaty signed on April 28. Eighty-eight Japanese war criminals convicted by Chinese courts were released from Sugamo, near Tokyo.

United States. Fourteen Communists were convicted by the Federal court, Los Angeles, of conspiring to teach and advocate the violent overthrow of the U.S. government.

6: **German Dem. Rep.** At Leipzig 23 persons were sentenced to prison terms, of which the maximum was 15 years, for having moved 460 textile machines to western Germany.

Pacific Council. The first conference ended in Honolulu.

7: **Korea.** The Fifth Air force announced total enemy losses of MIG jet fighters in

the war as 359 destroyed and 544 damaged.

Persia. The Majlis elected Abul Kasim Kashani as its new president.

South Africa. A total of 134 Africans who had participated in the passive resistance campaign were sentenced to fines of £2 or 20 days in prison. All chose imprisonment.

8: **Korea.** Heavy Allied air attacks were made on Sinchon, 45 mi. southwest of Pyongyang.

9: **Sarawak.** The government declared a state of emergency in Kuching province where the search for a terrorist Communist group was proceeding.

10: **Egypt.** Ali Maher, prime minister, announced the end of press censorship.

European Coal and Steel Community. The inaugural meeting of the High authority was held in Luxembourg.

Korea. Incomplete results showed that Syngman Rhee had been re-elected South Korean president.

11: **Ethiopia.** Emperor Haile Selassie signed a constitution providing for the federation of an autonomous Eritrea with Ethiopia.

German External Debts Conference. The head of the German delegation to the London conference declared the total of the German external debt as DM 14,300 million.

Jordan. The government terminated King Talal's reign because of his ill-health and proclaimed his son, Crown Prince Hussein, as king.

Sarawak. A government spokesman said that terrorist outrages had been committed by members of an organization calling itself the Sarawak-Indonesia People's Liberation army.

12. **Egypt.** A draft decree was published entitling the government to buy, for distribution to the peasants, all estates of more than 200 ac., at prices based on the average market value of land during 1936-39. The cabinet decreed increases in taxes on all incomes over £E 800.

Persia. Martial law and the curfew were lifted in Tehran.

13: **Great Britain.** The annual conference of the Confederation of Shipbuilding and Engineering Unions decided unanimously to ask for further talks with employers about rejected wage claims.

Egypt. Army units occupied the industrial areas of Kafr el-Dawar and Moharrem Bey near Alexandria after clashes between textile workers and police in which 9 persons were killed and 25 injured.

Indonesia. It was announced that in a battle on Aug. 8-10, near Kuningan, western Java, 58 rebels and 17 soldiers had been killed.

Japan. Japan was formally admitted to the International Monetary fund and the International Bank for Reconstruction and Development.

Persia. A mob led by the newly formed Persian neo-Nazi party raided the Soviet embassy information centre and the Hungarian legation.

14: **Nepal.** King Tribhuvana announced the appointment of an advisory council of five to assist him in governing.

South Africa. J. S. Moroka, president of the African National congress, was arrested under the Suppression of Communism act.

15: **Austrian Peace Treaty.** The U.S. State Department announced that the U.S.S.R. had rejected the proposals made on March 13 by the United States, Great Britain and France for granting a peace treaty to Austria.

South Africa. Nana Sita, president of the Transvaal Indian congress, was arrested under the Suppression of Communism act.

16: **Great Britain.** Thirty-one persons were killed and 33 houses were destroyed at Lynmouth, Devon, when the river Lyn flooded and changed its course.

South Africa. Ninety-six non-European members of the passive resistance campaign were arrested in Port Elizabeth.

Aviation. The British 100-seat airscrew-turbine powered Bristol Britannia airliner made its maiden flight from Filton, Bristol.

18: **Great Britain-United States.** The British Ministry of Supply announced negotiations for the sale of British radioactive compounds in the U.S

Indochina. A Vietminh raid was made on a 35,000-ac. rice estate in southern Vietnam, about 20 mi. west of Cantho. Seven estate workers were killed and the contents of the magazine seized.

19: **Israel.** A bill for the extension of military service from two years to 30 months for men aged 18-26, and from 18 months to two years for those aged 27-29 inclusive was passed by the Knesset.

Persia. Sumkaists (members of the neo-Nazi party) and Pan-Iranists burned down the Tudeh party "peace centre" and attacked a Communist newspaper office.

Cricket. The final test match between England and India ended in a draw at the Oval, Kennington England thus won the series by three matches to none

20: **Argentina-Great Britain.** It was announced that 4,000 tons of frozen meat would be shipped immediately to Great Britain and the price settled later (Shipments had been suspended on June 25.)

Persia. The government reimposed martial law and a curfew for two months

21: **Kashmir.** The constituent assembly passed a resolution to end dynastic rule and substitute an elected head of state.

Kenya. The government ordered a curfew in the Nyeri and Nanyuki areas in north Kenya because of expected "unlawful assemblies and organized intimidation by threats of violence."

Persia. The military governor of Tehran banned political meetings

22. **Kenya.** A gathering of Kikuyu ministers and elders of both Protestant and Roman Catholic churches pledged their support of the government in combating the activities of the anti-European secret society, Mau Mau.

Cricket. Surrey beat Derbyshire at the Oval, Kennington, thus winning the county championship.

23: **Arab League.** The Arab League Security pact came into force, having been ratified by Egypt, Syria, Iraq, Jordan and Saudi Arabia.

24: **Greece-Great Britain.** It was learned that the Greek minister of agriculture had ordered the compulsory expropriation of Copais, a British-owned estate about 60 mi. from Athens, under a law providing for the distribution to landless peasants of estates of over 65 ac.

Korea. U.N. aircraft bombed Anju, a large Communist supply town about 100 mi. north of Pyongyang.

25: **Indochina.** The French army launched a heavy attack on Vietminh positions north of Hué, using 7,000 troops and also bombers.

Jordan. King Hussein arrived in Amman from Switzerland and received a state welcome.

26: **Egypt.** Government officials, including all ministers, were ordered to state their private wealth.

Kashmir. A conference on Kashmir between Indian and Pakistan representatives opened in Geneva.

Aviation. A British Canberra jet bomber flew from Northern Ireland to Newfoundland and back in a total flying time of 7 hr. 50 min —the first double crossing in a day. The return flight set up a new record with a time of 3 hr. 25 min. and an average speed of 606 m.p.h.

27: **Japan-Great Britain.** The High court of Osaka refused an application for bail for the two British sailors detained at Kobe

United Nations. The disarmament commission rejected by 9 votes to 1 (U.S.S.R), with Chile and Pakistan abstaining, a Soviet resolution proposing immediate discussion of germ warfare

28: **German Fed. Rep.-Israel.** The conference at The Hague on German reparations to Israel ended after agreeing that Germany should pay Israel DM. 3,000 million in goods, and additional goods to the value of DM 450 million.

U.S.S.R. It was announced that V. A Zorin would replace Y. Malik as permanent delegate to the United Nations.

29· **German Fed. Rep.-Switzerland.** The German Federal government agreed to pay Switzerland about £53,300,000 in settlement of wartime and postwar debts of about £97,580,000

Indochina. Official reports of a French action to exterminate the 101st Vietminh regiment, about 25 mi north of Hué, stated that 1,318 prisoners were taken, 90 men killed and the battalion H.Q. captured.

Korea. The heaviest air raid of the war was made on Pyongyang. 1,403 sorties were flown.

South Africa. The Cape division of the Supreme court ruled unanimously that the High Court of Parliament act was "invalid, null and void, and of no legal force and effect."

30: **Persia.** Mohammad Mossadegh, Persian prime minister, rejected joint Anglo-U.S. proposals for solution of the oil problem.

Aviation. The four-jet Avro 698, Britain's first delta-wing bomber, made its maiden flight.

31: **Malaya.** The armed strength of the terrorists was officially assessed at 3,000-5,000.

SEPTEMBER

1: **Korea.** The heaviest Allied carrier air raid of the war was made near the Chinese and Siberian frontiers; targets included an oil refinery at Aoji, an iron mine at Musan and the port of Chongju, on the northeast coast.

Netherlands. Willem Drees (Labour) formed a coalition government.

2: **Great Britain.** The Trades Union congress, meeting at Margate, voted by a majority of more than four million in favour of the general council's statement

advocating the greatest possible re-armament within the means available to the country.

The queen approved the appointment of Field Marshal Sir William Slim as governor-general of Australia, to take up his duties early in 1953.

3: **Belgium.** Joseph Pholien, minister of justice, resigned because of popular agitation against his action in reprieving two Belgians convicted of treason during World War II.

Korea. A report from the U.N. command gave the number of aircraft lost during the war as 753; Communist losses were estimated at 1,318, including 620 damaged.

4: **Great Britain.** The Trades Union congress passed by 7,771,000 votes to 39,000 a composite resolution criticizing the government's economic policy and stating that until adequate price controls and food subsidies had been restored attempts to restrict justifiable wage increases should be rejected.

Indochina. A French attack in central Vietnam practically destroyed two Vietminh regiments.

5: **U.S.S.R.-Austria.** The Soviet government received notes from Great Britain, France and the U.S. asking for a meeting of the foreign ministers' deputies to initial the draft of an Austrian peace treaty submitted in March.

6: **Great Britain.** Thirty people were killed and 60 injured when a DH.110 jet fighter disintegrated over the airfield at Farnborough, Hampshire, during the display arranged by the Society of British Aircraft Constructors.

Chile. In the presidential elections Carlos Ibáñez, president 1927-31, headed the poll but failed to secure a clear majority over the combined votes of the other three candidates.

7: **Egypt.** Ali Maher resigned and was succeeded as prime minister by General Neguib. During the night 51 political, official and military personalities had been arrested.

Persia. Mohammad Mossadegh, prime minister, publicly rejected the Churchill-Truman proposals for resolving the Persian oil deadlock.

8: **Great Britain-China.** A party of British M.P.s arrived in Peking at the invitation of the Chinese Institute of Foreign Affairs.

9: **Arab League.** Abdurrahman Azzam, secretary-general, resigned.

Cuba. It was announced that the two closest rivals to General Carlos Ibáñez in the presidential elections had acknowledged his victory and that Ibáñez would assume the presidency on Nov. 4.

Egypt. The cabinet approved a bill to reorganize the political parties and passed the land reform scheme limiting holdings to 200 ac., or 300 ac. in the case of families with two children, and providing for the redistribution of some 730,000 ac.

Lebanon. All the ministers of Sami es-Solh's cabinet resigned. President Beshara Khalil el-Khuri appointed a three-man emergency cabinet with Nazim Akkari as prime minister.

10: **Great Britain.** Executives of the 38 unions affiliated to the Confederation of Shipbuilding and Engineering Unions decided by a large majority to ban overtime and restrict piecework in protest against the employers' rejection of wage claims.

11: **European Coal and Steel Community.** The assembly elected Paul-Henri Spaak, former Belgian prime minister, as its president.

12: **Greece.** A government bill restoring the majority system in parliamentary elections was passed by 132 votes to 121.

N.A.T.O. "Mainbrace", a two weeks' naval exercise, began in the North Atlantic and the North sea.

13: **Korea.** A heavy U.N. air attack was made on the Suiho (Supung) power plant on the Yalu river, the British government having been informed beforehand.

Mexico. Adolfo Ruiz Cortinez was proclaimed president as a result of elections held on July 6 He would assume office on Dec. 1.

Horse Racing. The Aga Khan's "Tulyar", ridden by C. Smirke, won the St. Leger at Doncaster.

14: **Arab League.** Abd el-Khalek el-Hassuna was elected secretary-general by the council.

Lebanon. Saab Salaam, a former home minister, formed a cabinet.

16: **Egypt.** The cabinet approved a bill reducing by 15% the rent of all houses built since Jan. 1, 1944.

Pakistan-U.S.S.R. A barter agreement was signed in Karachi.

17: **Great Britain-Yugoslavia.** Anthony Eden, British foreign secretary, arrived in Belgrade on an official visit.

France. The secretariat of the French Communist party announced the removal of André Marty and Charles Tillon from the secretariat and political bureau respectively.

Syria. A Damascus press report announced the constitution, sponsored by Colonel Adib es-Shishakli, army chief of staff, of a new political party, the Arab Liberation movement.

United States. The federal authorities arrested 18 leading Communists in middle west and west coast states on charges of conspiring to overthrow the government by force.

18: **Great Britain-Yugoslavia.** Anthony Eden, British foreign secretary, in a speech in Belgrade, said Great Britain was ready to help Yugoslavia secure the peace and independence which were the right of every nation.

Lebanon. President Beshari Khalil el-Khuri resigned in response to strong national demand for a radical reorganization of the administration An interim cabinet was formed headed by General Fuad Shehab.

N.A.T.O. The council met in Paris and appointed H. Kraft, Danish foreign minister, as its chairman.

United Nations. The Security council supported, by 10 votes to 1, Japan's application for U.N. membership. The U.S.S.R. applied the veto.

21: **Egypt.** General Neguib ordered the surrender of all arms to the authorities.

Italy-German Fed. Rep. Alcide De Gasperi, Italian prime minister and foreign minister, arrived in Bonn on a four-day official visit.

22: **South Africa.** D. F. Malan, prime minister, declared that interference by the British Labour party in South African domestic affairs would not be tolerated.

Sweden. Results of elections to the second 'chamber of the Riksdag on Sept. 21 were: Social Democrats 109 seats (formerly 112), Liberals 59 (57), Conservatives 30 (23), Agrarians 27 (30) and Communists 5 (8).

U.S.S.R.-China-Finland. A triangular trade agreement was signed in Moscow.

23: **Great Britain-Austria.** Anthony Eden, British foreign secretary, arrived in Vienna on an official visit.

Great Britain-Yugoslavia. Anthony Eden announced that Marshal Tito had been invited to visit the U.K.

Iraq-Great Britain. King Faysal of Iraq arrived in London for a visit which included two days at Balmoral as the guest of Queen Elizabeth II.

Lebanon. Camille Shamun, a prominent member of the Socialist opposition, was elected president by parliament by 74 votes to 1. General Fuad Shehab, acting prime minister, formally resigned.

24: **Rumania.** The national assembly unanimously approved a new draft constitution and a new electoral law presented by the minister of justice.

Boxing. Rocky Marciano (U.S.) became the world heavyweight champion by knocking out Jersey Joe Walcott (U.S.), the holder, at Philadelphia.

25: **Burma.** The government announced a state of emergency in the Shan states where underground Communist rebels had begun to campaign for a peasant rebellion.

Egypt. It was disclosed that 450 officers of all ranks of the armed forces had been retired on pension. It was also learned that the ambassador to Spain and the ministers to the Netherlands, the Vatican, Portugal and Brazil had been dismissed and the resignation accepted of the ambassador to Afghanistan.

Lebanon. President Shamun nominated Abdullah el-Yafi as prime minister.

26: **Kenya.** Seventeen arrests were made following Mau Mau raids on European farmlands near Mount Kenya.

Lebanon. Abdullah el-Yafi resigned. Saadi Mounla agreed to try to form a cabinet.

U.S.S.R.-United States. *Pravda* accused George Kennan, U.S. ambassador, of malicious hostility to the Soviet Union and of breaking his diplomatic obligations.

27: **German Fed. Rep.** E. Ollenhauer was elected leader of the Social Democratic party in succession to the late Kurt Schumacher by an overwhelming vote.

Korea. General Mark Clark, supreme Allied commander, announced the establishment of a sea defence zone around the Korean peninsula, any ship entering the area would be subject to search.

U.S.S.R.-Austria. A Soviet reply to the western powers' note of Sept. 5 on an Austrian peace treaty rejected the proposal for a short form of treaty as violating the Potsdam agreement.

28: **Great Britain.** Anthony Eden, foreign secretary, returned to London after his visits to Yugoslavia and Austria.

Jordan. Tewfik Abulhuda, prime minister, resigned and was asked by the regency council to form a new government.

Korea. The truce talks were adjourned until Oct. 8.

Lebanon. Saadi Mounla resigned having failed to form a cabinet.

29: **Great Britain.** The British Labour Party conference opened at Morecambe, Lancashire, and defeated by 3,986,000 votes to 1,728,000 a resolution calling for a national campaign to demand the government's resignation.

Sir Rupert de la Bère was elected lord mayor of London for the civic year beginning Nov. 9.

World Water Speed Record. John Cobb, holder of the world's land speed record, was killed on Loch Ness, Inverness-shire, while attempting to beat the

water speed record, when his jet-propelled boat "Crusader" disintegrated.

30: **Great Britain.** At the Labour Party conference the voting for the national executive resulted in the Bevan group securing 6 of the 7 constituency seats out of a total membership of 27.

Jordan. Tewfik Abulhuda, prime minister, formed a new government.

Korea. The South Korean prime minister resigned because of ill-health.

The British government confirmed officially the presence of Soviet technical troops, estimated at 1,200-5,000, in North Korea.

Malaya. The Duchess of Kent and her son, the Duke of Kent, arrived in Singapore at the start of a tour of Malaya, Sarawak, Brunei, North Borneo and Hong Kong.

OCTOBER

1: **Korea.** U.S. soldiers killed 56 Chinese prisoners in a camp on Cheju island and wounded 120 others while breaking up a banned celebration of the third anniversary of the establishment of the Chinese People's Republic.

2. **Great Britain.** At the Labour Party conference a resolution calling for a re-examination and reduction of the rearmament programme was rejected by 3,644,000 votes to 2,288,000.

Japan. The results of a general election held on Oct. 1 were: Liberals 240 seats (285 at previous election), right-wing Socialists 57 (30), left-wing Socialists 54 (16), Communists 0 (22), others (Independent, Labour, Co-operative) 30 (26).

3: **Great Britain.** The first British atomic weapon was exploded off the Monte Bello islands, Western Australia.

Great Britain-United States. The appointment of Sir Roger Makins, deputy under secretary in the Foreign Office, to succeed Sir Oliver Franks as ambassador in Washington was announced.

Kenya. The wife of a Kenya civil servant was found stabbed to death at her farmhouse 12 mi. from Nairobi.

5. **German Dem. Rep.** Nikolay Shvernik, chairman of the Presidium of the Supreme Soviet of the U.S.S.R., arrived in east Berlin to attend the third anniversary of the founding of the German Democratic Republic.

U.S.S.R. The 19th congress of the Communist party of the Soviet Union opened in Moscow attended by Stalin and members of the Politburo.

6: **Kenya.** Sir Evelyn Baring, governor of Kenya, began a tour of the troubled Kikuyu areas.

Korea. The Communists launched a strong attack along two-thirds of the front with forces estimated at 15,000 men, strongly supported by tanks.

7: **France.** The cabinet declared that the French delegation would tolerate no interference in Tunisian and Moroccan affairs at the U.N. general assembly and would oppose inclusion of the questions on the agenda.

German Dem. Rep. Otto Dibelius, head of the Evangelical Churches in Germany, accused the east German government of interfering with religious education and church welfare work.

Kenya. Chief Waruhiu of the Kikuyu tribe, who had denounced Mau Mau activities at a tribal meeting, was murdered by an African gang seven miles from Nairobi.

8: **Great Britain.** One hundred and twelve people were killed and more than 200 injured when two expresses and a local train were in collision at Harrow and Wealdstone station.

Korea. The Communist truce delegation rejected U.N. proposals of Sept. 28.

United States-U.S.S.R. A U.S. note rejected the Soviet demand for the recall of George Kennan, U.S. ambassador in Moscow, and maintained that Kennan was right in his criticism of restrictions placed on Americans in Moscow.

9: **Great Britain.** The Conservative Party conference opened at Scarborough, Yorkshire.

Kenya. The police made 40 arrests during a raid on a Mau Mau initiation ceremony. The government granted all resident magistrates in troubled areas the power of High court judges in dealing with Mau Mau cases.

10: **Great Britain.** It was announced that the queen had accepted the resignation of the Earl of Clarendon as lord chamberlain and had appointed the Earl of Scarbrough in his place.

Greece. The government resigned and parliament was dissolved. It was announced that a general election would be held on Nov. 16.

12: **Indochina.** An attack by 10,000 French Union troops against Vietminh concentrations in the Ninh Binh area, southeast of Hanoi, was reported.

13. **Turkey-Great Britain.** The Turkish prime minister and foreign minister arrived in London on a five-day official visit.

14: **Great Britain.** It was announced that Queen Elizabeth II and the Duke of Edinburgh would leave England in Dec. 1953 for a tour of Australia, New Zealand and Ceylon.

Egypt. It was announced that Colonel Rashad Mehanna had been dismissed from the regency council "for reasons of state and in the interests of the army movement."

Indochina. Vietminh forces began an offensive in the area between Nghia Lo and Van Yen in Tongking.

Korea. U.N. troops launched a heavy attack north of Kumhwa.

United Nations. The seventh session of the general assembly was opened in New York by Luis Padilla Nervo, the retiring president.

U.S.S.R. The 19th Communist Party congress ended after the election of a new central committee of 125 members and 110 alternate members, as compared with 71 and 68 previously.

15: **Great Britain-Persia.** Great Britain rejected the Persian counter-proposals for the solution of the oil dispute.

16: **Great Britain-Kenya.** Oliver Lyttelton, British colonial secretary, gave an account in the House of Commons of Mau Mau crimes in Kenya and expressed the government's full support for the measures being taken by the Kenya government.

Persia-Great Britain. Mohammad Mossadegh, Persian prime minister, announced in a broadcast his decision to break off diplomatic relations with Great Britain because of the latter's refusal to accept the Persian counter-proposals for a solution of the oil dispute.

17: **Finland.** Urho Kekkonen, prime minister in the coalition government, resigned following disagreement between the Social Democrats and Agrarians on the government's proposed rent bill. Juho Paasikivi, president, asked Kekkonen to form a new government.

Kenya. The formation of a voluntary "block wardens" organization for the security of houses was announced.

United Nations. A request of the Asian-Arab *bloc* in the general assembly to include on the agenda the question of South Africa's *apartheid* policy was accepted by 45 votes (including the U.S.) to 6 (including Great Britain and France) with 8 abstentions.

18. **Korea.** In a special report to the U.N. general assembly the U.N. command stated that the Communist armies numbered more than a million men, mostly Chinese, deployed in depth, and an air force of more than 2,000 aircraft, mostly jets.

South Africa. Eleven persons, including four Europeans, were killed and 27 injured in a riot in New Brighton, an African suburb of Port Elizabeth, after police had arrested two Africans for theft.

19: **Egypt.** It was announced that an espionage network had been discovered and that certain members of it had been arrested.

Kenya. Mau Mau terrorists burnt down the Nyeri Polo club and set alight 300 ac. of grazing land. Forty-one Africans alleged to be participating in a Mau Mau ceremony were arrested by a police patrol.

20: **Kenya.** The government proclaimed a state of emergency throughout the colony: nearly 100 Africans, including Jomo Kenyatta, president of the Kenya African union, were arrested.

Indochina. The withdrawal of French and Vietnam forces from the port of Gia Hoi, ten miles northwest of Nghia Lo, was announced.

21: **Great Britain.** An increase of 7*s.* a week in the wages of adult male railway workers was recommended by the Railway Staff National tribunal.

Egypt. Censorship was imposed on newspapers and on telegraph and telephone messages.

United Nations. The general assembly rejected by 46 votes to 5 a Soviet proposal that Communist representatives should be invited to give evidence in support of their charges that the United Nations had adopted germ warfare in Korea. The Soviet *bloc* then rejected a U.S. request, accepted by 53 votes to 5, that an international commission should investigate the matter.

22: **Austria.** The coalition government resigned after the two partners—the People's party and the Socialists—had failed to agree on the budget.

Kenya. Two Kikuyu tribesmen were sentenced to death for murdering a witness in a Mau Mau case. Senior Chief Nderi was murdered by Mau Mau terrorists in the Kikuyu area.

23: **Great Britain.** Winston Churchill, prime minister, gave the House of Commons an account of the results of the first British atomic explosion on Oct. 3.

German Fed. Rep. It was announced that Field Marshal Albert Kesselring had been freed by the British authorities as an act of clemency.

Yugoslavia. Drastic economic measures

were announced to counteract the effects of the serious drought

24: **Finland.** Urho Kekkonen's government resumed office.

France. It was announced that André Marty's membership of the political bureau of the French Communist party had been suspended.

Japan. Shigeru Yoshida was re-elected prime minister at the opening of the Diet.

25: **Kenya.** The Nairobi district commissioner proscribed nine African newspapers.

Syria. Nine Syrians were sentenced to death by a military court in Damascus for collaborating with Israel.

27: **Iraq.** Parliament was dissolved by royal decree.

Kenya. A European farmer and his two African servants were murdered at North Kinangop, about 80 mi. from Nairobi.

Persia. The police confirmed that 180 Tudeh party supporters had been arrested in the previous two days for demonstrating against the shah.

28. **Austria.** Leopold Figl, chancellor, formed a coalition cabinet of the same composition as before, after the People's party and the Socialists had agreed to shelve their differences over the budget.

29: **Great Britain.** It was announced that the Bevanite group had decided to accept —under protest—the recent decision of the Parliamentary Labour party ordering "the immediate abandonment of all group organizations within the party other than those officially recognized."

Egypt-Sudan. An agreement was signed recognizing Sudanese sovereignty over the Sudan until such a time as self-determination should be exercised.

Kenya. Oliver Lyttelton, British colonial secretary, arrived from London.

Persia. The government rejected a Swiss request to allow the British consul to remain in Tehran to look after the interests of British subjects.

30: **Argentina.** Students and schoolchildren demonstrated outside the British embassy in Buenos Aires in support of the Argentine claim to the Falkland Islands

Kenya. More than 500 people were arrested, bringing the total to 3,633.

NOVEMBER

1: **Great Britain-Persia.** The last of the British embassy staff left Tehran.

United Nations. It was announced that the secretary-general had dismissed three American officials who had refused to testify before the U.S. Senate security sub-committee investigating Communist affiliation of Americans on U.N staffs

2: **Indochina.** It was estimated that French and Thai casualties during the recent Vietminh offensive in the Thai country had totalled 920, and that three Vietminh battalions had been destroyed.

Sudan. It was announced that the five main Sudanese parties favouring union with Egypt had merged into the new Nationalist Union party

Yugoslavia. Marshal Tito opened the sixth congress of the Yugoslav Communist party in Zagreb.

3: **Malaya.** A reduction in the rice ration and a curfew were imposed on the Johore village of Pekan Jabi for failure to co-operate with the authorities.

N.A.T.O. "Long Step", a naval and air exercise in which British, U.S., French, Italian, Greek and Turkish forces participated, began in the Mediterranean

Yugoslavia. In his report to the Communist Party congress Marshal Tito declared that the U.S.S.R had betrayed Marxist Socialism and had become a "state capitalistic" and "imperialist power".

4: **Great Britain.** Queen Elizabeth II opened parliament in state for the first time in her reign.

Persia. The Majlis passed a bill authorizing the prosecution of Kavam es-Saltaneh, former prime minister, and confiscation of his property.

United States. General Dwight D. Eisenhower was elected president. Results of the elections were: *Senate*, Republicans 48 seats, Democrats 47, Independents 1; *House of Representatives*, Republicans 221, Democrats 213, Independents 1.

Yugoslavia-Italy. The Yugoslav government handed to the Italian ambassador a note protesting against "the gradual annexation by Italy of zone A of the Trieste Free territory."

5: **France.** The national assembly decided by 314 votes to 294 to suppress the High Court of Justice which had been set up in 1944 to try Philippe Pétain and prominent members of his administration.

Japan. The higher court in Osaka confirmed the judgment of the Kobe district court which had sentenced two British sailors to two and a half years' imprisonment but suspended the sentence and handed the two men over for trial by British naval court martial.

6: **Nobel Prizes.** The literature prize was awarded to François Mauriac The chemistry prize was awarded jointly to A. J. P. Martin and R. L. M. Synge. The physics prize was awarded jointly to Professor E. Purcell and Professor F. Bloch. The medicine prize was awarded to Professor S. A. Waksman. No peace prize was awarded.

7: **Yugoslavia.** The Communist Party congress approved new party statutes and a change of the party's name to League of Communists of Yugoslavia

8. **South Africa.** Thirteen Africans were killed and 78 injured in riots in Kimberley. Damage to buildings was estimated at £50,000.

9. **Indochina.** Large forces of French Union airborne troops were dropped at Phu-Doan, in Vietminh territory, 60 mi. northwest of Hanoi.

Israel. Chaim Weizmann, first president of Israel, died at Rehovoth.

10: **Kenya.** The Tanganyika police arrested 138 Kikuyu immigrants from Kenya who were suspected of being members of Mau Mau.

Korea. General James Van Fleet, Eighth Army commander, announced the mobilization of two new South Korean divisions and six regiments.

Malaya. About 40 terrorists attacked a police post at Nami in the Kuala Nerang district of Kedah. One home guard was killed and two persons wounded.

United Nations. Trygve Lie, secretary-general, announced his resignation.

12: **Great Britain.** Antony Head, secretary of state for war, announced in the House of Commons that effective Home Guard battalions would be reduced from 900 men to 300.

Kashmir. The assembly amended the state constitution to provide for an elected head of state to replace the hereditary ruler.

South Africa. Police at Kimberley arrested more than 100 Africans and seized large quantities of weapons in raids on African locations.

13: **Egypt.** The council of ministers issued a decree providing that General Neguib's actions as c.-in-c. during July 23, 1952-Jan. 23, 1953, would be considered acts of sovereign right.

South Africa. The appellate division of the Supreme court unanimously dismissed the government's appeal against the Cape Supreme court's decision that the High Court of Parliament act was invalid.

14: **Indochina.** A strong Vietminh attack on Phat-Diem, about 70 mi. southeast of Hanoi, was repulsed. The enemy lost 130 killed and the French Union forces 50.

Kenya. The governor announced the proscription of the Kikuyu Independent Schools association and of the Kikuyu Karinga Education association. Thirty-four schools were shut because of their connection with Mau Mau, and 150 others were warned.

15: **German Fed. Rep.-Arab League.** The German Federal government published the text of a note from the Arab League stating that ratification by Germany of the German-Israeli agreement of Aug. 28 would be a violation of neutrality and would endanger traditional German-Arab friendship.

Kenya. An Asian woman was strangled to death by terrorists at her farm 15 mi. from Nairobi

South Africa. It was announced that 7,530 arrests had been made since the beginning of the passive resistance campaign

16: **Persia.** The foreign minister announced the dissolution of the Supreme court as a measure of judicial reform.

United States. The Atomic Energy commission announced the end of a series of atomic weapon tests at Eniwetok atoll in the Pacific including "experiments contributing to thermonuclear weapons research."

17: **China.** Peking radio announced a reorganization of the administrative system in preparation for the introduction of a five-year plan in 1953.

German Dem. Rep. The government issued a decree mobilizing all state resources to avert a food crisis.

Greece. The results of a general election of Nov. 16 were: Greek Rally 239 seats, E.P.E.K.-Liberal Union 61.

Hungary. A Yugoslav and three Hungarians were sentenced to death for espionage and terrorism.

Kashmir. The erstwhile prince regent, Kharan Singh, was sworn in as president.

18: **Great Britain.** The government abolished the charge payable on land to be developed.

Indochina. A French spokesman estimated that 6,000 enemy troops had been put out of action since Nov. 1.

Iraq. The Iraq Petroleum company's pipeline from Kirkuk to Banias in Syria was officially opened at Kirkuk by King

Faysal II. It had been in operation since April.

Kenya. Jomo Kenyatta, president of the Kenya African union, was charged with managing the Mau Mau subversive movement. He was remanded in custody.

19: **Great Britain-Malaya.** Oliver Lyttelton, British colonial secretary, told the House of Commons that the weekly average of terrorist attacks in Malaya was now 30, as compared with 50 in September and 123 in February.

France. The council of ministers adopted the text of the Finance bill in which the main provisions of the government's fiscal reform bill had been incorporated.

Greece. A new government under Field Marshal Alexandros Papagos, head of the Greek Rally, was sworn in.

U.N.E.S.C.O. Spain was admitted to U.N.E.S.C.O. by 44 votes to 4 with 7 abstentions.

20. **United States.** President-elect Dwight D. Eisenhower announced that John Foster Dulles would be secretary of state and that Charles E Wilson would be secretary of defence.

21 **Hong Kong.** It was reported that four British-owned companies in Shanghai had been requisitioned by the Chinese Communist government

United States. It was announced that President-elect Eisenhower had chosen George M. Humphrey to be secretary of the Treasury, Herbert Brownell, Jr, to be attorney-general and Harold A Stassen to be director of mutual security.

22 U.N.E.S.C.O. Jaime Torres Bodet, director-general since 1948, resigned in protest against a reduction in U N E S C.O.'s budget for the next two years.

Bolivia. President Victor Paz Estenssoro re-formed his government; only six former ministers were retained.

23. **Kenya.** Fifteen Africans were killed and 27 wounded when police fired on a large mob of Kikuyu at Karawara, 14 mi. from Thika.

Iraq. Following the resignation of Mustafa el-Umari, General Nureddin became prime minister.

24: **Great Britain.** The following government changes were announced: the Marquess of Salisbury to be lord president of the council; Viscount Swinton to be secretary of state for commonwealth relations; Lord Woolton to be chancellor of the Duchy of Lancaster, with a seat in the cabinet; and Sir Arthur Salter to be minister of materials.

Nigeria. Fifty persons were arrested as a result of a riot at Oke Ode on Nov. 18.

United Nations. A. Vyshinsky (U.S.S.R.) rejected in the *ad hoc* political committee the Indian proposals for an armistice in Korea.

25: **Great Britain.** It was announced that no army Z reservists or R.A.F. G reservists would be called up for training in 1953.

United States. The American Federation of Labour elected George Meany as its president in succession to William Green, who died on Nov. 21.

26: **Great Britain.** Labour retained the seats in by-elections in the Small Heath division of Birmingham and the Farnworth division of Lancashire with reduced majorities.

27: **Kenya.** Tom Mbotela, a member of Nairobi city council, was found murdered less than two miles from Nairobi.

28: **Great Britain.** Antony Head, secretary of state for war, stated at a press conference in London that it was not possible to reduce the present period of two years' national service.

It was announced that the period during which the resale of new cars was restrained under the covenant scheme had been reduced from two years to 12 months.

Commonwealth Economic Conference. The conference opened in London.

South Africa. The government made it an offence for any person to permit or address any meeting of more than ten Africans.

29. **Korea.** Allied artillery and fighter bombers attacked Communist troop and gun positions on the central front throughout the day, during which enemy guns fired more than 10,000 shells into the Allied lines.

Roman Catholic Church. Pope Pius XII announced that he would create 24 new cardinals at a secret consistory on Jan. 12, 1953.

30: **United States.** President-elect Eisenhower announced the appointment of Winthrop W. Aldrich, chairman of the Chase National bank in New York, as ambassador to Great Britain in succession to Walter Gifford.

DECEMBER

1· **Great Britain-Malaya.** General Sir Gerald Templer, high commissioner in Malaya, arrived in London.

Saar. In elections held on Nov. 30 at Saarbrucken the Saarlanders voted, by more than a two-thirds majority, in favour of the existing régime of autonomy and economic union with France.

United Nations. The political committee voted by 53 votes to 5, with Nationalist China abstaining, in favour of Indian proposals for an armistice in Korea. These provided that the United Nations should assume responsibility for any unrepatriated prisoners 30 days after the reference of the matter to the political conference.

2: **Iraq.** The arrest was announced of about 200 Communists who were alleged to have instigated the riots in the previous week.

Libya-Egypt. King Idris of Libya arrived in Cairo on a state visit.

South Africa. Twenty non-European leaders, included J. S. Moroka, president of the African National congress, and Y. M. Dadoo, president of the South African Indian congress, were sentenced to nine months' imprisonment by the Rand Supreme court for contravening the Suppression of Communism act. The sentences were suspended for two years on condition that the defendants were not further convicted under the act during that time.

3: **Czechoslovakia.** Eleven Communist leaders, including Rudolf Slansky, secretary-general of the Communist party until 1951, and Vladimir Clementis, former foreign minister, were hanged in Prague for "Trotsky-Titoism and Zionism."

Kenya. The trial of Jomo Kenyatta opened at Kapenguria.

United Nations. The general assembly endorsed by 54 votes to 5 the Indians proposals for an armistice in Korea. The Soviet proposals and amendments to the Indian draft were rejected by 40 votes to 5 with 11 abstentions.

Venezuela. Colonel Marcos Pérez Jiménez was appointed provisional president and formed a new government.

4: **Great Britain.** Winston Churchill, prime minister, announced the government's decision to curtail expenditure on defence production so as to prevent any substantial rise above the current year's expenditure

German Fed. Rep. The coalition parties decided, in agreement with the government, to defer until Jan 1953 the third reading of the bill to ratify the Bonn and Paris treaties.

Indochina. A French communiqué reported fierce fighting 50 mi. southeast of Hanoi as a result of a French diversionary attack to relieve pressure on Na-Sam

Italian. Fighting between left-wing and government supporters broke out in the Chamber of Deputies after the adoption of a proposal that the chamber should sit every day until the electoral reform bill had been passed.

United States. The Congress of Industrial Organizations chose Walter Reuther to be its president in succession to the late Philip Murray.

5: **Korea.** Dwight D. Eisenhower, U.S. president-elect, ended a three-day visit to Korea during which he saw front-line troops and conferred with President Syngman Rhee and U N. commanders.

Tunisia. A curfew was imposed after Fehrat Hashed, secretary-general of the General Union of Tunisian Workers, had been found murdered near Tunis.

6: **German Fed. Rep.** The Bundestag completed the second reading of the bill to ratify the Bonn and Paris treaties.

U.N.E.S.C.O. Poland withdrew its membership.

7: **Formosa.** Chinese Nationalists executed nine Communist spies

France. The central committee of the Communist party decided to deprive André Marty and Charles Tillon of any posts of leadership and of membership of the central committee.

Indochina. Rebels withdrew from the port of Yen-Cuha about six miles southeast of Ninh-Binh; they left 200 dead, bringing total Vietminh casualties in five days' fighting in the area to about 600.

8: **Israel.** Isaac Ben-Zvi was elected president of Israel in succession to the late Chaim Weizmann.

Morocco. More than 500 persons were arrested after two days' rioting in Casablanca in which seven Europeans and 40 rioters were killed. Four national newspapers were suspended.

9: **Egypt.** Mahmoud Fawzi, ambassador to Great Britain, was appointed foreign minister.

Korea. Heavy U.N. bombing attacks were made on the railway centres of Hunyung, Nagin, Musin and Hyesanjin and on other industrial and military targets along the Manchurian border in northeast Korea.

Poland-Israel. It was announced that Poland had demanded the withdrawal of the Israeli minister in Warsaw, who was also minister in Prague.

10: **Egypt.** General Neguib announced in a broadcast the abolition of the 1923 constitution and the creation of a committee to draft a new one.

Cricket. Australia beat South Africa by 96 runs in the first test match at Brisbane.

11: **Commonwealth Economic Conference.** A communiqué issued at the end of the conference in London recorded the decision to adopt a more positive policy to expand world production and trade

Switzerland. Philipp Etter was elected president of the Swiss Federal council, and, therefore, of the Swiss confederation.

United States. It was announced that Great Britain, France, the Netherlands, Norway and Sweden had protested against proposed screening of all seamen entering U.S. ports.

12: **Morocco.** About 500 further arrests were announced.

13: **Kenya.** Four Africans condemned for Mau Mau murders were hanged at Thomson's Falls.

14. **Commonwealth-Pacific Defence.** It was announced that the prime ministers of Australia, New Zealand and Great Britain, meeting in London, had discussed the situation in the Pacific and southeast Asia and had reached complete understanding on certain fundamental propositions which would be communicated to the United States.

Korea. Eighty-two civilian internees were killed and 120 wounded in a riot at Pongam island prison camp.

15: **Great Britain-China.** The Foreign Office announced the decision to close the British consulate at Tientsin

Great Britain-United States. A contract worth nearly $90 million was signed under the U.S. military aid programme for the production by Great Britain of Centurion tanks for the Netherlands and Denmark.

Sudan. The government suspended for six months the bi-weekly pro-Communist newspaper *Sahara*

United States-Korea. The U.S. government expressed deep concern at the Chinese rejection of the Indian peace proposals and declared that the responsibility for peace in Korea now lay clearly with the Peking and North Korean authorities.

16: **Great Britain.** An opposition motion regretting the imposition of collective punishment in Kenya was defeated and a government amendment approved by 301 votes to 278.

The government announced that from Jan. 1, 1953, the building licence system would in effect be suspended for houses of not more than 1,000 sq ft

Kenya. The magistrate adjourned the trial of Jomo Kenyatta until Dec. 30 on the ground that D. N. Pritt, Q. C., counsel for the defence, had been guilty of contempt of court in a cable sent to four M.P.s in London and published in the Kenya press.

N.A.T.O. The Atlantic council made a decision the effect of which was that Admiral Earl Mountbatten of Burma would be c.-in-c., Mediterranean, under N.A.T.O.

17: **Yugoslavia-Vatican.** The Yugoslav government announced in a note to the Vatican the breaking-off of diplomatic relations.

18: **Argentina.** Eleven leading members of the opposition Radical party were arrested on charges of conspiring against the security of the state.

Indochina. The French high command announced that the Vietminh had lost about 6,000 in killed and wounded on their assaults on Na-Sam.

Persia. Martial law was extended in Tehran for another two months.

19: **India.** The House of the People approved the five-year plan by 286 votes to 62.

Jawaharlal Nehru announced the government's decision to establish an Andhra state consisting of the eleven Telugu-speaking areas of Madras state excluding Madras city.

Israel. The government resigned and recommended to the president a coalition of "constructive forces of the state."

20. **Cuba.** It was announced that ten former naval officers, who had been attempting to persuade members of the armed forces to join in an armed revolt against the government, had been arrested.

Aviation. Eighty-six men of the U S armed forces were killed in the worst disaster in aviation history when a C124 Globemaster crashed as it was taking off from an airfield near Moses Field, Washington state

21: **German Dem. Rep.** Seven members of the Christian Democratic Union party were sentenced at Erfurt to prison terms of from 8 to 15 years for trying to organize groups hostile to the state and for espionage on behalf of western states.

Israel-Poland. It was disclosed that the Israeli government had rejected the Polish demand for the recall of the Israeli minister in Warsaw and Prague.

22. **Israel.** David Ben-Gurion announced his new government, based on a coalition of the Mapai (Labour party), the General Zionists and the Progressive party which together commanded 77 out of the 120 votes in the Knesset.

23. **Great Britain-United States.** A British note reiterated verbal protests against the section of the McCarran-Walter immigration act requiring the screening of the crews of ships arriving in U S ports.

France. Antoine Pinay and his government resigned following the decision of the M.R P (one of the Coalition parties) to abstain during the vote of confidence on family allowances.

Korea. U.N. bombing raids were made on a troop centre east of Chaeryong on the Haeju peninsular and on an air base at Pyongyang.

Saar. Johannes Hoffmann, leader of the Christian People's party, was re-elected chief minister by the diet.

24: **Kenya.** Eleven Kikuyu, including three women, were murdered by Mau Mau gangs.

Netherlands. The Ministry of Foreign Affairs announced the arrest, under suspicion of espionage, of C. Pissarev, correspondent of the Soviet agency *Tass*.

United States. The McCarran-Walter act, which had been passed by congress over the veto of President Truman, came into force, setting up an almost completely revised code for immigration, naturalization and deportation.

25: **Great Britain.** Queen Elizabeth II made the first Christmas broadcast of her reign from Sandringham house, Norfolk.

26: **France.** Jacques Soustelle, honorary president of the Gaullist group in the assembly, was asked by President Vincent Auriol to try to form a government following the refusal of Guy Mollet, Socialist, to make the attempt.

27: **South Africa.** D. F. Malan, prime minister, ordered an air force Dakota to fly to Madagascar to pick up a 5-ft.-long fish believed to be a coelacanth.

28: **France.** Georges Bidault agreed to try to form a government, Jacques Soustelle having failed.

Philippines. The army arrested about 300 suspected Chinese Communist agents on charges of rebellion.

U.S.S.R.-Norway. *Pravda* accused Norway of taking measures unfriendly to the Soviet Union by constructing naval and air bases in its northern regions bordering on the Soviet Union.

29: **Great Britain.** The minister of aircraft production announced that super-priority was being extended to the Avro and Handley-Page medium bombers and to three types of civil aircraft—the Comet, the Viscount and the Britannia.

Indochina. The emperor Bao Dai accepted the resignation of Nguyen Van Tri, defence minister.

In mopping-up operations in the southern part of the Red river delta, French aircraft sank 30 sampans, killing about 100 men; 450 Vietminh prisoners were captured by land forces.

Japan-Great Britain. An agreement was signed in Tokyo allowing airlines of both countries to operate London-Tokyo and Singapore-Hong Kong-Tokyo services.

United States. General Hoyt S. Vandenberg, chief of staff of the air force, stated in an article that the Soviet Union had produced five times as many aircraft as the U.S. since 1947.

30. **German Fed. Rep.** West Berlin authorities said that 122,000 refugees from eastern Germany had arrived in west Berlin during 1952, including 2,400 policemen.

Colombo Plan. It was announced that Indonesia had accepted full membership of the Colombo plan for aid to underdeveloped countries.

Korea. The Communist armistice delegation accused the United Nations of having shelled the conference site three times, dropped propaganda leaflets twice in the neutral zone and of having made 27 flights over the zone.

Cricket. South Africa beat Australia by 82 runs in the second test match at Melbourne.

31: **Great Britain.** Winston Churchill, prime minister, sailed for the United States *en route* for Jamaica.

Argentina-Great Britain. A protocol to the 1949 trade agreement was signed in Buenos Aires. It provided for the purchase by the United Kingdom of 255,800 tons of Argentine beef.

France. René Mayer, Socialist Radical leader agreed to try to form a government, Georges Bidault having failed.

Kenya. The Supreme court discharged with costs the rule *nisi* calling on D. N. Pritt, Q.C., defence counsel in the trial of Jomo Kenyatta to show cause why he should not be committed for contempt of court.

BOOK OF THE YEAR

ABYSSINIA: *see* ETHIOPIA.

ACCIDENT PREVENTION. *Road Safety* The Ministry of Transport continued its road safety campaign with the help of local authorities and of the Royal Society for the Prevention of Accidents. " More Courtesy " was chosen as the theme for 1952 A National Safety week was held (Aug. 2-9), the theme being " Safe Driving ". On Aug. 1 the minister of transport broadcast an appeal to all road users. A team of representatives of the ministry and the Ro.S.P.A., and of members of parliament, toured the London-Brighton road to watch road behaviour There was an exhibition of roadmanship at London's Charing Cross underground station. The parliamentary secretary to the Ministry of Transport toured certain districts to study local road and traffic conditions.

The government's Committee on Road Safety issued reports on the revision of the Highway code, on motor-cycling accidents and on the 1951 Chatham bus disaster in which 24 cadets were killed. In February the minister of transport broadcast on zebra crossings to explain correct crossing procedure. Certain amendments to the regulations introduced in 1951 came into force in March.

Arising out of a private member's motion in the House of Commons in June, the parliamentary secretary to the Ministry of Transport reviewed measures to be taken by the government to increase road safety: viz., illumination of zebra crossings; elimination of " black spots "; financial aid for the provision of school patrols; and proposals for increasing the number of mobile police patrols. It was announced that £1·5 million would be made available for the removal or improvement of " black spots ". Instructions were issued to local authorities on the use of flashing lights in beacons by day and night.

The Duke of Edinburgh, presiding at the annual meeting of the Automobile association, appealed to all organizations interested in road safety to work together. As a result, the president of the Ro.S P.A. called a conference of 37 national societies in October.

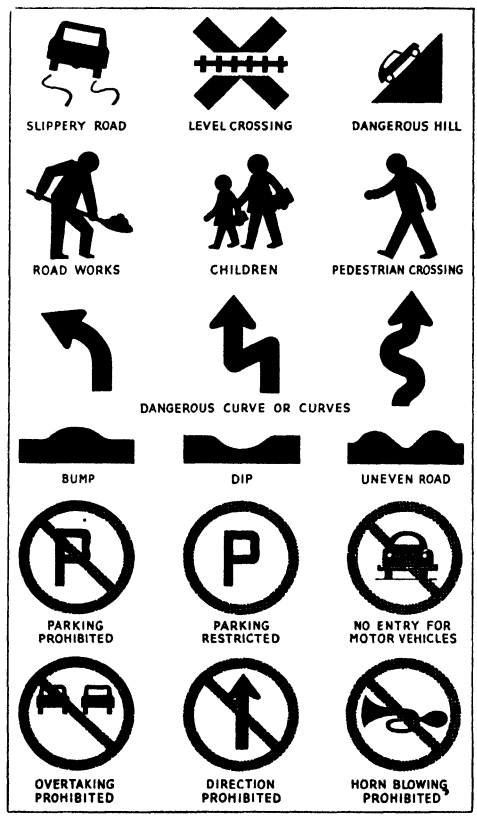
Statistics of accidents involving dogs submitted to the Ro.S.P.A. by chief constables throughout the country were collated in a leaflet and discussed at a press conference held in conjunction with animal welfare societies. They showed that one in seven road accidents reported to the police involved dogs.

The National Safety congress was attended by over 1,000 local authority delegates. Papers included a statistical review of road accidents, " The Vehicle and Road Safety ", by W. H. Glanville, director of road research, Department of Scientific and Industrial Research.

Nearly 300,000 commercial drivers entered the 35th National Safe Driving competition. The number of child cyclists who passed the Ro.S.P.A.'s Cycling Proficiency test reached a total of over 32,000 since the scheme started in 1947. A typical test at a Croydon school was televised by the British Broadcasting corporation.

The Automobile association issued an illustrated booklet for the guidance of motorists entitled *Safety through Courtesy.*

Industrial Safety. An Industrial Safety conference and exhibition held in Scarborough was attended by over 600 representatives of industrial firms. Other conferences included a Chemical Works Safety conference, a one-day conference of industrial representatives in London on " The Management and Accident Prevention ", and the annual conference of the Industrial Safety Officers' section; H. R. Payne, chairman of the National Industrial Safety committee, gave the Shaw



Examples of international road signs proposed by an expert group of the United Nations. The group recommended that symbols, shapes and colours of signs should be standardized.

lecture at the Royal Society of Arts on "Industrial Accidents". A "Better Housekeeping" (the term used in industry for tidiness related to safety) week was held in industry throughout the country (Oct. 6-11).

Home Safety. The 35th local Home Safety committee was formed. The Children and Young Persons (Amendment) act 1952 came into force on Oct. 1. This raised the age limit in connection with the necessary provision of fireguards, from 7 to 12 years, and extended the section to any heating appliance liable to cause injury. A classified précis of fatal accidents in the home Jan.-Dec., 1951, was produced by the electrical branch of the Home Office. (H. Su.)

United States. Accidents caused 94,000 deaths in the United States in 1951. Information available up to July 1952 indicated that the 1952 accidental death total would be slightly higher than in 1951. There were 9,400,000 injuries in 1951.

The 40th National Safety congress was held in Chicago in Oct. 1952. In June, President Harry S. Truman called a Conference on Industrial Safety. It appeared late in 1952 that the year's toll of occupational accident fatalities would probably be a little greater than the 1951 toll of 16,000.

During the first eight months of 1952, there were 23,770 motor-vehicle deaths, an increase of 3% over 1951.

The first teen-age traffic conference was held in Golden, Colorado, in August. A meeting of the President's Highway Safety conference was held in Chicago in October. In the 1951 National Traffic Safety contest, which took account of good safety records as well as sound programmes in all phases of traffic safety, Colorado received the grand award among states and Shaker Heights, Ohio, among cities.

Recognition of the seriousness of the farm accident problem was indicated by the fact that in 1952, 29 states had state farm safety committees and 12 states had full-time farm safety specialists. President Truman proclaimed the eighth National Farm Safety week, in July 1952.

Among children and young people from 1 to 24 years of age, accidents ranked first as a cause of death. For children under 5 years of age, the total accidental death rate in 1952 was about half that at the turn of the century while the motor-vehicle rate was about 15% lower than the 1929 peak. For children from 5 to 14 years, the total accidental death rate was about half the 1903-7 average, while the motor-vehicle rate was about 40% less than the 1927 peak.

The 1951 toll of deaths in home accidents was 28,000. Estimates for 1952, based on the first seven months, indicated that home fatalities in 1952 would be slightly higher than in 1951. (R. L. Fo.)

ADEN. British colony and protectorate and free port on the south coast of Arabia. (Also Kamaran [area 22 sq.mi.; pop. *c.* 2,200], a pilgrimage quarantine island and radio station off the Yemen coast, is administered from Aden.)

Colony. Area: 80 sq.mi. (incl. Perim island [5 sq.mi.] and Kuria Muria islands). Pop.: (1946 census) 80,876; (1951 est.) 100,000. Language: Arabic; Indian dialects and Somali also spoken. Religion: Moslem. Administration: governor; executive council, 3 *ex-officio* and 3 nominated members; legislative council, 4 *ex-officio* and up to 4 official and 8 unofficial nominated members.

Protectorate. Western and eastern areas, the latter including the Hadhramaut and Socotra island. Total area, 112,000 sq.mi. Pop. (1951 est.): 650,000. Religion: Moslem. Administration: indirect, by sultans with advice of political officers under British agents. Premier chieftain (western), Fadl Abdul Karim, sultan of Lahej, until June 4, when succeeded by Ali Abdul Karim al-Abdali; premier chieftain (eastern), Sir Salih bin Ghalib al-Qu'aiti, sultan of Shihr and Mukalla. Governor, Tom Hickinbotham.

History. In June 1952 the sultan of Lahej ordered the killing of two of his amirs and fled to the Yemen. Protectorate levies were sent to Lahej for a few days to maintain order and a temporary regency was established. The sultan was deposed by his people and his brother was elected to succeed him. Aden came into the news again shortly afterwards when a Panamanian-registered tanker, the "Mary Rose", carrying oil from Abadan, Persia, was detained at the port by an order of the court, and litigation followed about the ownership of its cargo. Aden college was opened during the year to provide secondary, and later higher, education for boys from both the colony and the protectorate. At Abyan about 100,000 ac. were now under irrigation. (K. G. B.)

Education. Schools (1951) public, primary 11 (teachers 112, pupils 2,360), secondary 3 (teachers 40, pupils 716); independent (aided and non-aided), primary 19 (teachers 59, pupils 2,677), secondary 8 (teachers 34, pupils 1,038)

Finance and Trade. Monetary unit: East African shilling (20*s* = £1 sterling) Budget (1952 est.) revenue £1,513,389, expenditure £1,476,962 Foreign trade (1951) imports £50,216,737; exports £44,366,309. Principal export salt (338,768 tons in 1951)

See W. H. Ingrams, *Arabia and the Isles* (London, 1952)

ADENAUER, KONRAD, German lawyer and statesman (b. Cologne, Jan 5, 1876), became chancellor of the German Federal Republic on Sept. 15, 1949. (For his earlier career see *Britannica Book of the Year 1952.*)

Adenauer's chancellorship was marked by the substantial economic recovery of the republic and by renewed German participation in external politics. He visited Paris in April 1951 and Rome in June, and again Paris (Nov. 20-23, 1951) for talks with Dean Acheson, Robert Schuman and Anthony Eden. In visiting London on Dec. 3 Adenauer was the first German chancellor since Heinrich Brüning (1931) to be received there. He paid a third visit to Paris, Dec. 28-30, to continue discussions on the European army project with his French, Italian and Benelux colleagues; he returned to London (Feb. 17-19, 1952) for another meeting with Acheson, Schuman and Eden at which agreement on western German rearmament was reached. On May 26, 1952, at Bonn, he signed the "convention on relations between the three powers and the Federal Republic of Germany" and the next day, in Paris, a treaty establishing the European Defence community (*q.v.*). On July 9, in a speech to the Bundestag at Bonn he warned that western Germany's only alternative to the E.D.C. was Soviet domination. He was the first president of the European Coal and Steel community council of ministers to be elected (Luxembourg, Sept. 8). On Dec. 8, in his second major speech to the Bundestag on the E.D.C., he rebuked those Germans who thought that Germany could again play a lone role in world politics and economy.

ADVERTISING. Changes in the newsprint rationing system, introduced for an experimental period of six months on Aug. 24, 1952, permitted Britain's newspapers to publish their biggest issues since 1940. The dailies, for example, were allowed to go up to 8 pages, or 16 pages in the case of papers with a small page-area. The result was an immediate increase in the amount of advertising space available, an opportunity of which advertisers were not slow to take advantage.

However, the ever-mounting graph of advertising expenditure had already ascended to new record heights earlier in the year. In the first six months of 1952 the revenues accruing to national, provincial and local weekly newspapers, magazines and trade and technical journals from the sale of display-advertising space amounted to £22,527,786, an increase of 13·69% on the total of £19,814,356 for the corresponding period of 1951. It appeared certain that press

display advertisement revenues for 1952 as a whole would exceed the figure of £42,628,319 recorded for the full year 1951. Later figures showed that in the Jan.-Sept. 1952 period display advertisement revenues of all classes of press media amounted to £33,506,509, an increase of 10·13% on the total of £30,425,125 recorded for Jan.-Sept. 1951.

The *Statistical Review*, which compiled these figures, noted that in the first half of 1952 there had been some outstanding increases in advertising expenditure on behalf of particular product groups. As compared with the first half of 1951 the value of space bought by the automotive group during the first six months of 1952 was 26% up. Increases were also registered by tobacco (31% up) alcoholic drinks (26% up), clothing and dress fabrics (22% up) paints (100% up) and mail order (115% up). It was estimated by the *Statistical Review* that press advertising by mail order houses was running at the rate of £1,500,000 a year, while the number of advertisers in the field was constantly growing.

This development was the cause of some concern in the advertising business because of the propensity for mail order advertising to be misused by the dishonest or careless trader. There were instances where advertisers using the so-called " bargain squares " of the newspapers had failed to honour their obligations either by supplying items which did not tally with the claims made for them in the advertisements or by failing entirely to post off the goods for which they had been sent money. In an attempt to check such abuses the Newspaper Proprietors' association announced in October that its members would no longer accept business from advertising agencies whose mail order advertising clients fell short of their promises in their dealings with the public where it was shown that the agents had neglected to satisfy themselves thoroughly about the *bona fides* of the firms for whom they were placing advertising.

Earlier in the year the British Broadcasting corporation set up an advisory mail order panel designed to screen mail order organizations who wished to advertise in the columns of the *Radio Times* and the *Listener* These controls were still further tightened by the corporation in November.

The Advertising association published the results of the second of its postwar investigations into advertising costs in February This showed that in 1948, the year under review, British advertisers spent £124,470,000 to reach the nation's consumers via the press, outdoor advertising, direct mail and other media. Some £52,210,000 of this sum was handled by advertising agencies who collected £6,580,000 in fees and commission for their work. The £124,470,000—it compared with £115,000,000 in 1947 and £103,000,000 in 1938—was accounted for as follows:

Press. Cost of space: national newspapers, £12,130,000, provincial and suburban newspapers, £23,200,000, magazines and periodicals, £10,300,000; trade and technical press, £13,400,000, directories, guide-books, etc., £600,000. Block, art charges and other production costs, £6,550,000 Total, £66,180,000 (1938 total, excluding blocks, etc., £47,280,000).

Poster and Transport. Hire of sites (including posting and maintenance), £10,190,000, cost of posters, car cards, etc., £1,670,000 Total, £11,860,000 (1938 total, £5,300,000).

Outdoor Signs Cost of new signs, hire of sites and maintenance, £3,500,000 (1938 total, £1,000,000).

Radio. Time charges, £29,000, programme costs, £21,000 Total, £50,000 (1938 total, £1,700,000).

Films and Slides. Distribution and exhibition, £2,190,000, production costs, £500,000. Total, £2,690,000 (1938 total, £750,000).

Direct Mail. Postage, £1,250,000; other costs (printing, duplicating, envelopes, addressing, etc), £3,750,000. Total, £5,000,000 (1938 total, £4,800,000).

Dealer Aids. Display material, £4,000,000; miscellaneous, £700,000. Total, £4,700,000 (1938 total, £6,750,000).

Other printed matter, £13,500,000 (1938, £15,500,000).

Exhibitions. Hire of space, £2,100,000, cost of stands, £6,100,000. Total, £8,200,000 (1938 total not available).

Free Samples and Gifts, £720,000 (1938, not available).

Miscellaneous, £1,070,000 (1938, not available).

Fees and Other Expenses. Fees paid to advertising agents and consultants for special services (estimate), £700,000; expenses of firms' own advertising departments (estimate), £6,300,000

The government's white paper on the future of British broadcasting, issued in May, recommended that the establishment of independent television stations, to transmit programmes paid for by advertisers, should be permitted. In the field of outdoor advertising there was gratification over the decision of the Ministry of Fuel and Power to abolish entirely all the statutory regulations dealing with advertisement, shop-window and other lighting. A £750 international colour poster competition, conducted by the British and London Poster Advertising associations, attracted widespread support, entries being received from all over the world. As part of its educational programme the Advertising association organized an essay contest for younger advertising people and awarded three travelling bursaries carrying cash prizes of £100 each.

Commonwealth. An analysis of Australian advertising figures for the year ended June 30, 1952, showed that reductions in the sizes of the metropolitan daily newspapers, occasioned by high newsprint prices and import restrictions, had resulted in a substantial loss in the amount of advertising carried. Weekly journals managed to show a slight increase and national magazines throughout Australia practically held their own.

In South Africa it was revealed that of the total revenues of the Union's advertising media the sum of £1,500,000 was being taken annually by the South African Broadcasting corporation's sponsored programme network, started in 1950. This sum was estimated to represent 10% of the country's annual total advertising expenditure.

Big advertisers in India collaborated for the first time in the establishment of an Indian Society of Advertisers, a new trade body aimed to watch over their interests.

Europe. In May the first advertising conference to be held in Ireland took place at Cork and was attended by representatives of the Advertising Press Club of Ireland, the Irish Association of Advertising Agencies and the Publicity Club of Ireland. Under the auspices of Danish advertising organizations a " Youth in Advertising " conference was staged in Copenhagen during June at which delegates from many European, American and Commonwealth countries were present. The International Union of Advertising organized a " World Publicity Week " (May 5-11). (K. R. V.)

United States. Advertising in 1952 continued to expand in volume and an expenditure of more than $7,000 million was estimated. Television continued to be the most spectacular advertising medium.

Television. The networks derived a larger proportion of their revenues from television than from radio. Volume of advertising in network television was $111,667,702 for the first eight months of 1952, as compared with $73,459,488 for the same period of 1951. Volume of network radio advertising was $103,982,740 for the 1952 period. The 19,124,900 sets in use by October compared with only 10 million at the beginning of 1951 and 3,950,000 in 1950. It was believed that the growth of television would be accelerated by the action of the Federal Communications commission in lifting its ban on the construction of new television stations. The commission provided for the opening of 2,053 new stations in 1,291 communities in the United States and its possessions. Only 108 stations had previously been on the air, capable of reaching only half the country's population.

Most advertisers on network television were appropriating additional advertising funds for their use of television, rather than reducing their expenditures in other media. Only radio seemed to suffer materially. Neither was the impact of

television upon the audiences of other advertising media especially adverse. A survey showed that there was no significant difference in readership of newspapers in homes with or without television. Studies by other organizations showed that there was a decline in radio listening and motion-picture attendance in homes with television, but that readership of newspapers and magazines increased.

Radio. Network radio advertising stood at $103,982,740 for the first eight months of 1952, as compared with $119,044,020 for the same period in 1951. In spite of this decline, radio listening was healthy, the A. C. Nielsen company reporting 43,800,000 U S. homes with radios, or 98% of all. A Pulse survey indicated that there were 27,500,000 radio-equipped automobiles. It was estimated there were 105,300,000 radio sets in use in the United States.

Newspapers Estimates by Media Records placed the total of general and automotive advertising in newspapers at 6·4% lower during the first half of 1952 than for the comparable period in 1951. The shortage of materials brought about by the steel strike resulted in some falling-off in advertising, especially in the industrial and housing equipment and supplies classifications. The lagging cigarette advertising of the first six months was stimulated in the summer by the introduction of a new king-size cigarette. During the summer the tyre manufacturers were more active in advertising than in recent years. In June the Bureau of Advertising, American Newspaper Publishers association, announced that national advertisers in 1951 spent $513,486,000 for newspaper advertising, exceeding the 1950 total by $14,467,000 or 2 9%.

Magazines. In the first eight months of 1952 advertising in general and farm magazines totalled $344,678,162, as compared with $314,699,630 for the same period the year before. The Magazine Advertising bureau forecast a volume of advertising in magazines in 1952 of more than $550 million as compared with $511 million in 1951 and $464 million in 1950. The bureau also announced circulation of general and farm magazines at 158,841,553 at midyear, there were 99 copies per 100 population, as compared with only 20 copies per 100 in 1914. It stated that 82% of all families and 69% of all individuals were magazine readers.

In July totals of magazine sales in 1951 were published, showing that they stood at 3,720 million copies, an increase of 7 5% over 1950 This was an average of more than 30 copies of magazines for every person in the United States ten years old or more. It meant that more than 10 million magazines were bought every day of the year by subscription or on news-stands Many magazines were reaching record circulation, and as the result of such achievements announced increases in advertising rates.

Other Media. Dollar volume of direct mail advertising was estimated by the Direct Mail Advertising association to be $856,936,423 for the first nine months of 1952, a gain of more than 10% over the corresponding period in 1951. The association's grand award for the best campaign of the year went to the National Broadcasting company for its advertising in promotion of television.

In the first study of its kind, the Associated Business Publications revealed that 489 advertisers spent $74,061,817 in business paper advertising in 1951. Many business publications announced in the course of the year increases in advertising rates, continuing a trend that was pronounced in 1951.

At the end of September the volume of outdoor advertising was running at a rate 9% above the previous year. Expenditure in 1951 totalled $89,600,000. It was estimated that the outdoor industry spent approximately $40 million a year on the construction and maintenance of about 275,000 poster panels and 35,000 painted bulletins. According to a survey by the International Council of Industrial Editors, company publications had a combined monthly circulation of 70,718,860, and more than $112 million was spent annually on about 6,500 publications sent to employees, customers and stockholders. (R. A. Bn.)

Bibliography. Edward L Bernays, *Public Relations* (Oklahoma, 1952); J. Walter Thompson Company (comp.), *Population and its Distribution*, seventh ed (New York, 1951); William H. Whyte, Jr., and the editors of *Fortune*, *Is Anybody Listening?* (New York, 1952); Rodney Silverman (ed.) *Advertising Expenditure in 1948* (London, 1952).

AFGHANISTAN. Independent kingdom in central Asia, bounded N. by the U.S.S.R., W. by Persia, S. and S.E. by Pakistan and E. by China (Sinkiang). Area: *c.* 251,000 sq.mi Pop. (1950 est.): 12,000,000. Races: Pakhtuns (Pathans) or Pashtuns 60·5%, Tadzhiks 30·7%, others 8·8%. Language: Pashtu or Pakhtu and Persian. Religion: Moslem, mainly Sunni. Chief towns (pop. 1950 est.): Kabul (cap. 307,000); Kandahar (195,000); Herat (150,080); Mazar-i-Sharif (100,000). King, Mohammed Zahir Shah; prime minister, Shah Mahmud, the king's uncle.

History. A royal proclamation in Feb. 1952 called upon the people to elect the 8th National Assembly (171 seats). As no census of population was ever taken there were no electoral lists, and public meetings voted for the official candidates by acclamation. In Kabul there were two opposition candidates, but the government candidates were said to have been elected by considerable majorities; however, of 50,000 entitled to vote only 7,000 actually voted In August Akai Abdul-Hayi Habibi, head of the Afghan Democratic party (in exile at Peshawar), sent a protest to the United Nations against the fettered elections and the "family dictatorship". In October King Zahir delivered a speech at the opening of the new assembly in which he deplored the fact that the relations with Pakistan had not improved: "We have the most friendly feelings towards Pakistan, but we cannot forget the cause of Pakhtunistan."

Shah Wali Khan, Afghan ambassador to Great Britain, said in a press interview (*The Hindu*, Jan. 6) that the area of Pakhtunistan included the states of Chitral, Dhir, Swat, Bajaur, Tirah, Waziristan and Baluchistan. "The right of eight million Pakhtuns to enjoy freedom cannot be ignored," he added. "Unless Pakistan troops are withdrawn from the occupied areas of Pakhtunistan, the situation may get out of control." He also described the imprisonment by Pakistan police of Abdul-Ghaffar Khan, the leader of the Khudai Khidmatgar (Red Shirts), as a "monstrous act". In March the Pakistan government prohibited the Delhi-Kabul air line from passing over Pakistan territory. According to *Dawn*, a Karachi newspaper, arms and other war material were smuggled into Afghanistan from India by air.

From 1951 about 50 German technicians and thousands of Afghans had been building a new hydro-electric power station at Sarobi (on the Kabul river, about 50 mi. downstream from the capital): when completed it would generate about 16,000 kw. Two other hydro-electric power stations were being built by the Americans on the Arghandab river in the Kandahar area: they would generate 85,000 kw. and 120,000 kw. respectively. The country's total generating capacity in 1952 was estimated at 13,000 kw.

A bill to nationalize petroleum was passed in January by the 7th National Assembly; a U.N. technical assistance mission was invited to Afghanistan, and visited the Shibarghan area, in the northwest, about 45 mi. from the Soviet border, where rich oil deposits had been discovered.

On Aug. 21 *Izvestia* published a report that this mission was a tool of the U.S., to plan construction of military roads and airfields near the Soviet border. In spite of Afghanistan's explanation, the U.S.S.R. protested to Kabul against the mission's presence in Afghanistan. The Kabul government

refuted the note of protest in September, declaring that such oil prospecting was in the country's vital interests.

On Jan. 23, W. Averell Harriman, director of the U.S. Mutual Security agency, announced that U.S. economic aid to Afghanistan was being temporarily withheld because the anti-Communist security pledge required by the Mutual Security act of 1951 had not been given by the Afghan government.

Education. Schools (1951): elementary 334, pupils 100,250 (incl. *c.* 5,000 girls); secondary, lower 25; secondary, higher 7; teachers' training colleges 2. University of Kabul with six faculties.

Agriculture. Main crops ('000 metric tons, 1948 est.): wheat 1,700; barley; rice, paddy 333; millet; maize; cotton seed 9; grapes 20; cotton, ginned (1951) 10. Livestock ('000 head, Sept. 1948): horses 500; asses 1,000; mules 200; cattle 2,500; sheep 14,000; goats 6,000; camels 350; chicken 40,000. Raw wool production, greasy (1950 est.) 7,000 ton.

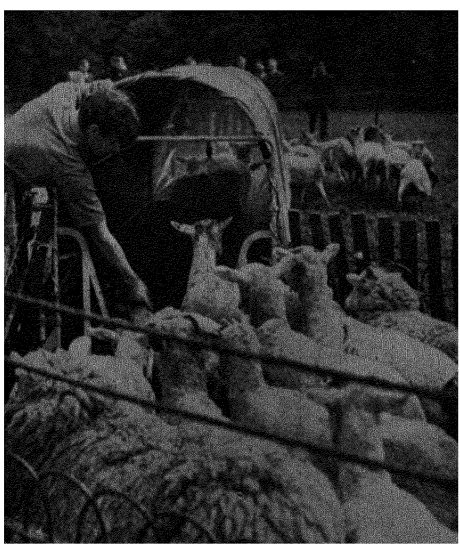
Finance. Monetary unit: *afghani*. After the devaluation of Jan. 1952, the official exchange rate in Kabul was: Pak. Rs. 100 = Af. 635·90 (old rate: 508·71). Budget: total revenue estimated at Af. 188 million. Note circulation (April 1950): Af. 800 million.

Foreign Trade. Principal imports: textiles, sugar, china, petrol and paraffin (4·5 million gal. in 1949), cement (18,100 tons in 1949), machinery, tea, coffee, cocoa. Principal exports: karakul skins ($26 million in 1950), carpets, cotton, raw wool, fruit, spices.

Transport and Communications. No railways. Roads (1949): 2,265 mi. Licensed motor vehicles (Dec. 1950): cars 975, commercial 3,735. Telephones (1949): 3,899. Radio receiving sets (1949): 4,800.

See: E. Caspari and E. Cagnacci, *Afghanistan: Crocevia dell'Asia* (Milan, 1951); Rahman Pazhwak, *Arayana* (London, 1951).

AGRICULTURE. World Prices. Early in 1952, and again after August, the high prices paid in dollar markets for raw materials and foodstuffs again declined. By the end of the year the most sensitive wholesale prices averaged about 13% less than during Dec. 1951, and 24% less than during the first three months of 1951 when the highest demands resulting from the outbreak of the Korean war were being experienced. The decline during 1952 in the level of prices paid to Canadian farmers for their products was 11%. In the United States, wholesale prices of wheat declined by 8%; of maize by 13%; of cotton by 15%; of coffee by 4%; of cocoa by 14%. Wool prices declined until April but advanced again later to about the levels of late 1951. Greater declines affected international markets for vegetable oils and fats. Within the first six months of the year, free market prices of coconut and palm oil fell by one-third, thus returning to the levels of 1949. For rubber the decline was as much as 45% during 1952 as a whole.



A demonstration in Hyde park, London, of an animal sprayer which, it was claimed, was more economical than sheep dipping.

TABLE I. PRODUCTION OF WHEAT AND RYE

(million metric tons)

	1934-38 (average)	1951	1952†
Europe	61·4	60·1	62·4
North and Central America	28·2	43·3	65·5
South America	8·5	4·5	—
Asia	43·4	45·4	45·9
Africa	3·8	4·5	—
Oceania	4·4	4·5	—
World total*	149·7	162·3	180·7

* Excluding U.S.S.R. † Preliminary.

SOURCE. F.A.O. *Monthly Bulletin of Agricultural Economics and Statistics.*

These changes occurred in spite of a high and reasonably stable level of general economic activity in most countries, and a rising rate of expenditure on defence. They were, in part, a reaction from the rapid inflation of basic commodity prices and stockpiling during the latter half of 1950 and early 1951. But they also reflected a restriction of European demands as a result of underlying balance-of-payment difficulties and of North American demands by a continuation of the comparatively high rate of saving (7%) of disposable incomes reached in 1951. By the autumn there was also some concern in the United States that investments in new industrial plant and equipment would not be long maintained at recent high rates, that private stockpiles of materials would be reduced and that the greatly expanded productive capacity of manufacturing industries would not be fully used should government spending be curtailed.

The instability of primary product prices, and uncertainty about their future movements, was particularly disturbing to the United Kingdom and the sterling area. The terms of trade of the United Kingdom itself improved during the year: the exports required to pay for a given volume of imports declined by some 9%. But Commonwealth producers of vegetable oils, cocoa and other basic agricultural products were concerned about their future markets, and the sharp decline in rubber prices aggravated Malaya's problems at an unfortunate time. Exports of rubber had a value £180 million less during the year ended June 1951 than during the previous year and a further decline was foreseen. The British delegate to the U.N. Economic and Social council meeting in June stated that erratic fluctuations in primary product prices benefited no one and that further consideration should be given to possibilities of stabilization

TABLE II. EXPORTS OF WHEAT AND WHEAT FLOUR (WHEAT EQUIVALENT) FROM PRINCIPAL EXPORTING COUNTRIES FOR 12-MONTH PERIODS, JULY-JUNE

(million metric tons)

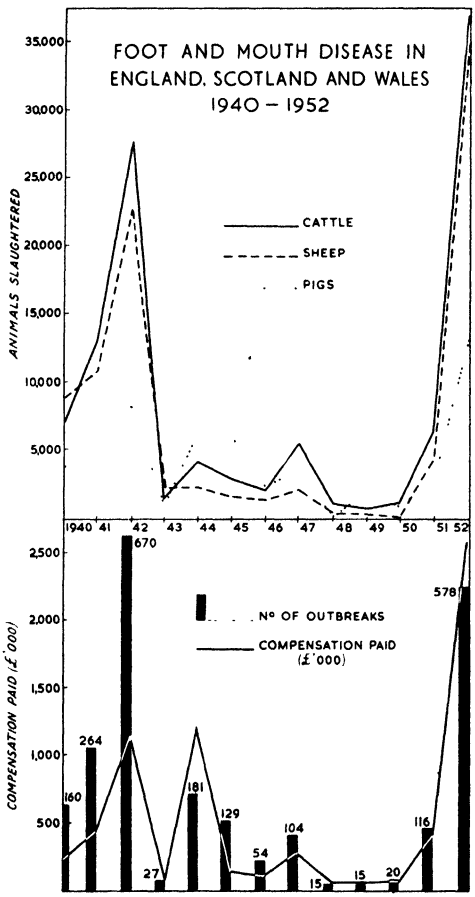
	1934-38 (average)	1950-51	1951-52*
Exporting countries			
Argentina	3·4	2·8	0·8
Australia	2·9	3·6	2·8
Canada	4·8	6·1	9·4
United States	1·0	10·0	12·8
Total	12·1	22·5	25·8
Reported destinations			
United Kingdom	5·7	4·3	4·6
Europe (excl. U.K.)	3·0	7·7	8·1
North and Central America	0·7	1·5	2·0
South America	1·1	2·3	2·3
Asia	1·3	5·2	7·0
Africa	0·2	1·2	1·4
Others	0·1	0·3	0·4
Total	12·1	22·5	25·8

* Preliminary.

SOURCE. F.A.O. *Monthly Bulletin of Agricultural Economics and Statistics.*

through long-term commodity agreements. The council later agreed to invite the International Bank for Reconstruction and Development and the International Monetary fund to study suggested measures for international economic stability and invited the secretary-general of the United Nations to prepare a report on relative movements of prices of various classes of goods moving in world trade.

The price fluctuations experienced in 1952 were all the more serious, because in most countries other than the United States central monetary reserves were inadequate. Early in the year the finance ministers of the British Commonwealth met in London to discuss the balance-of-payment problems of the sterling area and, although they looked towards expansion of production as a solution to recurrent



crises, they were obliged to seek a balance of payments with non-sterling areas during the second half of the year by restricting imports and consumption. The possibilities of achieving greater stability of commodity prices were discussed at the Commonwealth Economic conference (Nov.-Dec.)

United Kingdom. The United Kingdom planned to reduce imports by 10% below the average level of 1951, and much of the reduction fell on foodstuffs. This naturally led to a continuation of the drive for expansion of food production within the United Kingdom. New long-term plans were widely advocated.

On Feb. 4 the minister of agriculture announced that a subsidy of £5 an acre would be paid towards the cost of ploughing up land which had been under grass for four or more years and sowing approved crops on it for harvest in 1952. The main purpose was to secure about 500,000 ac. additional spring-sown grain crops to augment supplies of feedingstuffs for use in winter 1951-52 and so to help to increase meat production. The June agricultural census in the United Kingdom indicated a net reduction of the grassland area between 1951 and 1952 by 134,000 ac. and an increase on the area of barley and oats by some 400,000 ac. at the expense mainly of wheat, potatoes and bare fallow, as well as of grassland.

In April, the government announced the basis of their expansion policy. No specific crop and livestock "targets" were set but the principal objectives were (i) an expansion of the tillage area by some 1,500,000 ac. (12%) beyond that of 1951; (ii) an increase of 15% in the production and utilization of grass; (iii) a raising of tillage crop yields by 5%; (iv) greater pig and poultry production in the proportions required by consumers and to the extent made possible by the additional feeding grains grown on the expanded tillage area; (v) maintenance of the existing numbers of dairy cows but with a continuing increase in milk yields per cow, (vi) a raising to the utmost possible extent of beef, veal, mutton and lamb production. Efficiency in the use as well as in the production of home-grown feedingstuffs was essential, and it was hoped that an extra 250,000 tons of meat might be forthcoming by 1955-56, although in the meantime a reduction would probably occur. Most of this extra supply would be pig-meat, but further increases of beef and mutton should follow.

It was with this plan in mind that the annual review of agricultural prices in the United Kingdom was concluded on April 24 after nearly nine weeks of discussion. Agreement was reached with farmers' unions on price and subsidy increases designed to raise farmers' gross receipts by just over £39 million and so adequately to compensate for increases in costs. Of this amount £15·5 million were to be applied as subsidies on fertilizers, calf-rearing and the ploughing-up of grasslands. The government undertook, moreover, to stabilize the basic release prices of rationed feedingstuffs at least until the end of March 1953. The purpose of this, and of the subsidies, was to keep farmers' costs down and so minimize their difficulties in securing enough capital to finance further increases in production. The subsidies were also intended to steer production practices in the direction advocated by the government.

The farmers' unions expressed the view that still further financial help was required if the full production potential of British agriculture were to be made use of, but they realized that, in the meantime at least, the resources of labour and materials to match this financial help could not be promised. The minister of agriculture was confident that the agreed settlement was a firm foundation for the long-term policy which was being worked out by government and unions, and he thought the industry could be reasonably expected to reverse the tendency towards reduced production and by 1956 to raise net output to at least 60% above the average level of the 1936-38 period. He also said that, with the full support of leaders of the industry, vigorous action would be taken to ensure that the limited area of agricultural land in the United Kingdom was neither used inadequately nor misused through incompetence.

Later, in August, the system of voluntary part-time liaison officers was revived. During World War II such officers, each covering several counties, interpreted the government's



A combine harvester working on a field of barley at Darenth, Kent. Combines have greatly increased in popularity in recent years.

policy to county agricultural executive committees and other agricultural organizations and at the same time served to keep the minister of agriculture informed of local developments, and particularly of anything hindering the expansion of food production.

One possible hindrance—the contraction of credit in accordance with general financial policy—was largely removed by a special request to banks to give priority to farm credit needs. But another hindrance proved unusually great. Between mid-Nov. 1951 and mid-June 1952 there were 430 outbreaks of foot-and-mouth disease and livestock worth £1·5 million were slaughtered in accordance with the long-established control policy. The restrictions on livestock movements were imposed over wider areas and for longer periods than ever before. But despite these measures, fresh outbreaks continued to occur, though less frequently, during the remainder of the year.

Yet another hindrance, affecting some localities, was the shortage of labour for farm work. In England and Wales the number of male regular workers was 22,000 (4% lower in June 1952 than a year earlier), and on Aug. 18 legal minimum wage-rates were raised for those over 21 by 5*s.* to 113*s.* per week.

Western Europe. In western Europe as in the United Kingdom, international balance-of-payment problems continued to influence farm production and trade policies. Countries with opportunities to increase their exportable surpluses of farm products were naturally interested in securing freer trade and officials from 16 countries met under the chairmanship of Robert Schuman, French minister of foreign affairs, during March in Paris for a preparatory conference on a European agricultural community (the Pflimlin plan). Although, in restricting imports of foodstuffs in an attempt to achieve financial stability, the United Kingdom and other importing countries had given some consideration to the difficulties of the exporting countries themselves, it was felt in Paris that the resulting pattern of restrictions was a serious obstacle to economic development of agriculture.

Despite the interest of the Organization for European Economic Co-operation, however, little progress could be made in freeing trade. In some countries fears of overproduction of particular commodities arose. In western Germany, farmers expected that dairy product prices would have to be substantially reduced as a result of greatly increased production, particularly of butter. In Denmark, the prices paid for bacon exported to the United Kingdom were reduced by 8% at the end of September.

Commonwealth. The most noteworthy change in the agricultural policies of Commonwealth countries during the year was in Australia where, in March, the prime minister announced that emphasis would now be given to rural production and that indiscriminate expansion of secondary industries would be limited. Special taxation concessions were granted to encourage the building of living-quarters for farmworkers and also to encourage fodder conservation, irrigation and the use of more machinery. The wheat export tax was abolished. A five-year plan to increase the annual agricultural output by £A100 million and save $7 million now spent on imports of tobacco, cotton and linseed, was prepared by the minister of agriculture. Under this plan the wheat area would be expanded from 10·4 million ac. in 1951-52 to 14 million ac., the oat and barley acreage from less than 3 million ac. to 4·5 million, the tobacco acreage from 5,000 to 20,000 ac. Beef, mutton, lamb and pig-meat production might be raised from 1 million tons a year to 1·25 million, and milk production from 1,205 million gallons to 1,350 million. The construction of new roads and improved stock routes in western Queensland was also continued, and experiments in the transport of meat by air from the Kimberleys, which began in 1947, gave encouraging results. Another interesting experiment was undertaken by three leading graziers, the introduction from Texas of a new breed of cattle, the Santa Gertrudis, developed from the Indian Brahman and the Scottish shorthorn. On the other hand, the food farm project in central Queensland was pronounced a failure, with a total financial loss of at least £A568,300. The Queensland government recommended to the British

TABLE III. EXPORTS AND IMPORTS OF RICE (MILLED RICE EQUIVALENT), FOR 12-MONTH PERIODS JULY-JUNE

(million metric tons)

	1934-38 (average)	1950-51	1951-52*
Exporting countries			
Burma	3·1	1 4	1 2
Indochina	1 3	0 2	0 4
Thailand	1 4	1·5	1 5
United States	0 1	0 4	0·8
Total†	7 9	4 5	4·7
Importing countries			
Europe	1 2	0 6	0 3
North and Central America	0 3	0 4	0 3
South America	0 1	0 1	0 1
Asia	5 8	3·1	3·7
Africa	0 4	0 1	0 1
Others	—	—	0 2
Total	7 8	4 3	4 7

* Preliminary † Including exports from other exporting countries

SOURCE F A O *Monthly Bulletin of Agricultural Economics and Statistics*.

government, which had invested £1 million in the project, that the 700,000 ac. of land originally set aside should be more closely settled by private enterprise.

In New Zealand, a new meat production plan was initiated with the encouragement of a 15-yr. agreement with the United Kingdom, but deficiencies in supplies of capital equipment and requisites tended to reduce the rate of expansion.

In Canada, a significant development was a further acceleration of the drift of workers from farming to other occupations. This was caused largely by the rapid opening-up of mineral and other resources in Alberta and elsewhere, and it led the National Advisory Council on Manpower to try and secure more immigrants trained in agriculture, and to arrange for better housing and other inducements to young men to stay on farms. Sales of farm machinery were at a high level, and total capital expenditure on new farm buildings and equipment was some 13% greater than during 1951.

Indian plans to increase food production were temporarily upset by a severe drought affecting by June a belt 300 mi. wide spreading northwards from the Arabian sea. Famine relief measures on a large scale became necessary, and some 5 million cattle were affected by the scarcity of fodder. Later, in September, Madras and Mysore also faced the threat of famine. These difficulties drew attention to the results of the latest human population census which were published in June and indicated that between 1941 and 1951 the population had increased by 12·5%. Supplies of grain for controlled distribution during the later part of the year were fortunately more adequate than for some time, partly because of imported supplies and better procurement from the new wheat harvest in areas not stricken by drought. On Oct. 2, Gandhi's birthday, 55 community development projects were inaugurated by the president, Rajendra Prasad. These included the use of better seeds and of farm implements, improvements in marketing and agricultural credit, the reclamation of waste land, the provision of irrigation, the extension of educational and medical services, and better housing. The United States would contribute for these projects Rs. 40 million in the form of technical assistance, equipment and materials.

For Ceylon a six-year programme of development to begin in Oct. 1953 was proposed by a mission sent by the International Bank for Reconstruction and Development. This would call for a total capital expenditure during the six years of Rs. 1,600 million, largely in agriculture.

Progress under the Colombo plan (*q.v.*) generally was regarded as not unsatisfactory by the consultative committee which met in Karachi in March, although southeast Asia's capacity to absorb development goods and personnel was reported to be a limiting factor, and, owing to rearmament, the flow of machinery and other engineering goods from the United Kingdom was no greater than during 1951.

Development of Agriculture. The year was one of rising activity by the agencies of the United Nations in the field of technical assistance and economic planning for the poorer countries. The problem of supplying sufficient food for the rapidly increasing population of the world was many times stressed as urgent and fundamental. As one means to its solution the reform of land tenure arrangements was proposed. In India and Egypt, as well as in several other countries, substantial reforms were carried out but financial difficulties retarded their extension.

Considerable progress was made with agricultural development in several British colonial territories. In the Gold Coast farmers were again willing to have diseased cocoa trees destroyed. In Tanganyika the Kilimanjaro Native Co-operative union opened their new building which had cost £200,000 obtained largely from prosperous coffee growers.

The progress of mechanization continued in many countries. The latest available comprehensive tractor statistics, those for 1951, are set out in Table IV, and indicate the varying extents of mechanization in different regions. The United Kingdom had the largest number of tractors in relation to the area of arable land.

TABLE IV ARABLE LAND AND TRACTORS, 1951

	Percentage of world's arable land	Percentage of world's tractors	Arable land per tractor (in hectares)
North America	18	68	53
Europe	14	16	171
U S S R	18	9	400
Oceania	2	3	114
United States	15	62	48
Canada	3	6	100
United Kingdom	0 6	5 3	23
France	1 7	2 2	156
Australia	1 1	2 1	100

SOURCE *The European Tractor Industry in the Setting of the World Market*, Table 1, U N Economic Commission for Europe, Feb 1952

Scientific Research Amongst noteworthy experiments directly related to agriculture were those in the use of (i) antibiotics such as procaine, penicillin and aureomycin in cow and pig feeding, and of other antibiotics in the protection of plants; (ii) new chemicals for rodent control; (iii) vaccines of many types for the control of foot-and-mouth disease; (iv) a new chemical, krilium, and a sodium salt of alginic acid to improve the structure of soils; (v) pasture plants to provide out-of-season grazing. There was also study of the possible effects on human beings and wild life of the rapidly increasing use of chemical sprays for the control of weeds. (J. R. RA.)

United States. *Crops.* The early summer of 1952 was one of the hottest and driest on record. Serious drought occurred in a dozen states, ranging from Maine to Texas. The situation was especially devastating in the Alabama-Tennessee area. Yet the southern Great Plains produced a record wheat crop and the southern and western cotton lands gave a crop more than 2·5 million bales above average for the decade. Wheat, rye, rice and buckwheat totalled about 42 million tons, almost as much as the 1947 record.

Though official feed grain acreage goals were not reached, the four feed grains, corn, barley, oats and grain sorghums, produced about 119 million tons, to which corn made a large contribution in quality and quantity (3,256,550,000 bu.). An above-average hay crop appeared sufficient to provide mid-western surplus for a deficit south. The four oil seeds, soya beans, cottonseed, flaxseed and peanuts, were about one-third above average and 2% more than the 1951 record. Tobacco was a near record crop. Potatoes, white and sweet, were below average, as were the pulses (dry beans and peas).

TABLE V. U.S. CROP PRODUCTION AND YIELD

	1952*		1951	
	Yield per ac.	Production ('000s)	Yield per ac.	Production ('000s)
Field crops				
Corn, bu.	39·6	3,256,550	36·2	2,941,423
Wheat, bu.	18·4	1,298,921	16·1	987,474
Oats, bu.	32·7	1,265,660	36·1	1,316,396
Barley, bu.	27·0	222,476	27·1	254,668
Rye, bu.	11·7	15,759	12·4	21,410
Flaxseed, bu.	9·1	31,033	8·7	33,802
Rice, bags (yield lb.)	2,440·0	47,730	2,250·0	43,805
Hay, all, tons	1·38	103,858	1·45	108,461
Beans, bags (yield lb.)	1,237·0	16,291	1,231·0	17,446
Soya beans, bu.	20·6	296,209	21·2	280,512
Peanuts, lb.	736·0	1,225,145	831·0	1,676,125
Potatoes, bu.	243·7	345,561	240·7	325,708
Sweet potatoes, bu.	91·2	30,814	91·8	28,278
Tobacco, lb.	1,248·0	2,234,535	1,307·0	2,328,226
Sugar beet, short tons	15·2	10,334	15·2	10,485
Cotton, bales (yield lb.)	280·2	14,413	271·9	15,144
Fruit crops				
Apples, bu.	—	95,975	—	110,660
Peaches, bu.	—	62,622	—	63,627
Pears, bu.	—	30,879	—	30,028
Grapes, tons	—	3,092	—	3,386
Oranges, boxes	—	—	—	118,180
Grapefruit, boxes	—	—	—	40,370

* Estimate, Oct. 1952.

Fruit crops, excepting pears, were below 1951, most of them below average. Commercial vegetables for the fresh market were 3% below 1951 but 5% above average. Vegetables for processing were one-sixth below 1951 but 14% above average.

Livestock. Livestock and poultry on U.S. farms in Jan. 1952 showed a net increase of about 4% over 1951. Further increase was indicated during 1952. Livestock was up 4%, poultry 3%, meat animals 5%; milk stock declined slightly, work stock declined 11%. The total value for seven species was $19,549,896,000, as compared with $17,127,355,000 a year earlier. Milk cows reached a record average price of $250 per head. As predicted late in 1951, the pig crops of 1952 were cut about 9% to about 93,107,000 head as compared with the previous year, largely because of the unfavourable price-feed ratio (the corn-pig ratio). Cattle, however, increased to approximately 93,000,000 head.

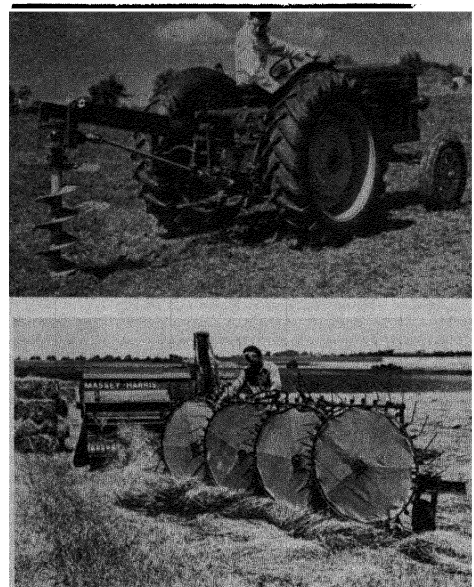
Slaughter in 1952 of about 27·5 million cattle and calves and 85 million head of pigs, plus sheep, lambs and poultry provided about 22,600 million lb. of red meat and 5,750 million lb. of poultry. Of that amount, more than 94% was distributed to U.S. civilians, about 5% to the U.S. armed forces and small amounts exported. Thus the U.S. civilian in 1952 consumed about 142 lb. of red meat and 35 lb. of poultry, 2% to 3% more than in 1951. Larger amounts, particularly of beef, would be ready for slaughter in 1953. Egg production was a new record, providing 406 or more per person. Milk production declined.

Feed grains totalling 119 million tons, plus 20 million tons of carry-over stocks and additional amounts of oil meals, provided about 165·3 million tons of concentrate feeds for the 1952-53 feeding year, as compared with 169·8 million tons a year earlier, but because of the reduction in livestock to be fed the amount per animal unit was the same as in the previous year. The hay supply was above average, though regionally short because of drought.

Agricultural Stocks and Foreign Trade. Trade in agricultural products in 1951-52 contributed more than 25% of all U.S. exports and more than 40% of U.S. imports. U.S. agricultural exports reached an unprecedented value of $4,042,601,000, about 20% more than in the previous year. Exports of cotton ($1,204·2 million) and wheat ($1,066·8 million) contributed more than half the value. As compared with the values of the previous year, vegetables (+ 52%), wheat (+ 42%), and cotton (+ 28%) showed the biggest increases, whereas oil seeds declined by 29%. On a volume basis, milled rice increased 77% and lard 48%, but soya beans decreased 41%.

Agricultural imports in 1951-52 totalled $4,692,665,000, as compared with $5,146,465,000 in the previous year. Of the 1951-52 total, $2,727,848,000 was classed as complementary; *i.e.*, goods of kinds for the most part not grown commercially in the U.S. Coffee was the most important ($1,337·9 million), followed by crude rubber ($787·8 million). Carpet wool decreased by 61%. Supplementary agricultural imports—foreign products similar to products of domestic commercial production—were valued at $1,946,817,000, as compared with $2,280,853,000 in 1950-51. The leading item, cane sugar, increased slightly, but the second product, wool for clothing, declined 28%. Molasses showed the biggest increase (+ 55%), cattle the biggest decline (— 62%).

Farm Product Prices. Prices on all farm products changed very little in 1952. The index stood at 288 (1910-14 = 100) in September, as compared with 291 a year earlier. However,



Modern agricultural machinery. (Top) A robot post-hole digger attached to a tractor; the implement can also be used for tree planting. (Above) A new haymaking technique: a siderake mounted at the front of the tractor lays the rows so that the towed baler works to maximum capacity. (Below) A large weed sprayer attached to a tractor.



crops were up to an index of 264 as compared with 239 a year earlier. Livestock and their products, on the other hand, were down to 309 from 337.

The government's new retail price index eased slightly in September after a steady rise after February, a result of a 1% decline in food costs between mid-August and mid-September. Further declines were expected later in the year.

Farm Income. Gross farm income for 1952 was estimated at $37,600 million, 2% more than in 1951; of that total, $33,500 million was cash receipts from a record volume of farm marketings. Livestock and livestock products accounted for $18,900 million, 3% less than in 1951. Crops at $14,600 million were up about 12% compared with the previous year, mostly because of an estimated 9% increase in volume of sales. Costs of farm production had risen almost constantly since World War II began, and 1952 was no exception—estimated farm production costs of $23,400 million were 4% higher than in 1951. Net farm income, estimated at $14,200 million, was slightly below 1951 and in purchasing power was lower than any of the previous ten years, excepting only 1950.

Farm Labour. Near the peak of the 1952 autumn harvest period, 13,252,000 persons were working on farms, of whom 9,543,000 were farm operators or unpaid members of their families, and 3,709,000 were hired workers. This was nearly 100,000 more hired workers, but about 200,000 fewer family workers than a year before.

The average for all farm wage rates was about 69 cents per hour, 5% more than a year earlier. Monthly rates to married men, with house furnished, averaged $146, as compared with $138 per month a year earlier The agreement permitting Mexican farm workers to help harvest crops in the U.S., due to have expired on June 30, was extended for 18 months. (*See* also BEEKEEPING; COCOA; COFFEE; DAIRY FARMING; FERTILIZERS; FORAGE CROPS; FRUIT; GRAIN CROPS; HOPS; LIVESTOCK; NUTS; POULTRY; ROOT CROPS) (J. K. R.)

AIRCRAFT MANUFACTURE. With the armament drive continuing at or near full power throughout 1952, emphasis in British aircraft construction was once again on military types, though some interesting new civil aircraft made their first appearance at the Society of British Aircraft Constructors' show at Farnborough in September.

In the rearmament programme super-priority was given by the government to the production of the Hawker Hunter and Vickers-Supermarine Swift day-fighters and the Gloster Javelin all-weather fighter (delta-wing). Among bombers on the super-priority list were the four-engined Vickers Valiant and the twin-engined Canberra, one of which, on Aug. 26, made the first double crossing of the Atlantic in a single day. The double journey took 7 hr. 58½ min., of which the crossing from west to east took 3 hr. 25 min., giving an average speed of 605·52 m.p.h.

The versatile Canberra also appeared at Farnborough as a flying test-bed for three alternative sets of engines. In one, two of the new Bristol Olympus turbo-jets were fitted, each delivering a take-off thrust of 9,750 lb.; a second was powered by two Sapphires (standard equipment for the Canberras being built in the United States) while the third carried its normal Avon engines fitted with "re-heat".

The four Avon-engined Avro 698 delta-wing bomber made its first flight on Aug. 30 and it was announced that an order for an appreciable number of these bombers had been given even before the machine had been flight-tested. It was expected to attain a speed approaching that of sound and to have great range and load capacity. It was rumoured that the production version might be powered by the Olympus. Late in December another long-range bomber, the Handley Page HP. 80, with four Sapphire engines and crescent-shaped wings, made a successful first flight, prior to which, like the Avro bomber, it had already been ordered in quantity for the R.A.F. The makers claimed that it could carry a heavier bomb load farther, faster and higher than any other bomber in existence.

In civil aircraft, the most interesting newcomer was the Bristol Britannia, a 95-seater airliner equipped with four Bristol Proteus airscrew-turbine engines, of which British Overseas Airways corporation ordered 25. The prototype was demonstrated at the S.B.A.C. flying display a fortnight after its first flight. In appearance and in many of its details it was reminiscent of the Bristol Brabazon.

The de Havilland Comet I was operated on several of B.O.A.C.'s routes in the course of the year and the Comet II was expected in service before the end of 1954. Design work on the Comet III made rapid progress. Powered, like the Comet II, by the Rolls-Royce Avon, the first production model was promised for late 1956, with accommodation for 78 passengers and a stage-length of about 2,700 mi. An order for Comet IIIs was received from Pan American World airways in October.

A new Rolls-Royce engine, the Conway, working on a by-pass principle, giving greater fuel economy, was released from the secret list on Oct. 23.

To assist take off, the de Havilland company developed the Sprite rocket, giving a thrust of 5,000 lb. for 11 sec A Sprite-fitted Comet was spectacularly demonstrated at the Farnborough show.

The Saunders-Roe Princess 140-ton flying boat first flew on Aug. 22. Its ten engines were Bristol Proteus 2s. Two other Princess boats were under construction but were awaiting completion until the more powerful Proteus 3 engines became available. An earlier intention to use these boats as Royal Air Force transports was abandoned and their ultimate use remained uncertain.

The Bristol 173, the first British twin-engined helicopter, made its maiden flight early in 1952. Equipped with two 550-h.p. Alvis Leonides engines, it was designed to carry 13 passengers at a speed of 105 m.p.h. Bristols also began production of their Sycamore (Type 171) 4/5 seater military reconnaissance and air-sea rescue helicopter.

Canada. Canadair were engaged on the design of the CL-21 high-wing 32-passenger pressurized air liner, to be equipped with two Wright R 1820 C9 HE engines. Production could be started in the last months of 1954.

Australia. On Oct 1 the Commonwealth Aeronautical Research laboratories announced a design for a two-seater supersonic all-weather fighter with swept wings powered by two Rolls-Royce Avons and capable of supersonic speeds. It was also stated that the first Australian-built Canberra bombers and Sabre fighters would be flying by early 1953.

United States. According to the president of the Aircraft Industries association, more than 10,000 aircraft were delivered from the United States factories to the armed forces since the outbreak of war in Korea up to Sept. 1952. Output was still expanding and by December production was expected to reach its peak of about 1,100 military aircraft a month. Unfortunately a strike of 40,000 workers in the Douglas and Lockheed plants in September interfered with the programme.

In the field of military aircraft, progress was more pronounced in the transport class than among combat types. Among the latter the navy's XA-25-1 Savage manufactured by North American and powered by two Allison T-40 jets, together producing more than 11,000 equivalent shaft horsepower, made its first flight, while the first prototype XP-57-1 four-engined flying boat continued its test programme throughout the year.

Lockheeds gave details of military transport versions of their Super-Constellation, for both the navy and the air force.

Powered by four Wright R-3350 compound engines of 3,250 h.p. each, they would be capable of carrying 106 troops or 73 stretcher patients. A Super-Constellation commercial freighter, the L1049B, was also promised for delivery in 1953 with piston engines and in 1956 with Allison T-38 propeller-turbines. In the latter version it was estimated that the transport of freight from coast to coast of the United States would cost as little as 3·5 cents per ton-mile.

In October, the Boeing Airplane corporation published details of a 70- to 80-passenger 500-m.p.h jet transport which they expected to be ready to demonstrate to military and commercial customers in the summer of 1954 for delivery by the end of 1956. A tanker version was also projected. Douglas were busy with their DC-8 80-passenger airliner for delivery about the same time. Although naturally interested in jet transport, they stated that they did not expect a suitable engine for their products to be available before 1957 and would not use propeller-turbines as interim equipment. Meanwhile, the DC-6B, of which nearly 200 had been ordered, received its certificate for an all-up weight of 107,000 lb., an increase of 7,000 lb.

The Convair liner 340 also had its permissible all-up weight increased by 1,725 lb. to 46,725 lb. The United States air force placed orders for a number of C-131As, pressurized evacuation transports based on the Convair 240.

Planned expenditure of over $200 million on helicopters was announced by the army and navy This included purchase by the navy of the Kaman K-225, with a Boeing YT-50 gas-turbine engine developing 175 h.p., which made its first flight on Dec. 17, 1951.

Early in the year, Pratt and Whitney received a contract from the air force to develop an atomic aero-engine. Consolidated Vultee were also entrusted by the General Electric Company of America with a development contract for atomic powerplants.

Of the Wright R-3350 compound engine mentioned, the makers claimed that, weighing less than 1 lb. per h.p., the engine had a lower fuel consumption than any existing aircraft engine (·38 lb /h.p. hr), due to the recuperation of 20% power from the velocity of exhaust gases

Fords received the contract to build the Pratt and Whitney J-57 jet of which no details were available, but which was stated to deliver a thrust of 10,000 lb. Another Ford plant would assemble the Westinghouse J-40 axial-flow jet with an estimated thrust of 7,500 lb.

Netherlands. Fokkers produced a full-scale mock up of their Model 27, high-wing, twin turbo-prop, 28-passenger air liner and announced the development of three prototypes, the third being a freighter version. An agreement was signed with the Fairchild Engine and Airplane corporation for the manufacture of the Fokker S-14 jet trainer in America.

France. The Marcel Dassault factory continued its series of jet fighters. The MD-453 Mystère night-fighter made its first flight in July and was reputed to have attained a level speed of more than 1,000 k.p.h. In November it was claimed that the Mystère IV fighter had broken the world horizontal speed record with a speed of 683 m.p.h. An order for 250 of this type was received from the United States. (*See* also JET PROPULSION AND GAS TURBINES, ULTRASONICS.)

See *The Times Survey of British Aviation* (London, Sept 1952); *Jane's All the World's Aircraft* (London, 1951-52), *Aeroplane Directory* (London, 1952). (D. CR.)

AIR FORCES OF THE WORLD. Great Britain and the Commonwealth. The most striking thing about the 1952 display at Farnborough was the obvious trend toward the delta (or arrowhead) wing. Machines of this type had appeared in experimental form a year earlier, but had now been translated into service types. One notable example was the two-seat Gloster Javelin, which was the first British operational aircraft with delta wings. It was reported to be able to fly at speeds higher than the speed of sound. It was powered with two Armstrong-Siddeley Sapphire engines, each with a static thrust of more than 8,000 lb. It was being put into production for probable service use late in 1953.

The largest delta-wing aircraft jet to be flown was the four-jet Avro 698 bomber. This was a very large aeroplane capable of carrying big bomb loads over long ranges. Although recently completed and with but a few flight-test hours behind it, it put on a notable flying exhibition at Farnborough. In addition to the two service-type delta-wing aircraft, a number of research machines were on display, enough to indicate a very marked trend in that direction in British designing

A new all-weather day-and-night fighter, the de Havilland DH.110, exhibited high speed and manoeuvrability but suffered an unfortunate accident when it disintegrated in flight Two other new swept-wing single-seat fighters were shown, the Hawker Hunter and the Vickers-Supermarine Swift. Both these machines were on Great Britain's super-priority production list.

In light bombers, the production model of the English Electric Canberra B-2 was on display. This twin-jet high-speed bomber later in the year made a round trip across the Atlantic in a single day It had been selected by the U.S air force for production in the United States.

Among heavy bombers, in addition to the Avro 698, the Vickers Valiant in recently modified form was displayed. This machine was one of the most beautiful and most efficient aero-dynamically to have been built anywhere. It was notable for the fact that its four jet engines were almost completely buried within its wings with practically no external projections.

For the Royal Navy, the Fairey Gannet in its production form put in an appearance. This aircraft was powered with double turbine-driven propellers It was intended for anti-submarine warfare.

The 140-ton Saunders-Roe Princess flying boat, designed originally for the overseas operations of B.O.A.C. and later turned over to the Royal Air Force as a troop transport, made flight demonstrations during the Farnborough show It was one of the world's largest flying boats, with a total weight in excess of 300,000 lb. It was powered with ten Bristol Proteus turbine-driven propeller engines

On Dec. 24, 1952, the R.A.F.'s first crescent-wing type bomber, the Handley Page HP. 80, made its maiden flight. It was revealed that the bomber had been ordered in quantity for Bomber command.

Power Plant Development. Great Britain continued its all-out development of jet and turbine propeller engines. Improvement in power output and reduction in fuel consumption had been continuous, but no outstanding new types appeared during 1952. The power range ran from small turbine units of 1,500-lb. thrust up to large jet engines delivering 10,000 lb. or more. Outstanding engines in the pure jet class were the Armstrong Siddeley Sapphire of more than 8,000-lb. thrust; the Bristol Olympus with a static thrust of 9,700 lb.; and the Rolls-Royce Avon at 6,500 lb. All these engines were listed for high production priority to meet the production requirements of the R.A.F.

In the propeller turbine field, the important production engines were the Armstrong-Siddeley Python and the Mamba by the same company. The former delivered 3,670 brake h.p. and 1,180 lb. of thrust, and the latter 1,320 brake h.p. and 400 lb. of thrust. The Bristol Proteus was rated at 3,300 brake h.p. and 1,200 lb. of thrust. Rolls-Royce, in addition to its straight jet types, had a small propeller-turbine type, the Dart, which, in its latest form, was good for 1,400 brake h.p. and 365 lb. of thrust.

A number of British manufacturers had established branches in Canada for the production of parts or of completed aircraft. From the military point of view, greatest interest centred around the operations of Canadair Ltd. in Montreal and Avro and de Havilland in Toronto. During 1952, Canadair Ltd., was producing U S.-designed Sabre jets for the Royal Canadian Air Force. These machines were fitted with U.S.-built jet engines, but it was planned to install the Canadian-built Orenda engine when it was in production. Avro at Toronto was producing the only Canadian-designed and built military aircraft in the country. The CF-100 was an all-weather two-seat fighter, designed for installation of two Avro Orenda engines. The prototype was flown in 1950 and the production model made its first flight in Sept. 1952. A new plant for the production of the Orenda engine was completed and put into operation in the autumn of 1952.

(S. P. J.)

United States. The outbreak of the Korean war in June 1950 found the United States with a 48-wing air force. As the air force climbed from 48 to 68 to 84, and then to 95 authorized wings, the increases in strength of the other services and in their money authorizations moved up correspondingly. In Oct. 1951 the joint chiefs of staff approved the 143-wing air force programme. Their decision, put into effect in July 1952 with the congressional appropriations acts for the fiscal year 1953, gave a 50% increase to the air force (126 combat wings plus 17 troop carrier wings) with no such corresponding increase for the other services. Thus, the idea of a balanced force as a roughly equal three-way division of funds among the services was modified This change in the concept of balanced forces was influenced by recognition of the revolution taking place in weapons and centred on atomic power. Although the build-up toward the 143-wing air force goal called for increases in personnel, equipment and installations, the larger air force called for only 14% more military personnel than the 95-wing air force which was achieved during 1952.

To increase the striking power of the United States far east air forces, two wings of the strategic air command's F-84 jet fighter aircraft were flown across the Pacific by refuelling in flight. Additional assignments of units and aircraft were made to the far east air forces and to the N.A.T.O. forces in Europe. With U.S. assistance, the number of useful modern combat aircraft at N A.T O.'s disposal, including F-84 jets, was increased considerably after July 1951. More modern operational bases became available, and by 1952 U.S. F-86 Sabres were stationed in the United Kingdom. Three U.S.A.F. bases in French Morocco were operational by the end of the year The air base at Thule, Greenland, begun in March 1951, was operational in Sept. 1952. This northernmost air base in the world, carved out of the frozen arctic, afforded a new and shorter route between the great capitals of the world and was of the greatest importance to future aviation, both military and civil.

The increase in air force units and activity called for an increase in production of aircraft. Total aircraft deliveries for the air force in July 1952 were more than five times that of June 1950, at the outbreak of the Korean war, and by the end of 1952 production was nearly seven times the production of July 1950.

Several new aircraft were seen during the year. The Boeing YB-52, an eight-engine jet swept-wing Stratofortress designed gradually to replace the intercontinental B-36, made its first flight on April 15. The swept-wing Convair YB-60, an eight-engine swept-wing jet version of the B-36, made its first flight April 18. The air force ordered production of an undisclosed number of delta-wing F-102 Convair jet interceptors, the first operational aircraft designed to fly at supersonic speeds. The F-102 was developed from the experimental Convair XF-92, the first delta-wing aircraft known to have flown successfully. Also in production in substantial quantities was the air force's only tanker aircraft, the Boeing KC-97.

It was announced in July that no additional B-36 heavy bombers would be ordered, although the B-36 would remain the backbone of the country's strategic air potential for some time to come.

For the sixth successive year the air force investigated reports of " flying saucers " but found no evidence that the frequency of the " sightings " revealed a planned threat to the security of the United States.

On March 25 two Republic F-84G Thunderjet fighter bombers dropped practice bombs on a target at a halfway point of a 4,775-mi. nonstop flight in which they were refuelled six times by Boeing KB-29 tankers. The flight from Langley air force base, Virginia, to Edwards air force base, California, and return, was accomplished in approximately 11 hr. 20 min.

In April the air force admitted that an F-84 jet fighter aircraft had been successfully launched from a B-36 bomber in flight.

As from July 1, 1952, the air force began using the nautical system of knots and nautical miles (instead of " miles per hour " and " statute miles ") as the official unit of measurement. The change was made to facilitate navigational measurements and standardize interservice usage.

Aviation history was made on July 31, with the arrival of two United States military helicopters at Prestwick, Scotland, at the end of the first crossing of the Atlantic by two Sikorsky H-19 helicopters. The flight of 3,410 mi. in five legs was completed in a flying time of 42½ hours at an average speed of 80 m p h.

As of April 1, the air force special weapons command, with headquarters at Kirtland air force base, New Mexico, became a part of the air research and development command, with headquarters at Baltimore, Maryland, to operate as the air force special weapons centre.

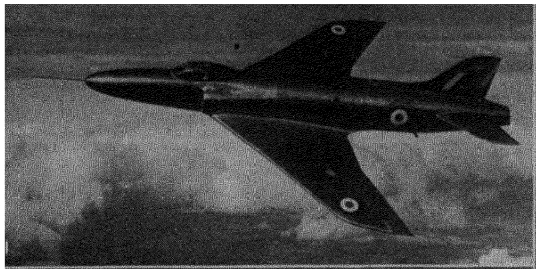
A new air force, the crew training air force, was established in March at Randolph air force base, Texas, under the air training command, to give advanced training in combat flying This included training 3-man crews for the Boeing B-47 Stratojet, 11-man crews for B-29 Superforts, and training in combat tactics for fighter-bomber pilots and fighter-interceptor teams.

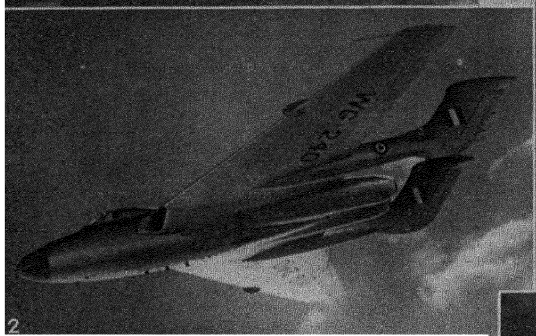
(H. S. Vg.)

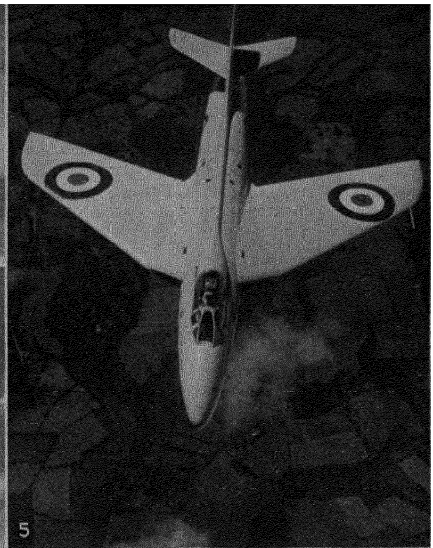
U.S.S.R. The biggest question in any evaluation of world air power in 1952, as it had been during the previous five years, was the standing of the air forces of the Soviet Union. The biggest gamble faced by military air planners of the western nations was the determination of what kind of aircraft they must build, and how many, to balance the threat of the growing Soviet air power.

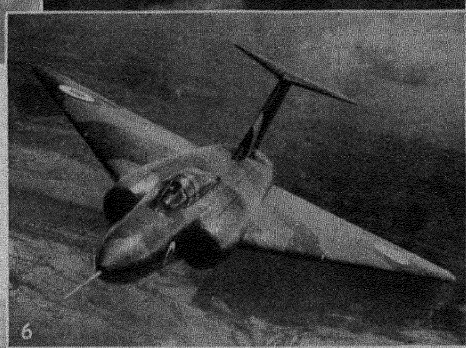
The President's Air Policy commission of 1947 (the Finletter board), basing its judgment upon intelligence then available, came to the conclusion that some time in 1952 the Soviet air force would be capable of making an air attack in force against U.S. industrial centres with atomic bombs. Whether or not such a level of competence had been reached by 1952 was a matter for speculation.

Guesses as to the total air strength of the U.S.S.R. ranged from 8,000 to 20,000 first-line combat aircraft, with the probability of equal numbers in reserve. It was known that high-grade aeronautical research had been going forward since the end of World War II, assisted by captured German technicians. It was known also that large and active production centres were in being and that they had been turning out aircraft continuously since the end of that war. A long-standing programme of training young pilots had undoubtedly supplied the Soviet air staff with many resourceful and well-trained airmen. There was every reason to believe that many of the MIG-15 fighters that had been encountered on the Korean front were flown by Soviet pilots. These were therefore accumulating actual battle experience, and the lessons



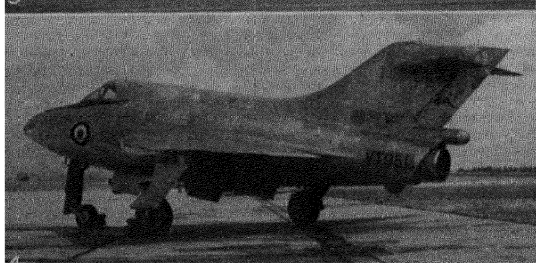


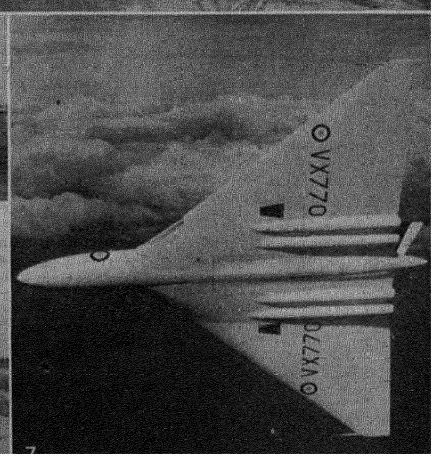




New British military aircraft announced in 1952. 1. Vickers Supermarine Swift, powered by a Rolls-Royce Avon turbojet: the first swept-wing fighter to operate successfully from an aircraft carrier. 2. De Havilland 110 twin-engined fighter with Avon turbojets. One of these aircraft fell apart at Farnborough air show on Sept. 6, causing 30 deaths. 3. Firefly A.S. Mark 7, which made its public debut at the naval air display at Lee-on-Solent, July 12, 1952. 4. Boulton-Paul P. 120 research delta-wing aircraft powered by a single Rolls-Royce Nene turbojet. 5. Hawker P.1067 Hunter fighter powered by one Avon turbojet. 6. Gloster G.A.5 Javelin multi-purpose fighter, powered by two Armstrong-Siddeley Sapphire turbojets, Britain's most powerful jet engines. This was the first operational delta-winged aircraft to go into production. 7. Avro 698 Vulcan with 4 Avon turbojets: the world's first four-engined delta-wing jet bomber.







of actual air warfare were being transmitted daily to air force headquarters. General Hoyt S. Vandenberg, chief of the air staff of the U.S. air force, summarized Soviet air power as a " highly organized and versatile complex of air forces, armed with first-class equipment, well-informed as to the latest techniques, and supported by a massive industrial and research structure over which it exercises the highest priorities."

The well-known MIG-15 still appeared to form the backbone of Soviet fighter squadrons, but several improved models were reported A twin-engined single-seated version was observed in considerable numbers in eastern Germany. This machine appeared to have two axial-flow engines in the wing roots and was apparently somewhat heavier and more powerfully armed than the original model. It was said to mount four 23-mm. or four 30-mm. cannon. The other variation was apparently a night fighter with a single engine (and possibly an afterburner). It was a two-seater type, probably for pilot and radar operator. The nose had been modified to permit the installation of radar gear above the engine air-intake.

Another fighter development reported early in 1952 was that of the MIG-19 This was said to be a short-bodied swept-wing fighter with tail surfaces carried high above the fuselage. It was said to bear a very close resemblance to the German Focke-Wulf-103, designed at the end of World War II by Kurt Tank.

In light bombers, the Ilyushin IL-26 with twin jet engines mounted in the wing nacelles appeared to be widely used but a slightly smaller version of the same type was also reported It was probably fitted with newer, higher-thrust engines which would give it increased performance over the IL-26. A wholly new type of light bomber which would eventually replace the IL-26 series was reported and identified as the EF-150. It was said to be the work of a group of German design engineers. It was described as a swept-wing monoplane with a span of more than 100 ft , powered by two axial-flow jet engines of more then 10,000-lb. thrust each, suspended in nacelles under the wings It was said to have a top speed in excess of 600 m.p.h and to be able to operate at high altitudes. It was handled by a crew of three.

The other important development appeared to be among heavy bombers. Until recently, the only reported long-range bombers of importance were the TU-4, a Soviet-built adaptation of the U.S. B-29 class bomber. In now seemed probable that a new machine, the TUG-75 long-range intercontinental bomber, was being developed It was not known if this machine had been built and flown but the general specifications had been reported The design was apparently based on the use of six turbine-driven propeller engines, probably a development of the German BMW-028 engines The fuselage was said to be long and slim, and the wings of high aspect ratio with a moderate degree of sweepback. Its range and other performance capabilities would probably be similar to those of the U.S. B-36 bomber.

It was also well known that the Russians were not depending entirely on long-range bombers of the TUG-75 class to deliver intercontinental air attacks. With the help of many of the former German V-2 experts, they were unquestionably developing long-range guided missiles of greater capability than the German V-2. There were many indications that experimentation with guided missiles was going forward at a high rate in the U.S.S.R.

Power Plant Developments. Little was known of the details of Soviet aircraft engine development but, judging from the reported performances of their aircraft and the examination of the few actual pieces of equipment that had come into U.N. possession in Korea, their engine designers were keeping up with design progress elsewhere. Not only were German jet engine technicians made available to the Soviet aircraft constructors at the end of World War II, but a number of British-built jet power plants were delivered to Soviet satellites in 1947 and 1948. There was no question but that they had been able to develop better engines than the ones they received from Great Britain at that time. They undoubtedly increased the thrust capability of these engines and, at the same time, developed engines of considerably greater thrust, probably approaching the 10,000 to 11,000-lb. class. The projected use of turbo-prop engines for the TUG-75 bomber had been mentioned, but how soon such engines might be available in quantity was unknown.

Other Countries. The so-called off-shore procurement programme under the Mutual Security agency, *i.e.*, the purchasing of fighter aircraft for N.A.T.O. from European manufacturers using U.S. money, was inaugurated in September. The plan was to build up N.A.T.O. air strength more quickly and to bolster up some of the lagging European aircraft industries. It was thought also that more aircraft could be obtained for the same money because of substantially lower labour and other production costs in Europe than in the United States. During the fiscal year 1953, the United States was to contribute $225 million to the programme, which was to be matched by $175 million from other N.A.T.O. countries.

The programme contemplated manufacture of aircraft by five outstanding European firms. The Dutch Fokker Aircraft company would finish an order of British Gloster Meteors and would switch over to production of Vickers-Armstrong Swifts. Rolls-Royce Avon engines for these machines would be provided by the Belgian Fabrique Nationale d'Armes. A French company, Avions Marcel Dassault, would build the MD-453 Mystère, a swept-wing interceptor fighter. This machine was to be powered by jet engines, the Atar 101D to be built by Société Nationale d'Etude et de Construction de Moteurs d'Aviation. The Fiat company of Italy would build both air frame and engine for the de Havilland Venom night fighter.

The 1953 programme had not yet been completed by Oct. 1952, but contract negotiations were under way and it was contemplated that three-year production schedules would be laid down. These aircraft, together with machines that were already being supplied to N.A.T.O. by U.S. manufacturers and by Canada, would greatly strengthen the western air forces in Europe. (*See* also ROYAL AIR FORCE.) (S. P. J.)

AIRPORTS. Late in 1952 the long-delayed decision of the Ministry of Civil Aviation in Great Britain was announced on the selection of the most suitable site for a new terminal airport in the London area. As was expected, the choice fell upon Gatwick, a privately owned airport established in the more immediate pre-World War II period and situated some 27 mi. from London on the London-Brighton electric railway. The announcement met with a mixed reception from several directions, from local town planning authorities to others more intimately concerned with air line operation. Although the problems set by the local terrain which beset the original constructors had been largely solved, the bisecting of a main arterial road and the proximity of the railroad embankment to the ends of the two proposed parallel runways of 7,000 ft. length each, provided potential new ones.

On a broader issue, the decision to establish a permanent secondary terminal to London airport to handle European and internal short-haul air traffic exposed the weakness of the preconceived theory that modern airports of sufficiently grand proportions could cope with hitherto impossible densities of traffic movements. This view was largely supported by the experience gained of high-density movement during the famous Berlin air lift. It was hardly realized then that the operation of intensive military air-freighting involved



The control tower at Luton airport, Bedfordshire, which was opened on Sept. 24, the tower is 52 ft. 6 in. from ground to roof level.

disciplines on the air crews and on traffic controllers that could not be applied to carriage by civil airlines and also that some reduction of the safety factor was justifiable in the Berlin air traffic pattern that could not be tolerated in civil aviation. The same shortcoming of high density traffic had also become evident elsewhere, for example in the New York area, where Newark airport had to have some restriction placed upon its movements during 1952.

A further consideration was the potentiality of helicopter aircraft for assimilating much of the short-haul and possibly even European range traffic and for saving time. Once the mechanical problems of this type were surmounted, the whole airport constructional and improvement policy of world civil aviation authorities might change overnight. For example, the construction of rings of major airports around large centres of population would no longer take pride of place in the civil aviation budget, for the helicopter could operate from much more modest bases situated at centres in or around the axes of the population areas served.

ACTIVITY AT AIRPORTS IN THE BRITISH ISLES 1951

	Aircraft Movements	Passengers Handled		Freight set down and picked up (short tons)
		Terminal	*Transit*	
London	49,341	766,345	29,747	14,457
Northolt	53,330	739,933	9,794	8,207
Belfast (Nutts Corner)	9,035	133,992	37	1,408
Glasgow (Renfrew)	20,858	139,562	37	496
Isle of Man (Ronaldsway)	9,819	94,823	7,549	355
Liverpool (Speke)	19,507	81,146	2,796	1,457
Lympne	14,061	33,686	99	13,102
Manchester (Ringway)	21,093	109,306	5,940	3,070
Prestwick	12,747	53,982	74,129	570
Southampton (Eastleigh)	16,537	48,555	1,247	334
Guernsey	12,505	81,570	10,417	686
Jersey	19,426	191,248	5,344	640
Dublin	9,908	273,326	2,668	4,268
Shannon	4,993	26,245	132,087	624

SOURCE: Ministry of Civil Aviation (London), and Aer Lingus (Dublin).

The foregoing considerations undoubtedly helped towards a noticeable slowing of the tempo of airport construction and development during 1952. Much of this was attributable, however, to the demands of military air programmes of various nations and to the prevailing financial stringency in many countries. In air matters, which included ground establishments, military and civil affairs were as ever inextricably mixed, and the general policy in 1952 was one of first things first, according to the length of the national purse. At the same time, airport projects of some magnitude that seemed likely to materialize in spite of current fiscal difficulties were noted during the year at places as far apart as Puerto Rico, Jerusalem, and Salisbury, Southern Rhodesia.

In the middle east, Jordan decided in 1952 to enlarge Kalandia airport, which served Jerusalem, and to make Amman a major terminal. One of the most rapid constructions of recent airport history was completed at Khalde, Beirut, where the Lebanese authorities were largely " sponsored " by the International Civil Aviation organization. This phenomenal project was in sufficient state of progress to come to the aid of international air lines when Farouk airport, Cairo, was shut down for political reasons early in 1952.

A rival to the new Livingstone airport, near the Victoria falls in Northern Rhodesia, appeared in the form of a new terminal at Salisbury in Southern Rhodesia. The main runway was completed and it was hoped that Kentucky, as the airport was named, would serve as an alternate for Comet jet airliner services. (C. F. As.)

United States. On June 30, 1952, the end of the sixth year of the U.S. 12-yr., $520 million Federal Aid Airport programme, a total of $183,145,451 in federal funds had been scheduled, of which $181,729,792 had been put under contract. Federal funds had been granted to 2,286 projects at 1,159 different airports. Of this total, 1,680 projects had been completed and 353 were under construction.

The Civil Aeronautics administration opened 45,000 mi. of ultra modern very-high frequency airways in the United States on June 1. These new Victor airways offered increased accuracy and simplicity in air navigation over much of the United States to all types of aircraft and would eventually largely replace the existing 70,000 mi. of airways based on the low or medium frequency, four-course radio ranges. Cornerstone of the Victor airways was the very-high-frequency omni-directional range, commonly referred to as the omni-range, which offered courses in all directions. By midyear the C.A.A. had commissioned more than 350 omniranges in the United States. At the request of the air force, action was taken to provide aircraft movement information service at 11 air route traffic control centres. (B. M. St.)

The new terminal at Isla Verde was planned to relieve congestion at the existing airport, Isla Grande, which served San Juan, the capital of Puerto Rico, and was reputed to be the busiest in Latin America, largely because of the insular position of the country which makes air traffic of paramount importance to national economy. (*See* AVIATION, CIVIL.) (C. F. As.)

AIR RACES AND RECORDS. A major innovation in 1952 was the institution in Britain of an individual air racing championship, based on points gained in certain nominated races. The first winner, who also received the Royal Aero Club Jubilee trophy, was W. P. I. Fillingham.

The British national air races for 1952 were staged at Newcastle-upon-Tyne airport, July 11-12. Four handicap events were held, all over two laps of a 32-mi. course. The King's cup race, for which the other events were eliminators, was won by C. Gregory in a Taylorcraft. The Air League challenge cup, now awarded for the fastest lap speed during the meeting, went to J. M. Wilson (Vampire, 500 m.p.h.).

The South Coast race (Aug. 2) was won by the veteran Wing Commander R. H. McIntosh (Proctor); Italian entrants were second and third.

Canberra jet bombers set up several more point-to-point records, notably the first double crossing of the north Atlantic in one period of daylight (Aug. 26). The pilot, Wing Commander R. P. Beamont, with two companions, used the same route as on previous similar flights, Belfast (Aldergrove)-Gander, returning in 3 hr. 25 min. (average 605·52 m.p.h.).



The crew of three—(left to right) P. Hillwood, D. A. Watson and R. P. Beamont—of the English Electric Canberra bomber that on Aug. 26 flew from Belfast to Gander, Newfoundland, and back.

On Sept. 28 a standard Canberra piloted by Wing Commander H. P. Connolly reached Nairobi from London in 9 hr. 55 min. On July 10 D. W. Morgan flew the prototype Vickers-Supermarine Swift from London to Brussels in 18 min. 3·3 sec. (average 665·9 m.p.h.), and, in a very different category (the 500-1,000 kg. class), T. W. Hayhow set up no fewer than 28 point-to-point records between London and various European cities in his Auster Aiglet. In the same class M. A. Conrad (Piper Pacer) achieved a distance of 2,460 mi. from Los Angeles to New York state. A world distance record for helicopters was claimed by E. Smith, who flew a Bell 47 from Fort Worth, Texas, to Niagara Falls (1,217 mi.) non-stop.

The U.S.S.R. held the great majority of the world's model aircraft records (*e.g.*, duration, 5 hr. 10 min.; distance, 221 mi.), and in 1952 claimed several for parachuting.

During the year public demonstrations of flying at supersonic speeds were made for the first time, and it was revealed that the U.S. Skyrocket had been flown " at more than 1,300 m.p.h. and at a height greater than 79,000 ft. " during its 1951 tests. These performances were not submitted as records, but on Nov. 20 Capt. J. Slade Nash of the U.S.A.F. flew a Sabre (F-86D) over an official course near the Salton sea (California) at 699·9 m.p.h.—29 m.p.h. higher than the four-year-old existing record. (*See* also GLIDING.) (G. D. H. L.)

ALASKA. Northernmost territory of the United States, separated from Siberian U.S.S.R. by the Bering strait. The Aleutian islands, extending 1,200 mi. westward from the extremity of the Alaskan peninsula, constitute part of the territory. Area: 586,400 sq.mi. Pop. (1952 est.): 160,000 excl. military, naval and coast-guard personnel. Chief towns (pop. 1950): Anchorage (11,254); Juneau (cap., 5,596); Fairbanks (5,771). Governor, Ernest Gruening.

History. The most important event occurring in Alaska in 1952 was the announcement by the Aluminium Company of America (Alcoa) of plans to construct a $400 million hydro-electric power station and aluminium reduction plant in the Taiya valley near Skagway. The construction of the project would be accompanied by the establishment of a new city of 20,000 inhabitants. The Alcoa project, in addition to the $40 million pulp mill already under construction at Ketchikan and the nearly completed plywood mill at Juneau, promised further stabilization of the economy of southeastern Alaska, previously dependent on the seasonal salmon and halibut fishing industries.

Constructional activity continued to reach new high levels with defence construction maintaining the lead. Projects looking towards the continued development of the territory were undertaken or further pursued, particularly in housing, road building and airport and harbour improvements. Railway facilities underwent extensive rehabilitation and construction proceeded on the large hydro-electric installation at Eklutna near Anchorage. A statehood bill for Alaska was passed in the U.S. House of Representatives in 1951 but failed of passage in the Senate in 1952.

Education. Schools (1951-52): elementary and secondary pupils 20,936, teachers 748.

Finance. In the fiscal year ending June 30, 1952, territorial tax collections amounted to $15,100,543, an increase of 34·15% over the previous year. The territorial treasury had a net cash balance of $9,007,492 as of June 30, 1952.

Agriculture. Total value of crop and livestock production in 1952 was $4,870,960, compared with $2,186,233 for the previous year.

Fisheries. The salmon pack, considered the largest in the world, totalled 3,505,500 cases in 1952 with a value of about $90 million. The halibut, shrimp, crab and cod fishery brought the total value of the sea food packed to more than $110 million.

Industry. Production (1950): coal 412,000 tons; gold 289,000 oz. A large iron ore deposit was discovered near Klukwan. (ER. GR.)

ALBANIA. People's republic in the western part of the Balkan peninsula bounded N. and E. by Yugoslavia, S. by Greece and W. by the Adriatic sea. Area: 11,100 sq.mi. Pop.: (1930 census) 1,003,097; (mid-1950 est.) 1,200,000. Language: Literary Albanian and two spoken dialects, the Gheg north of the river Shkumbi and the Tosk in the south. Religion: Moslem 65%, Greek Orthodox 23%, Roman Catholic 11%. Chief towns (1949 est.): Tirana (cap., 40,000); Scutari or Shkodër (30,000); Koritsa or Korcë (28,000); Elbasan (18,000). Chairman of the presidium of the People's Assembly, Omer Nishani; prime minister, minister of foreign affairs and of national defence, General Enver Hoxha.

History. Albania lived through another year of its precarious existence as a Soviet satellite state cut off from the rest of the eastern European bloc without any important change of its political or economic structure. There was ample evidence that the Communist government was so preoccupied with the maintenance of the régime in power and with the problems arising from the country's isolation that it was unable to make any marked progress towards its main aims—collectivization of agriculture and industrialization. This was borne out during the 2nd congress of the Albanian Workers' (Communist) party held in Tirana in March and April. The prime minister, General Hoxha, who made the principal speech declared: " We have to admit that the Two-Year Agricultural plan was not properly organized or carried out . . . This has resulted in a decrease in the individual production of the peasants." This Two-Year plan (1949-50) should have been followed by a Five-Year plan, which was in fact officially inaugurated in 1951, but owing to the régime's political instability it was not actually launched until the summer of 1952, leaving the government three and a half years in which to reach its goals. It was not surprising therefore that the Communist party congress should have been held in an atmosphere of almost unrelieved gloom, or that it should have been followed by the dismissal of four ministers for inefficiency, including Manush Muftiu, deputy premier and member of the Politburo, and Josif Pashko, minister of the state control and secretary of the central committee of the party.

The theme of the country's isolation was underlined by frequent announcements throughout the year about the activities of hostile agents introduced illegally into the country by Albania's neighbours Greece and Yugoslavia, supported by Great Britain and the United States. The government also complained of continuous frontier violations by Greek and Yugoslav troops, including armed raids on frontier villages.

Meanwhile the U.S.S.R. continued to exploit the Albanian economy to its own advantage without committing itself to Albania's defence. It consistently refused to grant Albania a mutual defence treaty. Nevertheless, although no official information was forthcoming, it became clear that there was a change in emphasis in Soviet-Albanian relations which was also reflected inside the Albanian Communist hierarchy For the first time the Albanian press referred to the presence of non-Russian technicians in Albanian industries (Bulgarian experts were specifically named), a development which gave rise to the belief that the Soviet government considered Albania too isolated and exposed for a large number of Soviet engineers and technicians

The eighth anniversary of the liberation of Albania and the 40th anniversary of its independence were celebrated at Tirana on Nov. 28. A Soviet delegation headed by Colonel-General K. N. Galitsky was present. A monument to Ismail Kemal, who in 1912 proclaimed the country's independence, was unveiled at Vlore (Valona).

No settlement was reached in the dispute between Albania and Great Britain over the Corfu Channel mining incident in which 44 British lives were lost in 1947. (M. MACK)

Education. Schools (1949) elementary 1,910, pupils 162,000, higher elementary 145, secondary 20, total pupils 19,140, a teachers' college was opened at Tirana in 1946, Enver Hoxha announced in Moscow in Oct 1952 that Albania had five institutions of higher education

Agriculture. Main crops ('000 metric tons, 1935-39 average, 1947 estimates in brackets) maize 128 7 (140), wheat 41 (54), oats 10 3; barley 4 7, olives 17, tobacco (1939-41) 2 5 Livestock ('000 head, 1938, 1946 est in brackets) sheep 1,573 9 (1,548), goats 923 3 (854), cattle 391 2 (345), pigs 15 3 (35), horses 54 4 (50), asses 44 6 (40)

Industry. Crude oil output (1951 est) 157,000 metric tons A textile works was opened at Fieri in Nov 1951 with a planned yearly production of 20 million m of cotton fabrics A sugar refinery was completed in 1951 at Malik with a production capacity of 10,000 tons Lignite, copper ore, chromium ore, pyrites and bauxite were extracted and exported in small quantities

Finance. Budget (million leks, 1950 actual, 1951 est in brackets) revenue 6,966 (9,500), expenditure 6,426 (9,100) including 2,252 (3,607) invested in the national economy Monetary unit, *lek* with official exchange rates of L 12 50 to the rouble, L 140 00 to the pound sterling and L 50 00 to the U S dollar.

Transport and Communication. Roads (1949) 1,766 mi Licensed motor vehicles (Dec. 1950), cars 500, commercial 1,240 Railways (1951) *c* 81 mi *i e*, normal gauge lines linking Duresi (Durazzo) with Tirana and Elbasan via Kavaja-Peqini Radio receiving sets (1950) 40,025

ALEXANDER OF TUNIS, HAROLD RUPERT LEOFRIC GEORGE ALEXANDER, 1st Earl, of Errigal, British field marshal (b. Dec. 10, 1891), was educated at Harrow and Sandhurst and commissioned in 1911, in the Irish Guards. He served on the western front during World War I, was mentioned in despatches five times, wounded three times and received the D.S.O. and M.C. At the beginning of World War II he commanded the 1st division in France and was responsible for the evacuation of over 300,000 men of the British expeditionary force from the beaches of Dunkirk. For a time he was g.-o.-c.-in-c., southern command, but in March 1942 he went to Burma where he was in charge of the retreat from that country. In August of the same year he was appointed c.-in-c., middle east, and it was under him that the German and Italian armies were driven out of Libya. In Feb. 1943 he became deputy c.-in-c., north Africa, under General Dwight D. Eisenhower and later, in Nov. 1944, supreme Allied commander in the Mediterranean. On June 4, 1944, Rome was taken by his armies and in May 1945 Field Marshal Alexander, as he then was, signed an armistice with the defeated German commander in Italy.

In 1946 he was created a viscount and in the same year took office as governor-general of Canada. On Oct. 1, 1947, the powers of the governor-general of Canada were increased by letters patent signed by George VI and the holder was given full royal powers. In April 1948 Viscount Alexander visited Britain and was invested with the Order of the Garter. His term of office as governor-general was twice extended, but on Jan. 28, 1952, it was announced that he was to become British minister of defence from March 1. At the same time an earldom was conferred on him and, on relinquishing his post as governor-general, he took the title of Baron Rideau of Ottawa and Castle Derg in the county of Tyrone and Earl Alexander of Tunis. In June he went to Korea and Japan for military discussions. He left Tokyo for the U.S. and Canada on June 18 to confer with General Omar Bradley. Lord Alexander returned to London on June 25.

ALGERIA. French territory of north Africa, between Morocco (west) and Tunisia (east), with the status of government-general of the French Union. Total area: 846,124 sq.mi. administered in two parts: Northern Algeria (80,919 sq.mi.), comprising the overseas *départements* of Algiers, Oran and Constantine; and the four territories of Southern Algeria (770,159 sq.mi.). Pop. (1948 census): 8,681,785 including 816,993 (9·4%) in the southern territories. Arabs and Berbers, who are Moslem, constitute 86 7% of the population, Europeans (1936) 987,252, mainly Roman Catholic; Jews (1949 est.) 130,000. Administration: Algerian Assembly, 120 members elected by two colleges (first college, all citizens of French status and Moslems distinguished by military, university, administrative or judicial qualifications; second college, all other Moslem citizens). The assembly manages Algerian affairs in agreement with the governor-general, who has wide powers. Chief towns (1948 census): Algiers (cap. 315,210); Oran (256,661); Constantine (118,774); Bône (102,823); Tlemcen (69,668). Governor-general, Roger Léonard.

History. In 1952 the Algerian Assembly expressed its hope for wider economic, administrative and political autonomy, but at the same time asked for further financial help from France. A French periodical launched a campaign for " the nationalization of the Sahara ". This meant that France should have direct control over the Saharan territories, many of which were in fact controlled from Algeria. Protests were voiced in Algiers.

In April the 52 persons accused of plotting against the security of the state (the Blidah conspiracy) were tried by the Algiers court, and demonstrations took place. Messali Hadj, leader of the extremist Mouvement pour le Triomphe des Libertés Démocratiques (M.T.L.D.), was sentenced to reside under surveillance in France. The Front Algérien de la Liberté, which the Communist party, the M.T.L.D. and the U.D.M.A. (Union du Manifeste Algérien, led by Ferhat Abbas) formed on Aug. 5, 1951, as a protest against alleged pressure by the authorities at the general election, was abortive because of wide divergence of opinion and interest among its components.

The four-year plan, taking account of the increase in population, made considerable provision for the development of agricultural resources and envisaged giving certain workers professional training for jobs in France. The harvest was to a large extent enough for local requirements. New irrigation schemes were completed and the total capacity of reservoirs amounted to 730,000 cu.m. Algerian workers continued to emigrate to France and by the end of 1952 their number was estimated at 200,000.

Education. Schools (1951): pupils, primary 350,000, secondary 24,000, technical 3,000. University of Algiers, students 5,000.

Agriculture. Main crops (1951, '000 metric tons) wheat 1,061, barley 575; oats 152; citrus fruits 270; olive oil 18, figs 18; dates 20; potatoes 200; other vegetables 250; tobacco 20; alfa grass 250; cork 50. Wine 13,743,000 hl. Livestock ('000 head) cattle 800, sheep 5,300, goats 3,200; horses 220; mules 230; asses 330; camels 150

Industry. Mineral production (1951, '000 metric tons): coal 250; iron ore 2,822, phosphates 769; zinc 21 Industrial production (1951, '000 metric tons) cement 448, superphosphates 120; paper 25, pig iron 6·0, copper wire 7 0, matches (million boxes) 173; electricity (million kwh) 665

Finance. Budget (1951-52 est) balanced at Fr. 72,000 million Note circulation (Dec 1951) Fr 71,000 million Algerian franc = metropolitan franc.

Foreign Trade (1951, million Fr). Imports 201,126 (incl 151,778 from France); exports 121,437 (incl 80,266 to France and 11,600 to Great Britain) Principal exports wine, cereals, iron ore, vegetables, citrus fruits, phosphates.

Transport and Communications. Railways (1950) 4,500 km ; state roads 8,000 km , secondary roads 26,000 km Motor vehicles licensed (1950) 173,000 Ships entered (1951) Algiers 2,185, Oran 1,519 Aircraft landed 10,108

See *Industrialisation de l'Afrique du Nord* (Paris, 1952). (HU. DE.)

ALIENS. The number of aliens registered in the United Kingdom on June 30, 1952, was 384,488 (males 229,917, females 154,571), of whom 128,546 were living in the metropolitan police district (London). The figure on June 30, 1951, had been 411,238 and on Jan. 1, 1952, was 401,151. The principal nationalities represented and the number of each on June 30, 1952, compared with the corresponding figures at the same date in 1951 were: Austrian 9,243 (10,348); Czechoslovak 4,441 (6,103); Danish 4,142 (5,255); Dutch 8,524 (9,360); French 15,225 (16,342); German 42,433 (45,285); Hungarian 4,101 (4,760); Italian 31,379 (25,396); Latvian 11,934 (13,436); Lithuanian 5,436 (6,388); Norwegian 5,258 (5,485); Polish 129,575 (143,253); Russian, including White Russian, 24,477 (26,078); Spanish 4,210 (4,016); Swiss 12,579 (12,933); U.S. 17,318 (17,400), Yugoslav 8,743 (9,431). The total included more than 7,000 aliens to whom no nationality could be attributed.

Among aliens not required to register and therefore not included in these figures were children under 16 years of age; members of the diplomatic and consular services of foreign governments; certain officials of international organizations; members of the U.K. armed forces and of the North Atlantic treaty forces on duty in the U.K.; British protected persons; and tourists and other visitors who spent less than three months in the United Kingdom. The number of incoming foreign travellers to the United Kingdom in the 12 months up to Sept. 30, 1952, was 811,211, as compared with 756,579 for the twelve months previous to Sept. 30, 1951. Of these 262,226 arrived by air and 548,985 by sea. In July 1952, 136,245 foreigners landed at U.K. ports and 118,430 embarked. Figures for July 1951, were 128,015 and 106,772.

In April 1952 the immigration inspection of passengers coming from Northern Ireland and the Republic of Ireland to Great Britain was abolished. Foreigners who entered the United Kingdom from the Irish republic became automatically subject to restrictions on their length of stay and freedom to take employment by virtue of the provisions of the Aliens (No. 2) order, 1952 (Statutory Instrument 636/1952). In the same month an arrangement was made with the other signatories of the Brussels treaty—Belgium, France, Luxembourg and the Netherlands—to waive the requirement of individual passports for persons under the age of 21 travelling in a party of from 5 to 50 persons (excluding the leader) from one of the five countries to visit any of the others. Consular conventions with the United States and Sweden came into force in Sept. 1952. In October the United Kingdom concluded a visa abolition agreement with Turkey. As a result of earlier agreements the nationals of the following countries were not required to obtain visas to travel to the United Kingdom: Belgium, Cuba, Denmark, France, Iceland, Italy, Liechtenstein, Luxembourg, Monaco, the Netherlands, Norway, San Marino, Sweden, Switzerland and the United States.

During the first nine months of 1952 nearly 26,000 permits were issued to allow foreigners to come and work in the United Kingdom for periods of varying length. Nearly 15,000 of these were for domestic employment in private households, hospitals and institutions, 2,700 for posts in industry and commerce and 2,700 for entertainment engagements. In addition, the recruitment of Italian men to work in undermanned industries continued.

From Jan. 1, 1952, the 15,000 former members of the German armed forces, 8,500 former Ukrainian prisoners of war and 1,000 Italian former prisoners of war, who volunteered to remain in the U.K. to work in agriculture instead of accepting repatriation at the end of 1948, were free to take any work they could obtain. In June 1952, former members of the Polish forces who were allowed to remain in the United Kingdom after demobilization, but who were subject to certain restrictions on their freedom to set up in business or to take employment, were released from these. The 77,000 foreigners, mostly of Polish or Baltic origin, who were temporarily accommodated in displaced persons' camps on the continent immediately after the end of World War II and had subsequently—before 1951—been admitted for employment in the United Kingdom with a view to settlement, continued to become free to take any work they could obtain as soon as they had completed three years' residence.

Between Jan. 1 and Oct. 1, 1952, 4,171 new applications for naturalization were lodged, as compared with 3,576 for the same period in 1951. Certificates granted during the same period numbered 2,533. During the same period 3,712 foreign women who had married British subjects and 695 minors acquired British nationality by registration as citizens of the United Kingdom and colonies, as compared with 4,528 and 768 respectively during the first nine months of 1951. (T. G. W.)

United States. The seven largest nationality groups of aliens who reported in 1951 were: Mexico (324,104); Italy (229,062); Canada (217,397); Poland (213,319); Great Britain (192,723); U.S.S.R. (126,010), and Germany (118,003)

Naturalizations. The number of naturalizations took a sharp upward trend in the year ended June 30, 1952, to 88,655 or 33,939 higher than the 54,716 naturalized in the fiscal year 1951. One factor that changed the trend was the immigration of war brides and displaced persons after the end of World War II. Many of these immigrants had lived in the United States long enough to meet the residence requirements and were becoming eligible for naturalization.

Of the 88,655 persons naturalized, 26,920 were naturalized under the general provisions of the nationality laws. Two-thirds of those who received certificates were persons married to citizens.

Three-fourths of the 2,163 petitions denied were rejected because the petitioners withdrew or failed to prosecute the petition. Another principal cause of denial was lack of knowledge and understanding of the fundamentals of the

NON-CITIZENS NATURALIZED IN THE U S , 1949-52
(Years ended June 30)

Former nationality	1952	1951	1950	1949
British	14,993	10,867	12,697	13,284
German	13,538	5,439	6,065	5,777
Canadian	10,004	5,872	5,882	5,347
Italian	9,720	5,975	8,743	8,301
Polish	5,858	3,100	3,793	4,371
U.S S.R	2,851	1,830	2,122	2,752
Mexican	2,496	1,969	2,323	2,227
Filipino	1,813	1,595	3,257	3,478
Other	27,382	18,069	21,464	21,057
Total	88,655	54,716	66,346	66,594

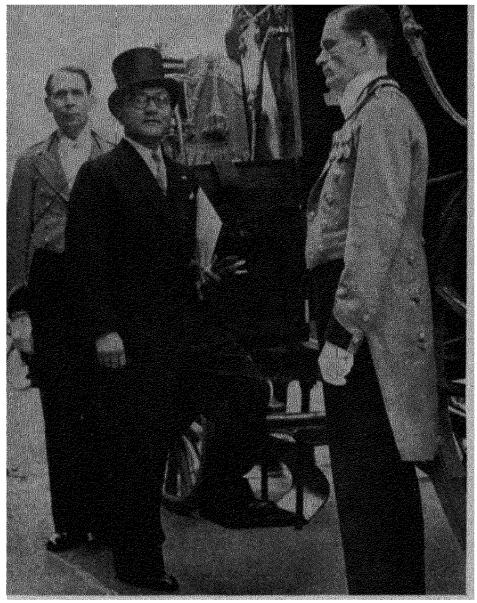
history, principles and form of government of the United States. All except 4 of the 279 certificates of naturalization revoked during the year were initiated by the foreign service of the State Department because naturalized citizens became residents of foreign states within five years of naturalization.

New Legislation. The major legislative project of the fiscal year continued to be the work begun early in 1950 on omnibus bills having for their purpose the recodification, and in many particulars the revision, of existing laws relating to immigration and nationality. Consideration of bills dealing with various phases of immigration and naturalization was deferred because the general omnibus bill was looked upon as likely to render separate public enactments unnecessary. (*See* also IMMIGRATION AND EMIGRATION.) (A. R. MACK.)

ALIMENTARY SYSTEM: *see* STOMACH AND INTESTINES, DISEASES OF.

AMBASSADORS AND ENVOYS. The following is a list of the chief diplomatic representatives to and from Great Britain, Dec. 31, 1952.

To Great Britain	*Country*	*From Great Britain*
*Shah Wali Khan	Afghanistan	*Eric Lingeman
*Domingo A. Derisi	Argentina	*Sir Henry Mack
*Lothar Wimmer	Austria	*Sir Harold Caccia
*Vicomte Obert de Thieusies	Belgium	*Sir Christopher Warner
*Justo Rodas Eguino	Bolivia	*J. Garnett Lomax
*Samuel de Souza Leão Gracie	Brazil	*Sir Geoffrey Thompson
Naĭden K. Nikolov	Bulgaria	J. E. M. Carvell
*U Ka Si	Burma	*R. L. Speaight
*Enrique Balmaceda Toro	Chile	*C. N. Stirling
(vacant)	China	†L. H. Lamb
*José Maria Villarreal	Colombia	*Sir Gilbert MacKereth
†Guillermo Padilla Castro	Costa Rica	H. B. Livingstone
*Roberto González de Mendoza y de la Torre	Cuba	*Adrian Holman
*Josef Ullrich	Czechoslovakia	*Sir Philip Broadmead
*Count Eduard Reventlow	Denmark	*E. A. Berthoud
*Themistocles Messina	Dominican Rep.	*Stanley H. Gudgeon
*Augusto Dillon	Ecuador	*Norman Mayers
*Mahmoud Fawzi	Egypt	*Sir Ralph Stevenson
*Ato Abbebe Retta	Ethiopia	*Douglas Busk
Ernst Ossian Soravuo	Finland	Sir Andrew Noble
*René Massigli	France	*Sir Oliver Harvey
‡Hans Schlange-Schöningen	Germany, West.	§Sir Ivone Kirkpatrick
*Leon Victor Melas	Greece	*Sir Charles Peake
Francisco Linares Aranda	Guatemala	W. H. Gallienne
Love O. Léger	Haiti	D. J. Mill Irving
‖Archbishop William Godfrey	Holy See	Sir Walter Roberts
Tiburcio Carías	Honduras	G. E. Stockley
Imre Horváth	Hungary	R. M. A. Hankey
Agnar Klemens Jónsson	Iceland	J. D. Greenway
*Subandrio	Indonesia	*Sir Derwent Kermode
*Emir Zeid ibn al-Hussein	Iraq	*Sir John Troutbeck
*Frederick H. Boland	Ireland	*Sir Walter Hankinson
*Eliahu Elath	Israel	*Sir Francis Evans
*Manlio Brosio	Italy	*Sir Victor Mallet
*Shunichi Matsumoto	Japan	*Sir Esler Dening
*Fawzi Mulki	Jordan	*G. W. Furlonge
Myo Mook Lee	Korea	W. G. C. Graham
Victor Khouri	Lebanon	E.A.Chapman-Andrews
*Henry Ford Cooper	Liberia	*C. F. Capper
(vacant)	Libya	Sir Alec Kirkbride
André Clasen	Luxembourg	Geoffrey Allchin
*Francisco de Icaza	Mexico	*John W. Taylor
*Shanker Shumshere Jung Bahadur Rana	Nepal	*Christopher H. Summerhayes
*Dirk Uipko Stikker	Netherlands	*Sir Nevile Butler
Rubén Darío	Nicaragua	H. J. Evans
*Per Preben Prebensen	Norway	*Sir Michael Wright
Juan R. Morales	Panama	E. A. Cleugh
*Pedro Godinot de Vilaire	Paraguay	*Ian Henderson
(vacant)	Persia	(vacant)
*Don Alberto Freundt	Peru	*Sir Oswald Scott
José E. Romero	Philippines	F. S. Gibbs



Shunichi Matsumoto, the first postwar Japanese ambassador to London, on his way to present his credentials to Queen Elizabeth II.

To Great Britain	*Country*	*From Great Britain*
*Jerzy Michałowski	Poland	*Sir Francis Shepherd
*Ruy Ennes Ulrich	Portugal	*Sir Nigel Ronald
Nicolae Cioroiu	Rumania	W. J. Sullivan
José Arturo Castellanos	Salvador, El	R. H. Tottenham-Smith
*Sheikh Hafiz Wahba	Saudi Arabia	*George C. Pelham
*Duke of Primo de Rivera	Spain	*Sir John Balfour
*Bo Gunnar R. Hägglöf	Sweden	*R. B. Stevens
Henri de Torrenté	Switzerland	Sir Patrick Scrivener
*Faiz El-Khouri	Syria	*W. H. Montagu-Pollock
*Phra Bahiddha Nukara	Thailand	*G. A. Wallinger
*Hüseyin Ragip Baydur	Turkey	*Sir A. Knox Helm
*Andrey A. Gromyko	U.S.S.R.	*Sir Alvary Gascoigne
*Walter Sherman Gifford	United States	*Sir Roger Makins (designate)
*Enrique E. Buero	Uruguay	*Douglas F. Howard
*Carlos Sosa-Rodriguez	Venezuela	*Sir Robert Urquhart
Nguyên Khac Ve	Vietnam	**H. A. Graves
Hasan Ibrahim	Yemen	M. B. Jacomb
(vacant)	Yugoslavia	*Sir Ivo Mallet
—	United Nations	¶Sir Gladwyn Jebb

* Ambassador. Unstarred, Minister. † Chargé d'Affaires. ‡ Consul General. § High Commissioner to German Federal Republic. ‖ Apostolic Delegate. ¶ Permanent U.K. representative to the United Nations. ** Also accredited to Cambodia and Laos.

The following is a list of high commissioners within the Commonwealth of Nations, Dec. 31, 1952.

From Australia to	
Canada	Francis Michael Forde
Ceylon	Arthur Roden Cutler
Great Britain	Sir Thomas Walter White
India	W. R. Crocker
New Zealand	(vacant)
Pakistan	L. E. Beavis
South Africa	William Roy Hodgson
From Canada to	
Australia	Colin Fraser Elliott
Great Britain	Norman A. Robertson
India	Escott M. Reid
New Zealand	Alfred Rive
Pakistan	Kenneth Porter Kirkwood
South Africa	Terence W. L. MacDermot

From Ceylon to	
Australia	J Aubrey Maartensz
Great Britain	Edwin Aloysius Perera Wijeyeratne
India	C Coomaraswamy
Pakistan	T B. Jayah
From Great Britain to	
Australia	Sir Stephen Holmes
Canada	Sir Archibald Nye
Ceylon	Sir Cecil Syers
India	Sir Alexander Clutterbuck
New Zealand	Sir Roy Price
Pakistan	Sir Gilbert Laithwaite
South Africa	Sir John Le Rougetel
Southern Rhodesia	I M R Maclennan
From India to	
Australia	Prince S Duleepsinghji (resident in Australia)
New Zealand	
Canada	R. R Saksena
Ceylon	C P N Singh
Great Britain	Bal Gangadhar Kher
Pakistan	Mohan Sinha Mehta
From New Zealand to	
Australia	G E L Alderton
Canada	Thomas Charles Atkinson Hislop
Great Britain	Frederick Widdowson Doidge
From Pakistan to	
Australia	Yusuf A Haroon (resident in Australia)
New Zealand	
Canada	M Ikramullah
Ceylon	Haji Abdus Sattar Saith
Great Britain	M A H Ispahani
India	Shaib Qureshi
From South Africa to	
Australia	(vacant)
Canada	Alfred Adrian Roberts
Great Britain	Albertus Lourens Geyer
Southern Rhodesia	Terence Henry Eustace
From Southern Rhodesia to	
Great Britain	Kenneth M Goodenough
South Africa	Anthony Drinkwater Chataway

AMERICAN LITERATURE. Two American literary events of unusual significance in 1952 were the publication of *The Revised Standard Version of the Holy Bible* and *Great Books of the Western World.* Although most nonfiction writers concentrated on the American scene, there were several excellent reports on world affairs. William L. Shirer wrote *Midcentury Journey*, a survey of western Europe's years of conflict. Leland Stowe's *Conquest by Terror* described the situation in the satellite countries of the U.S.S.R. Ray Brock wrote *Blood, Oil and Sand* on the middle east, and Justice William O. Douglas recorded his visit to China and his views on the far east in *Beyond the High Himalayas.* Thomas E. Dewey's *Journey to the Far Pacific* approved U.S. foreign policy but stressed the dangers of trying to force Asia into western moulds. Among the few books on the Korean conflict were *Battle Report* by Walter Karig and others; and *The Hidden History of the Korean War*, by I. F. Stone, an unorthodox analysis. Many books about the American scene were expert analyses from special points of view. Robert Morrison MacIver, a sociologist, in *Democracy and the Economic Challenge* argued for a mixed economy. George A. Graham, a political scientist, presented a thoughtful and scholarly discussion of corruption and moral standards in *Morality in American Politics.* Reinhold Niebuhr, a theologian, in *The Irony of American History*, surveyed the failure of democratic accomplishments to keep pace with democratic theories. David Riesman, another sociologist, and Nathan Glazer, in *Faces in the Crowd*, anatomized the American personality. Herbert Agar, in *A Declaration of Faith*, urged the historical precedent of respect for the individual conscience.

Of books about the natural world, George Gamow's *The Creation of the Universe* posited a continuous evolutionary process, and Harold C. Urey's *The Planets* discussed a theory of the origin of the solar system. Henry Chapin and F. G. Walton Smith traced the effect of the Gulf stream on climate and economy in *The Ocean River.* Marston Bates' *Where Winter Never Comes* offered a charming apologia for life in the tropics.

An important work on American art was Hugh Sinclair Morrison's *Early American Architecture* which covered the period from the first colonial settlements of the Atlantic coast, the south, and west up to national times. Arnold Hauser published a two-volume *Social History of Art.* Lloyd Goodrich wrote an excellent appreciation of a U.S. painter in *John Sloan.* Barry Ulanov's *A History of Jazz in America* was encyclopaedic in its scope and detail.

The field of biography and reminiscences was dominated by campaign literature. Prominent were Noel Fairchild Busch's *Adlai E. Stevenson of Illinois* and John Gunther's *Eisenhower, the Man and the Symbol.* The most controversial book of memoirs was Whittaker Chambers' *Witness*, a political and spiritual autobiography. Robert Payne recorded the life and achievements of Charles Chaplin in *The Great God Pan.*

Edwin Thomas Martin wrote *Thomas Jefferson Scientist*, and Howard Swiggett's *The Extraordinary Mr. Morris* gave an unbowdlerized picture of the founding father. Zoltán Haraszti, in *John Adams and the Prophets of Progress*, drew on a mass of hitherto unpublished marginalia as well as published writings. Douglas Southall Freeman added a fourth volume to his monumental *George Washington, A Biography.* A one-volume biography, *Abraham Lincoln*, by Benjamin P. Thomas appeared, and another important item in the Lincoln bibliography was Thomas Harry Williams' discussion of the Civil War president as a military strategist in *Lincoln and his Generals.* A Civil War biography which had considerable popular appeal was Nina Baker's *Cyclone in Calico*, the story of Mary Ann Bickerdyke, the first field hospital nurse in U.S. history.

The fifth volume of *The Papers of Thomas Jefferson* appeared, edited by Julian Boyd and others. Elting E. Morison edited volumes v and vi of *The Letters of Theodore Roosevelt*, covering the years of the big stick. Herbert Hoover's *Memoirs. The Great Depression, 1929-1941* dealt with the origins of the depression, the campaign of 1932 and its aftermath. Arthur H. Vandenberg, Jr., edited *The Private Papers of Senator Vandenberg. Mr. President* was an authorized selection by William Hillman from the personal letters, diaries and papers of Harry S. Truman. Samuel I. Rosenman's *Working With Roosevelt* was a leisurely reminiscence of Franklin D. Roosevelt. Irving Dilliard collected papers and addresses of the jurist Learned Hand into *The Spirit of Liberty. The Diary of George Templeton Strong*, edited by Allan Nevins and Milton Halsey Thomas, gave the reader a contemporary eyewitness report on mid-19th century New York. Among books of broader scope were Herbert Joseph Muller's *The Uses of the Past*, which presented profiles of former societies; and *Economic Forces in American History*, in which George Soule organized vast statistical information.

Fiction. The most welcomed novel of the year was Ernest Hemingway's short work, *The Old Man and the Sea*, the spare, and often moving, story of an old fisherman's venture beyond known waters to catch a giant marlin. John Steinbeck returned to American readers with *East of Eden*, a large uneven novel which combined a history of his own family in the Salinas valley with portraits of a very good man and a very bad woman. Ralph Ellison's first novel, *Invisible Man*, roused a good deal of interest.

The most conspicuous group of writers were southerners. Elizabeth Spencer's *This Crooked Way* had considerable distinction. John Burress, in *Little Mule*, pictured the struggle of a little boy in a poverty-stricken family to take his dead father's place on the farm. *The Alexandrians*, by

Charles Mills, covered 100 years in the life of a small aristocratic community.

The year saw *Sironia, Texas*, by Madison Cooper, represented as the longest American novel ever published. But it also saw a solid group of excellent books distinguished for their conciseness. Jean Stafford's *The Catherine Wheel* was a controlled and effective study of a woman's relationship to the children of a man she might marry. Wright Morris, in *The Works of Love*, created a striking character who fumbles for and cannot grasp the love of a woman or a son. Foibles of both the academic world and the liberal intellectual were anatomized in Mary McCarthy's *The Groves of Academe* Isabel Bolton portrayed with skilful delicacy an old woman reviewing her life in *Many Mansions*

Of novels whose chief interest lay in their special settings or milieux, Edna Ferber's *Giant* was the most sensational, largely because of the animosity it aroused in the inhabitants of Texas, the subject of her criticism Pat Frank wrote about a heroic retreat from a Korean front in *Hold Back the Night*, one of the year's few war novels. Thomas Sterling, in *Strangers and Afraid*, created characters far more complex and real than the usual sociological Negro types.

The most popular of the year's historical novels was Thomas Bertram Costain's *The Silver Chalice*, a story of Joseph of Arimathaea and the Holy Grail. Truman Nelson's *The Sin of the Prophet* was a fictionalized account of Theodore Parker and the Abolitionists in Boston. *The Gown of Glory*, by Agnes Sligh Turnbull, concerned a preacher in a small Pennsylvania town during the early 20th century. Clyde Brion Davis' *Thudbury, an American Comedy* was social history of the same era as seen in the life of an upstate New York magnate.

Scholarship. The year in scholarship brought a number of biographies and critical studies of major American writers. Leon Howard, in *Victorian Knight-Errant*, studied the early literary career of James Russell Lowell Several items were added to the growing Melville library· Lawrance Thompson, in *Melville's Quarrel with God*, argued a new interpretation of his whole literary career, Merrell Davis studied one book thoroughly in *Melville's Mardi*, Luther Mansfield and Howard P. Vincent edited *Moby-Dick* with voluminous notes. The American Men of Letters Series added Richard Volney Chase's *Emily Dickinson Sam Clemens of Hannibal*, the first volume of a biography projected by Dixon Wecter, was a superb picture of Mark Twain's formative years.

Ellsworth Barnard surveyed the poet's entire works in *Edwin Arlington Robinson, a Critical Study*. Harold Watts, in *Ezra Pound and the Cantos*, upheld the integrity of the work but admitted flaws. Carlos Baker's *Hemingway The Writer as Artist*, while it included some biographical material, concentrated on the writer's ideas and theories. Irving Howe's *William Faulkner· a Critical Study* augmented the reputation of a leading novelist; Rossell Hope Robbins' *The T. S. Eliot Myth* derogated that of a leading poet.

Among more general works a landmark was *The Confident Years: 1885-1915*, the completing volume of Van Wyck Brooks' distinguished *Makers and Finders. A History of the Writer in America 1800-1915*. Edward Charles Wagenknecht's *Cavalcade of the American Novel* was a critical history in terms midway between those of the sociological and the "new" critics. Orville Prescott's *In My Opinion* was an inquiry into the contemporary novel.

Poetry. Two collections by eminent poets appeared during the year, Wallace Stevens' *The Man with the Blue Guitar* and Marianne Moore's *Collected Poems*. A new volume in the Yale Series of Younger Poets was W. S. Merwin's *A Mask for Janus*, which reflected not too sombrely on the desolation of our times. Samuel Yellen's *In the House and Out* was also tinged with a sense of doom. Thomas Hornsby Ferril's *New and Selected Poems* used American themes and folkways. Ernest Kroll wrote *Cape Horn and Other Poems*. The lyrics of Robert Hillyer's *The Suburb by the Sea* were pleasant and relaxed. Other volumes included Shirley Barker's *A Land and a People*, on New England themes, and Joseph Bennett's *Decembrist*. Babette Deutsch's *Poetry in Our Time* was a history of contemporary English and American poetry; and Louise Bogan's survey, *Achievement in American Poetry, 1900-1950*, contained extended criticism of Pound and Eliot. (*See* also LITERARY PRIZES) (H. M H.)

AMRIT KAUR, RAJKUMARI, Indian politician and social worker (b Kapurthala palace, Lucknow, Feb. 2, 1887). A Punjabi Sikh noblewoman who was later secretary to the Mahatma Gandhi for 16 years, Amrit Kaur was educated at Sherborne School for Girls, Dorset, and in London. She came to prominence in Indian social and educational affairs as chairman of the All-India Women's conference, 1931-33, of which she became president in 1938. In 1932 she gave evidence on behalf of a number of Indian women's organizations before Lord Lothian's Indian Franchise committee (1932) and before the joint select committee of the U.K. parliament (1933) When the Indian government's Advisory Board of Education was revived in 1935, Amrit Kaur became its first woman member; she resigned in 1942 at the time of the August civil disobedience outbreak and with other Congress leaders was then imprisoned until 1945; she was re-appointed to the board in 1946. She was a leading member of the Indian delegations to U N.E.S.C.O. in London, Nov 1945, and Paris, 1946. Upon the achievement of Indian independence on Aug. 15, 1947, she was appointed minister of health, being the only woman in the cabinet; she was re-appointed to the health ministry (and resigned the communications portfolio which she had held since Aug. 1951) when Jawaharlal Nehru (*q.v.*) re-formed his government on May 13, 1952, after the 1951-52 general elections. Amrit Kaur led the Indian delegation to the World Health organization in 1948 and 1949, and in 1950 was elected president of the World Health assembly. She re-visited England on a number of occasions and made broadcasts from London in 1950 and on Jan 21, 1952. On the anniversary of Gandhi's birth, Oct 2, 1952, Rajkumari Amrit Kaur made a broadcast from Delhi which also inaugurated the third Indian anti-tuberculosis fund campaign. Her publications included *To Women* (1945) and *Challenge to Women* (1946).

ANAEMIA: *see* BLOOD, DISEASES OF THE.

ANCIENT MONUMENTS: *see* HISTORIC BUILDINGS.

ANDORRA. Small autonomous principality between France and Spain, bounded N. by the *départements* of Ariège and Pyrénées Orientales, and S. by the Spanish province of Lerida. Area: 191 sq.mi. Population (1952 est.): 6,000. Language: Catalan. Religion: Roman Catholic. Capital: Andorra-la-Vieja (pop., 1952 est., 600). Co-princes: the president of the French republic and the bishop of Urgel, Spain, respectively represented by their *viguiers*. An elected general council of 24 members appoints one of its members as the *syndic général des vallées* (from 1946, Francisco Cayrat).

History. Twelve out of 24 members of the general council were re-elected on Dec. 15, 1951. Only the heads of families voted. Jean Menant was appointed French *viguier* in succession to André Bertrand; he was sworn in at a solemn sitting of the general council and the syndics did him homage. Jaime Sansa Nequi continued to serve as the Spanish *viguier*.

The 60 French *gardes mobiles*, stationed in the territory from autumn 1944, left Andorra. The population of Las

Escaldas, a township rapidly growing since 1946, exceeded that of Andorra-la-Vieja.

See José María Vidal y Guitart, *Instituciones Políticas y Sociales de Andorra* (Madrid, 1949).

ANGLICAN COMMUNION. In 1952 the bishops of the Episcopal Church of Scotland elected the Right Rev. Thomas Hannay, bishop of Argyll and the Isles, as primus to succeed the Right Rev. John How, bishop of Glasgow, who retired from both his offices. The diocese of Northern Rhodesia was filled by the appointment of the Right Rev. Oliver Green-Wilkinson, previously a missionary priest of the diocese, who thus became the youngest bishop in the whole of the Anglican communion. During the year a new Anglican diocese of Central Tanganyika was formed in Africa. In the autumn St. Augustine's college, Canterbury, was reopened as the Central Missionary college of the Anglican communion to which could come ordinands and priest-students from all over the world. The first warden was Canon C. K. Sansbury.

The last of the European missionaries of the Anglican communion in China were expelled from the country in 1952, and this branch of Anglicanism entered upon a period of great travail, most of the details of which still remained unknown to Anglicans in the west. Some of the expelled missionaries were sent by the missionary societies to do pioneer work in the Chinese resettlement areas in Malaya.

In August the archbishop of Canterbury spent his holiday in the United States as the guest of the presiding bishop of the Episcopal Church, and thus cemented still further the bonds between the two branches of the Anglican communion. Though on holiday, he accepted an invitation to preach in Boston and met many members of the Episcopal Church. In the autumn the Duchess of Kent, with her son the Duke of Kent, made a prolonged tour of the far east. In Borneo she laid the foundation stone of the new cathedral of Kuching, which would replace the old one built in 1849. The new cathedral was to be consecrated in 1955, the first centenary year of the foundation of the diocese. (*See* also CANTERBURY, ARCHBISHOP OF; CHURCH OF ENGLAND; CHURCH OF SOUTH INDIA; WORLD COUNCIL OF CHURCHES.) (R. L.)

ANGLING. The outstanding event of 1952 was the capture of a 44-lb. carp by R. Walker in a west country lake. This raised the record for the species by 13 lb. Six other carp over 20 lb. were recorded. The annual all-England contest, fished on the River Severn in September, produced a record aggregate of 1¾ tons. Winners were Leeds, with 135 lb. Newport won the first Welsh national championship, held on the Gloucester canal in October. Outstanding among game fish were a 49-lb. salmon from the Hampshire River Avon and an 18 lb. 2 oz. sea-trout from the Ythan (Scotland). International trout contests, held on Killarney and Loch Leven, were both won by Ireland.

The death occurred in January of John Eastwood, founder of the Angler's Co-operative association; a memorial fund was launched to perpetuate his work for pure rivers. His association secured a notable court victory in the River Derwent pollution case.

Reviving interest in competitive casting was evidenced in tournaments held in Scotland, south Wales, London and Deal (Kent). Three new sea-fish records were established—a mackerel of 4 lb. ½ oz. from the Isle of Man (Flight Lieut. P. Porter), a sting-ray of 59 lb. from Clacton (J. M. Buckley) and a grey mullet of 10 lb. 1 oz. from Portland (P. Libby). Unusual salt-water captures were a 4½ lb. blackfish (Scarborough) and a rare specimen of horse-mackerel, 2¼ lb. (Salcombe). Tunny-fishing was marred by rough weather, and only four were landed. Blue sharks were exceptionally numerous off the south coast of Cornwall in the autumn; many were brought in by competitors in the Looe Sea Angling festival. The National Federation of Sea Anglers' festival at Ramsgate in October was marred by the presence of swarms of small spur-dogfish.

BIBLIOGRAPHY. (All 1952.) R. Walker, *Rod-building for Amateurs* (Folkestone); G. Brennand, *The Fisherman's Handbook* (London); F. H. Hornsey, *Match-Fishing with the Champions* (London); Alan Young, *Sea-Angling: Modern Methods and Tackle* (London).

(D. F. KY.)

ANGLO-EGYPTIAN SUDAN. Territory in northeast Africa under the joint sovereignty of Great Britain and Egypt. Area: 967,500 sq.mi. Pop. (no census ever taken, 1950 est.): 8,350,000. Language: English, Arabic, and



The Archbishop of Canterbury, speaking from the pulpit of the Old North church at Boston, Massachusetts in September. Dr. Fisher spent a holiday in the United States at the invitation of the presiding bishop of the Episcopal Church.



Mounted Sudanese policemen inspect a British Overseas Airways Comet at Khartoum airport. The first regular passenger service by jet aircraft began on May 2 from London to Johannesburg via Khartoum.

various Nilotic and Negro tribal dialects in the south. Religion: Arabic minority is Moslem; Negro population mainly heathen; only *c.* 20% of population in the south is Christian. Chief towns (pop., 1948 est.): Khartoum (cap., 71,400); Omdurman (125,300); El-Obeid (70,100); Wad Medani (57,300); Port Sudan (47,000). Governor-general, Sir Robert Howe.

History. The affairs of the Sudan during 1952 were once more intimately bound up with the development of Anglo-Egyptian relations. When these became critical at the time of the unilateral denunciation by Egypt of the 1936 Anglo-Egyptian treaty and of the 1899 condominium arrangements for the Sudan, on Oct. 27, 1951, it was stated as one ground for this action that Great Britain had " persistently tried to separate the Sudan from Egypt ". This provoked from the British Foreign Office a reaffirmation of the " two fundamental principles " of their policy namely, " that they will agree to no change in the status of the Sudan without consultation with the Sudanese, and that they will maintain the right of the Sudanese freely to choose their own status."

On Jan. 17 a draft constitution, prepared by the Sudanese Constitutional commission, was submitted to the legislative assembly. It proposed a bicameral parliament consisting of a Chamber of Deputies 100 strong with power to elect the prime minister and of a Senate having 30 elected and 20 nominated members. Other than the prime minister, the council of ministers was to consist of Sudanese, eligible for, but not necessarily members of, parliament, and chosen by the governor-general in consultation with the prime minister. External affairs and defence matters were to some extent reserved to the governor-general who might, in an emergency, preside over the council of ministers. Differences within the Sudan were reflected in the provision for a minister of southern affairs, who was himself to be a southerner. It was made clear that this was to be no more than a temporary constitution, designed to function until the Sudanese had decided upon their future. For this purpose it was suggested that a constituent assembly should be set up before the end of 1953. This, on the advice of a resident international commission, should supervise the achievement of full self-determination.

Meanwhile the two major groups of parties, or " fronts ", (Umma, or Nation, standing for independence and Ashigga aspiring to the Nile valley unity) had agreed on Jan. 3 to ask for a plebiscite on the future of the country. The increasing tempo of political life was reflected in the appearance of new parties, one a Socialist party and another, the Sudan Republican party, favouring the creation of a secular Sudanese republic within the Commonwealth of Nations, in accordance with the example set by India.

The reopening of Anglo-Egyptian negotiations in April provoked a message from Miralai Abdullah Khalil, the leader of the legislative assembly and also secretary-general of the Umma party, expressing confidence in British intentions and attacking Egypt's " deplorable attitude " and " attempts to impose her crown on us ". However, a strong Umma delegation accepted an invitation to visit Egypt in May.

On April 23 the legislative assembly approved the draft constitution with some modifications. Substantial powers remained with the governor-general, but his rights to overrule decisions of parliament was specifically limited. The Senate was to be in accordance with the recommendations of the Constitutional commission but the chamber was reduced in size to 78 members. Of these 24 representing the more politically advanced areas were to be elected by manhood suffrage and secret ballot, and 54 were to be chosen by manhood suffrage exercised through tribal electoral colleges. The assembly provided for the exercise by the Sudanese of their right of self-determination, at such a time and in such a manner as they themselves should determine.

After General Neguib (himself of Sudanese birth) had attained power, the Egyptian government began a re-examination of its policy towards the Sudan. (H. S. D.)

Education (1950). *Northern System.* Government schools: elementary 262, pupils 37,000; sub-grade and Koran 540, pupils 40,000; intermediate 21, pupils 2,661; secondary 6, pupils 1,457; technical 3, pupils 264; teachers' training colleges 5, teachers trained annually over 255. Non-government schools 172, pupils 15,900. University education at Gordon Memorial college and higher education at Kitchener School of Medicine. *Southern System.* Schools: elementary 3, pupils 327; secondary 1; intermediate 1, pupils 150; pupils at mission schools 23,384. Government training schools 2; primary teachers' training centres 2.

Agriculture. Main crops ('000 metric tons 1949; 1950 in brackets): cotton, ginned 66 (86), cottonseed 175 (105), sesame seed 168·3, gum arabic (exports only) 33·9, groundnuts 18, dates 25, maize 19, millet 100, sorghum 642. Livestock ('000 head, Jan. 1950): cattle 4,000, sheep 5,600, camels (1949) 1,500, horses (1949) 20, pigs (1949) 4, goats (1949) 4,300, asses 500.

Finance and Banking. Budget (£E million) (18 months 1950-51, actual) revenue 44 8, expenditure 23 2, (1951-52 est.) revenue 24·8, expenditure 17·8 Total external debt (Dec 31, 1949) 12·3, of which 5·3 to Egypt for development Monetary unit Egyptian *pound* with an exchange rate of £E 0 975 to the pound sterling and £E 0 348 to the U.S. dollar

Foreign Trade. (£E million, 1950). Imports 26 8; exports 33 2 Main sources of imports U K 40%; India 14% Main destinations of exports· U.K. 54%, India 12% Main imports sugar, coffee and tea 18%; cotton piece-goods 12%, coal, oil fuel and petrol 5% Main exports. raw cotton 69%, gum 8%, cottonseed 6%, livestock 5%

Transport and Communications. Railways (1950) 2,056 mi Licensed motor vehicles (Dec 1950) cars 3,500, commercial 14,500 Telephones (1951): 8,300 Wireless licences (1949) 3,227

ANGOLA: *see* PORTUGUESE OVERSEAS TERRITORIES.

ANNAM: *see* INDOCHINA.

ANTARCTICA. A continent lying almost entirely within the Antarctic circle, nine-tenths covered by an ice sheet. Area: nearly 6 million sq.mi Uninhabited, but divided into Ross dependency (New Zealand), Adélie land (France), Australian Antarctic territory, Queen Maud land (Norway) and Falkland Islands dependencies (U.K.). The only portion not officially claimed is the sector south of the Pacific between long. 80° and 150° W., where explorations have been made almost entirely from the United States There are also Argentine and Chilean claims (which overlap one another) to most of the Falkland Islands dependencies.

History. No new expeditions left for Antarctica during 1952; two completed their work and returned to Europe. These were the International Norwegian-British-Swedish expedition to Queen Maud land and the South Georgia survey. Parties sponsored or organized by various governments remained active.

International Norwegian-British-Swedish Expedition. After two seasons' work all personnel of the expedition were taken aboard the " Norsel " (Capt. Guttorm Jakobsen) on Jan. 15, 1952. The base, which was built on the floating ice shelf, was already buried beneath the snow and it was unlikely it would be seen again owing to continued burial and the gradual dispersal of the ice shelf. The work of the expedition included the mapping of a mountain area 200 mi. inside the ice-bound coast. Seismic sounding of the ice had provided a profile of the rock floor which indicated that a mountain and fjord type of country would be revealed if the ice cover were removed. The results of the geology, glaciology and meteorology were afterwards studied in Europe.

South Georgia Survey. This private expedition made a number of journeys among the high mountains of the island. The parties travelled in the old mode, manhauling their sledges. Some coastal journeys were made on board local sealing vessels On Jan. 1, 1952, the geologist, Alec Trendall, fell 175 ft. into a bergschrund badly damaging his left knee. After seven days' difficult travelling with Trendall bound to a sledge, the party arrived back at the whaling station hospital at Grytviken. Though interrupted by this episode the work was continued and resulted in extensive alterations and additions to the map of the southern and southeastern coastline of South Georgia and the mountains of the interior. The geological work accomplished prior to the accident provided interesting new light on the structure of the island.

Falkland Islands Dependencies Survey. Seven bases were active during the year. The Hope bay base (lat. 63°24′S., long. 56°59′W.) destroyed by fire in 1948 was rebuilt in early February. It was reported that an Argentine party used force to obstruct the British re-occupation of their base. After diplomatic exchanges the building of the new accommodation was carried out. All the F.I.D.S. bases made three-hourly meteorological observations. The main exploratory activities were from Hope bay where sledge journeys up to two months' duration were made for the purposes of survey and geology. The survey's ship " John Biscoe " left Southampton on Oct. 20, 1952, with relief personnel and stores for all bases.

Adélie Land Expedition. The French expedition continued its work in Adélie land. In Jan. 1952 the Norwegian ship " Tottan " brought a relief party to the four men at Pointe-Géologie to study the emperor penguin rookery during the winter breeding season. On Jan. 23 the Port Martin base was destroyed by fire during a 60-m.p.h. blizzard. No lives were lost but the base had to be abandoned. Three additional men joined the four at Pointe-Géologie where the party of seven remained for the year under command of Mario Marret.

Australian National Antarctic Research Expedition. The Australian bases on Heard island and Macquarie island continued the programme of research in meteorology and various branches of physics. Two members of the Heard island base, A. G. Forbes and R. J. Hoseason, lost their lives when the latter was swept to sea by a giant wave and the former died of exposure on a glacier while trying to fetch help for a third man, J. Atkinson. Atkinson survived 24 hr. of exposure but suffered severe frostbite.

Argentina and Chile in the Antarctic. Argentina and Chile continued to maintain the bases which they had established in the Falkland Islands dependencies sector of the Antarctic. It was reported that for the first time some sledge journeys were made in the northern part of Marguerite bay from the General San Martín base. The object of the journeys was not stated.

Whaling. The antarctic whaling season was completed in the record time of 63 days (Jan. 2-March 5) when the annual quota of 16,000 blue whale units had been reached. The total whale oil obtained during the season was 2,473,681 barrels and was valued at approximately £30 million. The opening and closing dates for the season and the overall limit of 16,000 blue whale units remained the same for the season 1952-53. (V. E. F.)

ANTHROPOLOGY. Eastern Hemisphere. At Vienna in Aug 1952 there was convened the fourth session of the International Congress of Anthropological and Ethnological Sciences. The president was the Reverend Professor Wilhelm Schmidt, of the Vatican City, doyen and, at the age of 84, still active leader of the Vienna school of anthropology, which has probably produced a greater volume of valuable field research than any other in the history of anthropology, even though some of its basic assumptions are not universally acceptable. The meeting was a most valuable occasion for comparison of aims, methods and results between the world's chief schools of anthropological thought; there were some 800 members covering most countries of the world, but the countries dominated by the U.S.S.R. again absented themselves. Little is known of significant progress in Soviet studies in recent years, except possibly in certain aspects of archaeology.

The 30th session of the International Congress of Americanists met, at the invitation of the Royal Anthropological institute, at Cambridge, England, in August, with J. E. S. Thompson of the Carnegie institution, Washington, D. C., a British subject, as president. It was attended by some 180 members from many countries mainly in Europe and the Americas, and important developments both in theory and in fieldwork were reported, notably in Maya archaeology.

During the congress, the Huxley Memorial lecture of the Royal Anthropological institute was delivered by the distinguished Danish ethnologist Professor Kaj Birket-Smith; it was a masterly account of the history and significance of Danish contributions to the foundation and growth of the science of anthropology.

The Pan-African Congress on Prehistory held its second meeting at Algiers in September; it was to have been held in

South Africa in 1951, but Field Marshal Smuts' invitation issued at the first meeting in Nairobi in 1947 was withdrawn by the South African government. Reports submitted showed that considerable progress had been made in the main fields of African prehistory and in the correlation of their respective time scales. It was noted with satisfaction that much activity was now taking place in west Africa, including Nigeria and the Gold Coast (where Dr. O. Davies had now joined Professor A. W. Lawrence as an additional professor of archaeology at the University college).

The U.N.E.S.C.O. Statement on the Nature of Race and Race Differences drafted by a committee of representative British, French, American and other scientists in 1951 (in substitution for that of 1950 which had been severely criticized in Britain and elsewhere as scientifically unsound) was further refined in consultation with anthropologists, biologists and geneticists in many countries, and a provisional text was offered for discussion at a plenary session of the International Congress of Anthropological and Ethnological Sciences in Vienna. It was endorsed unanimously and might be said to represent a firm consensus of opinion among the world's scientists concerned with all the physical aspects of race. The effect of the statement was to make it clear that in the considered view of all reputable scientists there is no scientific ground for racialistic theories.

The Nuffield Blood Group centre of the Royal Anthropological institute was set up on Jan. 1 as an international clearing-house for the collection, study and dissemination of the latest information about the fast-developing study of the human blood groups. Before the end of the year, it was receiving and processing data from 74 countries, comprising 24 in Europe, 13 in America, 17 in Asia, 4 in Australasia and 16 in Africa; in most of these, large numbers of people were tested during the year. Among notable pieces of work were the discovery by Dr. H. Lehmann of the sickle-cell trait among tribes in southern India, a suggestive link with many African tribes (which may have originated in southern Asia); and the success of Dr. M. Lubran and B. E. Gilbey in ascertaining the blood groups (including the *Rh* factor) of ancient Peruvian mummies in the British Museum by tests on desiccated muscle tissue.

An international centre for the study, documentation, collection and distribution of ethnographical films was set up at the Musée de l'Homme, Paris, under the auspices of the International Congress of Anthropological and Ethnological Sciences, with Jean-Paul Lebeuf as director. Specimens of the excellent work done recently by the film section of the Musée de l'Homme among the tribes of the western Sudan were shown at the Vienna meeting of the congress and later at the Royal Anthropological institute in London.

An important exhibition of Mexican art from the earliest times to the present was held from May to July at the Musée National d'Art Moderne, Paris, and later transferred to Stockholm. The pre-Columbian cultures were particularly well represented. Many of the finest pieces in Mexican museum and other collections, including large stone sculptures, had been specially brought to Europe for the exhibition.

The first important museum of archaeology and ethnology in the British West African colonies was completed and opened at Jos, northern Nigeria, in April, as a centre for field research, especially in the archaeologically rich tinfields.

Further light was thrown on the perennial controversy about the age and origins of the great ruined buildings of Zimbabwe in Southern Rhodesia by tests carried out (at Chicago) on excavated wooden lintels by the radiocarbon method. It was found that these lintels, which had previously (owing to their supposed perishability) been quoted as evidence for a very late dating (*c.* A.D. 1700), in fact appeared to be as old as the 5th or 6th century A.D.—a finding not very different from that suggested by Miss G. Caton-Thompson in 1931, working by archaeological methods.

In February occurred an event always of great interest to anthropologists—the installation of a Divine King (*Reth*) of the Shilluk tribe in the southern Anglo-Egyptian Sudan, when Kur wad Fafiti succeeded Dak wad Fadiet. The ancient and elaborate ceremonies, deriving from pre-Egyptian times, were systematically observed (for the fourth time) by anthropologists, and some falling-off was noticed in the solemnity of the observances since the last installation in 1946. (See *Man, 141*, London, 1952.)

Discussion of the aims and methods of social anthropology initiated by Professor Evans-Pritchard's Marett lecture in 1950 (*Man, 198*, 1950) was vigorously continued in *Man* and elsewhere and, in common with similar theoretical controversy in the western hemisphere, was a notable stimulus towards improved fieldwork methods.

Perhaps the most controversial publication of the year was T. Heyerdahl's *American Indians in the Pacific*, in which he carried further the process, begun with *The Kon-Tiki Expedition* (London, 1950), of submitting to a popular verdict his thesis of the peopling of Polynesia from the Americas rather than *via* southeast Asia, which was unacceptable to most ethnologists These continued to feel that while the book marshalled an imposing, if uneven, array of facts in support of the theory, a far vaster array bearing in the contrary direction had been ignored. The book, published in August, was extensively discussed at the International Congress of Americanists.

Notable fieldwork during the year included Professor Raymond Firth's return to the Polynesian island of Tikopia, and the work in Africa of two Hornıman students of the Royal Anthropological institute, R. E. Bradbury at Benin, Nigeria (throwing light for the first time on the social background of the great collections of Benin art in London, Berlin, Vienna and elsewhere), and Miss E. R. MacHatton among the Latuka of the Anglo-Egyptian Sudan.

Rivers Memorial medals of the Royal Anthropological institute were awarded to Dr. L. S. B. Leakey for fieldwork in several branches of anthropology in east Africa and to Professor Monica Wilson for socio-anthropological fieldwork in southern Africa; the Curl prize was awarded to A. Kobben of Amsterdam for an essay on statistical method. (W. B. F.)

The sixth edition of the Royal Anthropological institute's classic manual, *Notes and Queries on Anthropology*, appeared in a new format and with completely revised contents covering physical and social anthropology, material culture and field antiquities. Karl Gustav Izikowitz' *Lamet, Hill Peasants of French Indochina*, an integrated study of a little-known tribe in northern Laos, was published by the Gothenburg museum.

The methodology and scope of social anthropology were discussed by Raymond Firth in *Elements of Social Organization*, a volume that focused attention on the situation of primitive societies and peasant communities in the industrialized world of today. An interpretation of the archaeological data relating to primitive economy was presented by J. G. D. Clark in *Prehistoric Europe: the Economic Basis*. The most substantial contribution in the field of primitive economics was M. J. Herskovits' *Economic Anthropology*, an enlargement and revision of the author's standard reference work, *The Economic Life of Primitive Peoples*. Philip Mayer's "Two Studies in Applied Anthropology in Kenya" reported on field investigations on the economic life of the Gusii tribe.

Western Hemisphere. The year 1952 was one of marked activity and accomplishment in all branches of anthropology. Anthropologists showed a tendency to re-examine and define more sharply their objectives and to improve and refine their methods and techniques. As examples might be mentioned two papers analysing and interpreting some of the social and

psychological factors involved in culture change· " Experimental Design in the Study of Cultural Change," by George Spindler and Walter Goldschmidt, and " Some Dynamic Forces in Tlingit Society," by Frederica de Laguna, both published in the *Southwestern Journal of Anthropology*, and another group of papers in the *American Anthropologist* on " The Training of the Professional Anthropologist ", by Theodore McCown, W. D. Strong, C. F. Voegelin and Z. S. Harris, W. N Fenton, Eliot Chapple and Margaret Mead.

The Wenner-Gren foundation International Symposium on Anthropology was held June 9-20 at New York. The theme was " A World Survey of the Status of Anthropology ", and 80 anthropologists and other scientists from the United States and 18 other countries participated

The Guggenheim Memorial foundation awarded 22 fellowships for work in anthropology and related fields. The Wenner-Gren foundation awarded 33 grants-in-aid and fellowships and initiated a project for preparation of a " Handbook of World Resources for Research and Education in Anthropology ", to contain summary descriptions of the organization and operations of all institutions with interest in anthropology. Erminie W. Voegelin began preparation of the section on U S resources.

The Bureau of Ethnic Research, an information and research centre for the study of modern Indian groups in the southwestern United States, was established at the University of Arizona, Tucson, under the supervision of Emil W Haury and William H. Kelly. A grant from the Carnegie corporation to New York enabled Northwestern university, Evanston, Illinois, to broaden its African area programme by creation of a new African study centre, with Melville J Herskovits as director.

Viking fund medals were awarded to Ralph Linton, general anthropology, Carleton Coon, physical anthropology, and Frank H. H. Roberts, archaeology. Brewton Berry received the Ainsfield-Wolf award for his book *Race Relations.*

William S. Laughlin resumed his ethnological and physical anthropological work in the Aleutian Islands, and G. C. Lucier made a study of the non-material culture of the Noatak Eskimos of northern Alaska, both projects supported by the Arctic Institute of North America. Frederica de Laguna and Catherine McClellan conducted ethnological work among the Tlingit of Yakutat bay, and Edmund S. Carpenter made a study of space and time concepts of the Aivilik Eskimos on Southampton island, north of Hudson bay. Field research in South America by the University of California, Berkeley, included ethnological studies in Brazil by William D. Hohenthal, in Bolivia by John F. Goins and in Venezuela by H. T. McCorkle, jr. Stig Ryden made a third expedition to the Tiahuanaco area of Bolivia for the ethnographical department of the Gothenburg museum, Gothenburg, and Kaj Birket-Smith of the National museum, Copenhagen, conducted ethnological work on Rennell island. Ethnological studies of the Plateau tribes were made by Norman Lermer, Al and Letitia Mohr and Thomas Garth for the University of Washington, Seattle.

The second and third volumes of *Proceedings of the 29th International Congress of Americanists*, edited by Sol Tax and including selected papers on " Acculturation in the Americas " and " Indian Tribes of Aboriginal America ", were published by the University of Chicago. The status of anthropological research in Alaska was discussed by Viola Garfield, Margaret Lantis, Frederica de Laguna, W. S. Laughlin and J. L. Giddings, jr., in *Science in Alaska*, a volume of selected papers of the first Alaskan Science conference, edited by H. B. Collins and published by the Arctic Institute of North America.

The status of constitutional research and its relation to anthropology as a whole was discussed in an article by Edward E. Hunt, jr., " Human Constitution: An Appraisal," published in the *American Journal of Physical Anthropology.* One of the most significant contributions of recent years to the problem of Neanderthal man was F. Clark Howell's article, " The Place of Neanderthal Man in Human Evolution ", published in the same journal. (H. B. Cs.)

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ANTIGUA: *see* LEEWARD ISLANDS.

ARABIA. Peninsula of southwestern Asia of approximately 1,071,300 sq.mi., with a total population estimated at 12,180,000. It consists politically of two independent Arab states, Saudi Arabia (*q.v.*) and Yemen (*q.v.*); the protected sultanates of Oman and Masqat, or Muscat; the autonomous sheikhdoms of Bahrein, Kuwait, Qatar and the Trucial sheikhdoms; and Aden colony and protectorate (*q.v.*). Language: Arabic. Religion: Moslem (Sunni).

Bahrein. Area: 213 sq.mi. Pop. (1950 est.): 110,000. Capital, Manamah. Ruler Sheikh Sulman bin Hamad al-Khalifah. British political resident for the Persian gulf area, Sir Rupert Hay; political agent for Bahrein, W. S. Laver.

Kuwait. Area: *c.* 9,000 sq.mi. Pop. (1950 est.): 170,000. Ruler, Sheikh Abdullah bin Salim as-Subah. British political agent, C. J. Pelly.

Oman and Muscat. Area: *c.* 65,000 sq.mi. Pop. (1950 est.): 550,000. Capital, Muscat. Ruler, Sultan Said bin Taimur. British consul, Major F. C. L. Chauncy.

Qatar. Area: *c.* 4,000 sq.mi. Pop. (1950 est.): 20,000. Ruler, Sheikh Ali bin Abdullah al-Thani.

Trucial Sheikhdoms. Area: *c.* 16,000 sq.mi. (including the sheikhdoms of Sharjah, Ras al-Khaimah, Umm al-Qawain, Ajman, Dubai, Abu Dhabi and Kalba). Pop. (1950 est.): 80,000.

History. The loss of Anglo-Iranian oil supplies, which had ceased in June 1951, had been more than made up by increased production from other neighbouring oilfields, including Kuwait where by the end of 1951 output was up by 58% and Qatar where the figure was 47%. In the first half of 1952, this increased production was maintained from both fields.

In June, after an exchange of diplomatic notes, the British government rejected the Persian claim that the Bahrein Islands were an integral part of Persia. It maintained its contention that Bahrein was a state under British protection and that it would not recognize the Persian claim to it or to any other territory belonging to any state under British protection in the Persian gulf.

In January a new well was discovered in Kuwait some seven miles from the main oilfield at Burgan. Early in the year the sheikh of Kuwait approved a development scheme for his capital. It foreshadowed the rebuilding of most of the city over a period of 15 years.

Early in the year the British protected trucial shiekhs made repeated representations regarding the delay in the development of their reputed oil resources.

In May, Sir Roger Makins (*q.v.*), then under secretary of state in the British Foreign Office, visited the Persian gulf oil centres in Kuwait, Bahrein, Qatar and Sharjah. In September armed tribesmen led by a Saudi Arabian official occupied two Baraimi settlements situated in a part of the undefined Muscat-Saudi Arabian frontier zone over which the sultan of Muscat claimed sovereignty and which might include potential oil resources. This Saudi Arabian intrusion was resented by sheikhs of the Trucial coast who sent armed levies to Baraimi. Later, at the request of the sultan of Muscat, the British government took the matter up with the Saudi Arabian government which was reported to have appealed to Washington. (O. Tw.)

Economy. Oil production ('000 metric tons)

	1950	1951	1952*
Bahrein	1,500	1,509	750
Kuwait	17,018	28,327	18,700
Qatar	1,600	2,348	1,534

* Six months

ARAB LEAGUE. The covenant of the League of Arab States was signed in Cairo on March 22, 1945, by Egypt, Iraq, Lebanon, Saudi Arabia, Syria, Trans-Jordan and Yemen. The headquarters of the league council, on which each member-state had one vote, was set up in Cairo. The league's aims were stated to be the co-ordination of the political action and the protection of the sovereignty of the Arab countries. Secretaries-general in 1952: Abdurrahman Azzam and (from Sept. 14) Abd el-Khalek el-Hassuna

History. On Feb. 2 the league approved the terms of an Arab security and economic aid agreement for submission to the member governments. This came into force on Aug. 23, after ratification by Egypt, Syria, Iraq, Jordan and Saudi Arabia. In November delegates from Egypt, Syria, Lebanon and Jordan met at Amman and discussed Israeli violations of the armistice and how they could be met effectively.

After the *coup d'état* in Egypt of General Mohammed Neguib (*q.v.*) on July 23, Abdurrahman Azzam declared his support for the new régime, but on Sept. 9 he resigned the league secretaryship-general. On the following day the council met in Cairo under the chairmanship of Ali Maher (*q.v.*), who had resigned the Egyptian premiership three days before. On Sept. 14 the council elected Abd el-Khalek el-Hassuna, a former Egyptian foreign minister, as secretary-general. It also accepted the political committee's recommendations that the resettlement of Palestinian refugees in western Jordan or other Arab countries should be attempted The council also delegated Ali Maher (who had been appointed by Neguib as chief Egyptian delegate in U.N.) to protest on behalf of the league to the German federal government against the payment of compensation to Israel, on the grounds that the money would be used to strengthen Israeli aggression against the Arabs. Two days later, Sept. 16, the political committee of the league decided to send a delegation to Bonn to support this protest. The committee also passed a resolution approving the opposition of Tunisia (*q.v.*) to the latest French policy. A further resolution decided to raise the Palestine question at the October meeting of the U.N. assembly and to set up within the league secretariat a "Palestine department". A final proposal to apply discrimination against Jews in member states was rejected on Egypt's insistence that such a policy was contrary to the Egyptian constitution. The protests to the German Federal government over the Israeli compensation agreement were at first rejected by the German government; but on Egypt's threatening to break off Egyptian-German trade relations, discussions were resumed on the basis that no material would be included in the German compensation to Israel which could be used to the military detriment of members of the league. (*See* also ISLAM.) (O. Tw.)

ARCHAEOLOGY. Great Britain. The largest archaeological undertaking in Great Britain in 1952 was probably that directed by Sir Mortimer Wheeler at Stanwick, Yorkshire, where the extensive and impressive earthworks of that Brigantine stronghold were shown to belong to the Roman invasion period. But before they were completed the region was overrun by the legions that they were meant to withstand. Other prehistoric investigations in the north were by Professor and Mrs. S. Piggott (hill-forts in southern Scotland) and by Grahame Clark at the east Yorkshire mesolithic site of Seamer An important bronze hoard was found by C. Green at Gorleston, Suffolk. Work continued at the Iron Age village at Meare (Somerset), directed by H St. George Gray; C A. R. Radford found structures of two prehistoric periods (3rd-century B.C. and Belgic) beneath the Roman villa at Littleton in the same county, and, among others, the investigation of the prehistoric Scillies was continued by Mr. and Mrs B. H. St. J. O'Neil.

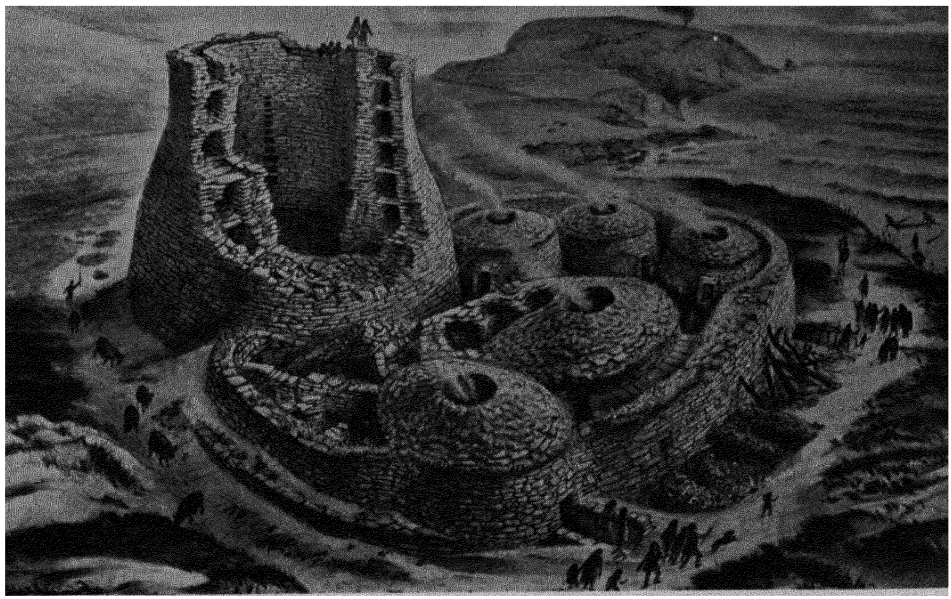
Further digging by Professor I. A. Richmond and J. P. Brailsford at Hod Hill, Dorset, showed most of this important early Roman site to be recoverable despite the fact that most of the structures were of timber; at Leicester R. Goodchild examined the wall and ditch of the Roman city and suggested that both belonged probably to the early 2nd century, as both the wall and its clay and gravel backing overlay traces of 1st-century occupation; at Great Casterton, near Stamford, Lincolnshire, P. Corder and W. Barley uncovered the foundations of an unusual large circular stone structure with a plaster floor and heated by a hypocaust, thought to be for corn-drying.

C. D. P. Nicholson reported the result of three years' work on the thousands of fragments of painted wall-plaster found at the Lullingstone (Kent) Roman villa which was destroyed late in the 4th century. They came from two adjacent rooms on the principal floor and it was suggested that one was a Christian domestic chapel and the other a narthex. The main feature recovered was a brightly painted colonnade of six bays, containing figures in the typical early Christian "ornate" position. Two fragmentary *chi-rho* monograms appeared to confirm the Christian character of what was probably the earliest recognizable place of Christian worship in Britain.

Other work in Scotland included J. R. C. Hamilton's excavations at Jarlshof (Shetlands) where three main periods were recognized. The earliest was a Bronze Age culture, represented by modest huts; next an Iron Age occupation indicated by a great *broch* or stone tower, attached to which was a walled courtyard containing a large roughly circular house; this was modified early in the Romano-British period by the construction of a large "wheel-house". This last occupation continued until the Viking incursion of the 9th century.

Europe. *Czechoslovakia.* Among finds were mammoth bones (dated probably early Wurmian II) near Napajedla, Moravia; surface finds nearby included Aurignacian (II to III) implements. The tumulus of Čaka, near Jeliežovce, southern Slovakia, produced native pottery, which showed Lusatian urnfield influence, in the central burial-chamber; there were also two Bronze-Age skeletons and another (inhumation) burial which showed links with Middle Danube cultures. The Slav fortifications of Klucov, Bohemia, were found to antedate the union of the Czech tribes. (See *Archeologické Rozhledy*, pt. 2, Prague, 1952.)

France. Professor D. A. E. Garrod and Mlle. S. de St.-Mathurin discovered further—mainly complete—specimens of Magdalenian rock-sculpture in their latest season at Roc-aux-Sorciers near Angles-sur-l'Anglin (Vienne). An intact length of overhanging cliff-face was found to be carved with an elaborate frieze of animal figures, mainly



A reconstruction of the Pictish village of Jarlshof, in the Shetland Islands, as it was when the Vikings arrived at the beginning of the 9th century A.D. *The village clustered round the ruined broch towers of a former age when immigrants, pirates and slave traders troubled the highlands and islands of northern Scotland.*

ibex but also including two horses; there were also parts of three human figures. Other finds, reported by E. de Fouton, included the grotto of Pas-de-Julies at Trèves (Gard), where hundreds of skeletons and many pots ascribed to the late Neolithic Age were found; an Azilian dwelling-site with burins and scrapers at Cassis; a kitchen-midden culture site at Pontreau; and a site with a remarkably unbroken series of cultures extending from the Tardenoisian to the beginning of the early Iron Age.

Germany. Reports included accounts of Neolithic and Bronze Age sites and an early Iron Age settlement in the Straubing district; an early urnfield near Erding (Bavaria); early Bronze Age spearheads from Naab (Palatinate); and Roman buildings at Guating. Very fruitful local investigations were continued in the Hamburg area where a valuable series of archaeological " horizons " were established for the city area from the 9th to the 12th century. (See *Hammaburg*, vol. viii, Hamburg, Sept. 1952.)

Greece. Professor A. J. B. Wace reported that the Perseia fountain-house, mentioned by Pausanias in the 2nd century A.D. had been located beneath the ruins of a 3rd-century building of similar character hitherto thought to have been a Hellenistic gymnasium. South of it was found a bronze hoard, containing hammer, chisels, adze, dagger, double axe, several knives and much bronze scrap; part of a stone mould for adze-heads was found in the " House of the Oil Merchant ". Other finds included a group of inscribed clay tablets, as yet undeciphered, but considered to be written in Linear B Mino-Mycenean script, probably in Greek. On the back of one tablet was a lively *graffito* of a Mycenean swordsman—possibly a trial-piece. The prehistoric cemetery outside the Lions gate produced an important series of painted potsherds in the " Palace " and Ephyrean styles (15th-century B.C.) and part of a large ivory plaque which had been carved with opposed griffins of very high quality. Middle Bronze Age graves examined included one " bun " grave but yielded few grave-goods.

Italy. The first extended publication appeared of the excavations conducted for over ten years beneath the high altar of St. Peter's, Rome (*see* B. Appolloni-Ghetti, A. Ferrua, E. Kirschbaum and E. Josi, *Le Esplorazioni sotto la Confessione di San Pietro*, Vatican City, 1951). Earlier reports had described part of the pagan necropolis beneath the crypt and the plan of basilica erected by Constantine I in *c.* A.D. 330. There were subsequent alterations, such as those of the 7th and 12th centuries, culminating in the great and final rebuilding undertaken by Pope Clement VIII at the end of the 16th century. Throughout these centuries the successive structures had had a single focus: the traditional site of the tomb of St. Peter who was martyred in the circus known to have been nearby. The structures now examined owed their survival mainly to the levelling of the sloping site carried out by Constantine's builders in order to provide a level platform for his basilica. This levelling involved on the south side of the slope the raising of the ground level by about 30-40 ft. and the consequent engulfing of the pagan cemetery beside the Via Cornelia. In this area and beneath the high altar was found a shrine, the structure of which could be ascribed to *c.* A.D. 160. Situated behind the main range of pagan tombs, it originally comprised a small paved court with an altar carried on two columns and backed by a niche—a known early Christian type—all much altered in succeeding periods. A later report by Professor M. Guarducci described the discovery nearby, in a tomb of the Valerii, of two *graffito* heads, one of which had beside it the letters ΠΕΤΡ . . . , which it was presumed could be completed as ΠΕΤΡΟΣ, Petros.

Caves at Toirano, near Alberga in Liguria, were reported to contain Palaeolithic remains. At Pompeii excavation, resumed in 1951, continued under Professor Amadeo Maiuri

as part of a five-year programme to clear the buildings north and south of the great *palaestra* (gymnasium) and amphitheatre. The most spectacular find was a group of painted wall-panels with a Venus of remarkably "Renaissance" character. Further reports were received of the Temple of Hera Argeia discovered by U. Zanotti-Bianco and P. Zancani-Montuoro on the banks of the River Sele six miles north of Paestum in Magna Graecia. Finds included a number of metopes carved with figure subjects which included the Labours of Hercules and a striking series of dancing girls. Many Tanagra figures were also found. The finders' first report furnished the following chronology: occupation of the site by Greek colonists in the 7th century B.C.; building of the "treasury" *c.* 560 B.C. and of the temples of Hera Argeia and Neptune towards the end of the 6th century; devastation in the 4th century followed by partial restoration; final decline in the Roman period. (*See* U. Zanotti-Bianco and P. Zancani-Montuoro with F. Krauss, *Heraion alla foce del Sele*, vol. I, Rome, 1951; J. Bérard, *Revue archéologique*, 6th series, vol. xl., Paris, 1952.) In a temple quarter outside the city of Aquileia (which was destroyed by Attila) the western part of a large early Christian basilica was found beneath the pavement of a mediaeval nunnery. The basilica was itself built over a third-century mosaic pavement which was inscribed with its donors' names.

Poland. An account in *Sprawozdania P.M.A.* (Warsaw, 1951) referred to excavations in progress on protohistoric earthworks at Bródno Stare, near Warsaw, and to an enormous hoard of amber found at Bassonia, Puławy. There were over 600 lb. of amber and 60 lb. of beads, regarded as of the 5th century A.D. About 70 beads later went to the Lublin university museum. An island in Lake Lednice, 12 mi. west of Gniezno, produced a full series of occupation levels, beginning with the Neolithic period, followed by Bronze and Iron Age levels, a heavy mediaeval occupation beginning about the 6th century, fortifications in the 10th century and, *c.* 1000, a stone stronghold with church, built over earlier Slav fortifications. (See *Archeologické Rozhledy*, Prague, 1952.)

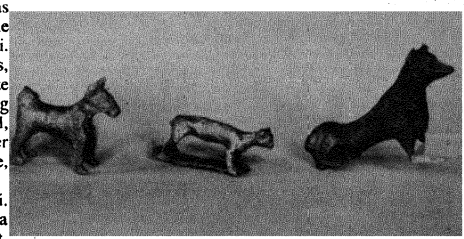
Near and Middle East. *Afghanistan.* At Mundigak, 30 mi. north of Kandahar, J. M. Casal began the excavation of a large *tell* or occupation-mound, several acres in extent, finding a series of early levels terminating with the Bronze Age. Later came elaborate brick structures, subsequently altered, while the site in its final phase had granaries of Harappa type.

Cyprus. At *Enkomi-Alasia*, the predecessor of neighbouring Salamis, the curator of the Cyprus museum, P. Dikaios, examined groups of early 14th-century (B.C.) buildings, first located in 1951 and situated inside the northern part of the city wall, which they antedated. In the 13th century B.C. they were reconstructed and strongly fortified, especially towards the west. Indications of a series of destructions and reconstructions in the late 13th and early 12th centuries B.C. pointed to continued invasion or the threat of it. Many fine examples were secured of late Bronze Age Cypriot and Mycenaean wares, but the most important find was probably an inscribed, baked clay tablet, not yet deciphered.

Latest reports on the long series of University of Pennsylvania museum excavations at *Curium* (12 mi. west of Limassol) related to the precinct of Apollo Hylates. Its southern margin (opposite the temple itself) was found to consist of a colonnaded building, measuring 189 ft. by 58 ft.; this overlay an earlier structure, probably destroyed by an earthquake, and contained five compartments, each surrounded internally by raised and colonnaded platforms—apparently the *exedrae* referred to in a Trajanic inscription of A.D. 101 recently found on the site. East of this complex another building, set askew, had a courtyard plan with rooms on three sides and was thought to be a gymnastic or guild building. The site, which had had a long life, produced finds ranging from early native bronzes of about 600 B.C. to material dating from near the end of the western Roman empire.

Egypt. Z. Goreim, keeper of antiquities at Sakkara, reported finding an extensive artificial terrace revetted in limestone blocks and provided with close-set square bastions ornamented with strip-pilasters. This construction had apparently been left unfinished when the enclosure of which it was part was enlarged. It closely resembled the enclosure wall of the step pyramid of Zozer. A trial excavation in the centre of the enclosure disclosed limestone walling suggestive of a step pyramid. Goreim considered that constructional details pointed to a date somewhat later than that of Zozer.

Iraq. Reports by M. E. L. Mallowan and others on the excavations, and ivories, tablets and other finds, at Nimrud, appeared in *Iraq* xiv, pt. I (Baghdad, 1952). *Iraq* xiv, pt. II (1952) contained an account by R. D. Burnett and W. Watson of the Russian excavations of 1950 at the Urartian site of *Karmir-Blur* near Jaferbad on the banks of the River Zanga. The main structure was a massive citadel, dated by the excavators as late 9th or 8th century B.C.; it was destroyed in the 6th or 7th century. Finds included stamp-cylinders; enormous quantities of beads, described as from Iran or India; scaraboids of Phoenician or Egyptian type; and a splendid bronze helmet decorated with lion-head snakes, a frieze of chariots, etc., and inscribed to the god Hali by Sarduri son of Agisti.



Three small metal dogs discovered at Nimrud, Iraq.

Libya. Work directed and reported by Kathleen Kenyon at the Roman city of *Sabratha* in Tripolitania paid particular attention to evidence of Phoenician occupation. The earliest period encountered suggested squatting traders, probably merely tent-dwellers, using pottery which might belong to the 6th century B.C. About 400 B.C. the settlement took shape, with harbour structures protected by an impressive wall, which was, however, gradually swamped by private and public buildings as the town expanded. The 1st century B.C. saw Roman planning largely replacing Phoenician and a policy of public building, lasting for some three centuries, which produced a forum, basilica, ceina, temples, etc. A suburb to the east contained a large theatre. Third-century barbarian devastation was followed by Constantinian rebuilding. About A.D. 450 organized town-life was virtually ended by the Vandal invasions, but a century later came a Byzantine reoccupation, confined, however, to the town-centre. The basilica was converted into a Christian church. The end came with the Arab invasions.

Persia. R. Ghirshman reported as the work of the French archaeological mission at the Elamite city of Choga-Zambil (*Dur-Untashi*), which lies southeast of Susa. It was some 225 ac. in extent, with an inner *enceinte* or fortified enclosure (of nearly 40 ac.) which contained an impressive temple

quarter. In this the excavators had discovered the remains of a *ziggurat*, ascribed to Untash-gal, king during the Elamite ascendancy of the mid-13th century B.C. and builder of much of Susa. Near the foot of the *ziggurat* were found various temples of the same date and retaining dedication-inscriptions to various Elamite gods. Such finds included a large circular podium of brick, with dedications by Untash-gal to the gods Insusinak and Huban. The city was destroyed, apparently forever, in the great Assyrian campaigns of the mid-7th century B.C.

Turkey. Probably of most general interest was the rehousing of the Byzantine mosaics found before World War II by the Walker trust in the great imperial palace at Istanbul. This work (directed by Professor D. Talbot Rice) involved the lifting of some outlying parts of the floor and the consequent discovery beneath it of stamped bricks apparently of the late 5th century. This suggested that these splendid mosaics, with their numerous free-style figures somewhat in the Syrian manner and their more formal and classical animated-scroll borders, might perhaps date at least from the early 6th century A.D. Trial excavations nearby revealed massive substructures consisting mainly of a series of deeply buried vaults (up to 20 ft. in height), the earliest (attributed to the 4th century) being of stone, with brick repairs and alterations in succeeding centuries. (J. CHN.)

North America. The Illinois State museum issued the fifth volume in its scientific series, the first devoted to archaeology ("Hopewellian Communities in Illinois", Thorne Deuel, ed.). It was most interesting that the cultural complex which had been determined to be early Hopewell (radiocarbon date *c.* 200 B.C.-1 B.C.) had several similarities to the comb-ceramic cultures of Siberia and Japan.

James A. Ford of the American Museum of Natural History conducted brief exploratory excavations at the Poverty Point site in northern Louisiana. Air photographs revealed that there is a remarkable arrangement of six concentric earth embankments lying to the east of the 70-foot high mound that stands on this site. The outermost embankment is three-quarters of a mile in diameter. Trenches across these embankments demonstrated that they are artificial and were constructed during the period of the pre-ceramic Poverty Point cultural complex. The entire construction seemed to be related to an old channel of the Mississippi river dated *c.* 1500 B.C. However, the radiocarbon date for a site of the same culture, excavated in 1951 in Mississippi by Ford and Philip Phillips of Harvard university, was 399 ± 80 B.C.

Charles E. Borden of the University of British Columbia continued excavations at the deep site which he discovered in the Musqueam reserve in 1951. A number of artifacts were recovered and material from the lower levels was markedly different from the protohistoric Musqueam remains in the upper levels.

W. S. Laughlin headed a party from the University of Alaska which continued the programme of research in the Aleutian Islands. Work was concentrated in the eastern islands and particular attention was paid to the dating of an early lamellar flake industry. On the basis of radiocarbon dates, Laughlin estimated that prehistory of the islands had been traced back for about 4,000 years.

In Eskimo archaeology interest centred on the problem of the Dorset culture. The first information about Dorset dwellings came from excavations made by Deric O'Bryan at Mill Island. Bernard G. Hoffman published a short but highly significant paper (in *American Antiquity*, vol. 18, no. 1) which used the recently available dating of late Pleistocene events and of the Dorset-related early cultures of the northeastern United States to examine whether these cultures could have derived their traits from Dorset. He suggested that such early cultures as the Old Copper culture of Wisconsin and the Lamoka, Frontenac and Laurentian cultures of New York state may be in part ancestral to Dorset rather than the reverse.

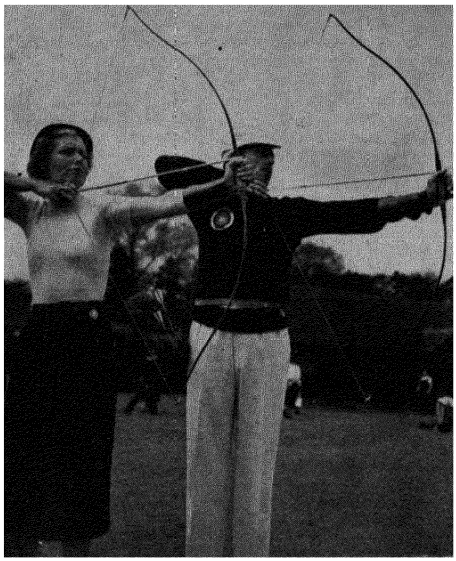
The remains of a mammoth skeleton were excavated near the village of Santa Isabel Ixtapan in the dry bed of Lake Texcoco, 18 mi. northeast of Mexico City, under the direction of Luis Aveleyra and Manuel Malonado Koerdell. Six flint artifacts were found in close association with the bones and one of these was a projectile point very similar to the Scottsbluff type. Another mammoth with artifacts associated was discovered in southern Arizona, just north of the Mexican border. Eight projectile points of the Clovis Fluted type were found in direct association with the skeleton; Earnest Antevs, a Pleistocene geologist, estimated that the minimum age of the discovery was 10,000 years.

Central America. The most spectacular discovery of the year was made in the Temple of the Inscriptions at Palenque, southeastern Mexico. For the last four field seasons Alberto Ruz of the Instituto Nacional de Antropología y Historia had been clearing a rubble-filled stairway discovered underneath a stone slab forming part of the temple floor. This stairway led down to the base of the 20-metre pyramid which forms the foundation for the building. In the spring of 1952 a stone doorway was discovered at the foot of the stairs and this gave access to a vaulted chamber. The walls of this chamber were covered with typical Maya paintings, somewhat damaged by lime deposits. In the centre of the chamber was a sealed stone sarcophagus richly carved in low relief, set on low stone blocks. Late in the year, this casket had not been opened, as considerable preliminary work was necessary to ensure that the heavy stone lid could be raised without damage to the box or its contents.

The Carnegie Institution of Washington continued its Maya area programme The map of the numerous house mounds at Mayapan, Mexico, was completed and several of the smaller structures excavated. Graves were discovered beneath the house floors. R. E Smith also dug in one of the many *cenotes* (cave reservoirs) at the site. This had a stairway leading down to the water and an artificial platform on the floor of the cavern. E. M. Shook completed a study of the great wall which surrounded the city, and T. Proskouriakoff began recording the numerous sculptures that had been found. (J. A. F.)

ARCHERY. At the international championship meeting in Brussels, in July, 11 nations were represented by 27 ladies and 60 gentlemen. Jean Lee (U.S.) retained her title of lady world champion with 3,185 points; second, Mrs. Jean Richards (U.S.), 3,035; third, Mrs. D. M. Hinton (Great Britain), 2,669. Stellan Andersson (Sweden) won the gentlemen's title with 3,151 points; second, B. Lundgren (Sweden), 3,050; third, Einar Tang Holbek (Denmark), 3,025. The ladies' teams results were: first, United States; second, Great Britain; third, Sweden. Gentlemen's teams: first, Sweden; second, Denmark; third, Great Britain. It was decided that the world championships should again be shot annually instead of biennially.

The British championships were held at Oxford in early July, 175 archers competing. Ladies' results were: first, Mrs. T. C. Morgan (Shrewsbury), 1,428; second, Mrs. D. M. Hinton (Dudley, Worcestershire), 1,424; third, Mrs. R. Frith (Watford), 1,421. Gentlemen: first, W. Bickerstaff (Belfast), 1,322; second, Lieut.-Commander W. F. Paterson (Portsmouth), 1,269; third, Lieut.-Commander B. McC. Smith (Weymouth), 1,226. The county team championships were won by the Ladies of Yorkshire and the Gentlemen of Hampshire. The number of clubs affiliated to the Grand National Archery society rose from 165 to 255.



Two competitors in the Southern Counties Archery Society's North v. South match which was held at Winchester in May.

The British Long-Bow society, formed late in 1951, at whose meetings traditional English long-bows only may be used, held its meeting at Hurlingham in October, the winners being Miss R. Marchant (Tunbridge Wells) and C. B. Edwards (Ashford, Kent). (C. B. E.)

ARCHITECTURE. In Great Britain 1952 was remarkable less for the completion of any spectacular buildings than for gradual but steady progress in realizing plans laid in previous years. Schools, housing in general and the new towns in particular reflected praiseworthy but, except in a few cases, unadventurous effort. Less satisfactory were the commercial projects, new blocks of offices (especially in the City of London) and the partially reconstructed centres of such blitzed cities as Plymouth and Exeter, whose new buildings exhibited a heavy-handedness reminiscent of prewar confusion in architectural aims, as well as a frequent disregard for scale-adjustment in relation to existing surroundings.

The centenary of the opening of London's Kings Cross station was marked in 1952. Designed by the engineer Lewis Cubitt, the building is generally considered to be a major example of early functionalism and a plea was made for the removal of the unsightly group of buildings that obstructed the forecourt and impaired the view of the building.

Among a number of excellent schools completed to the designs of the London County council architect's department (Robert H. Matthew, architect in charge) was a primary school for 100 children at Benbow street, Deptford. The construction was of a light welded galvanized steel frame with walls of pre-cast concrete slabs. One for 600 children at Denmark Hill employed the same structural system. Another L.C.C. school (one of the first schools to use pre-stressed concrete) was built in Poplar to the designs of Cecil Handisyde in association with Hammet and Norton; Felix J. Samuely was consulting engineer. The system, designed for a multi-storey structure, was as follows: structural columns of *in situ* reinforced concrete; main beams of pre-stressed concrete soffits with pre-cast trough-shaped units between and *in situ* concrete poured on top to bond the whole into one monolithic structure. This form of structure proved successful and would be used for a number of other schools.

The first prize of 1,000 guineas for a design submitted in a competition for a housing scheme at Golden lane, London, sponsored by the corporation of London, was won by Geoffrey Powell. The scheme, which was expected to cost about £1 million, had to provide accommodation for about 940 people at a density of 200 to the acre. The assessor was Donald H. McMorran.

A large housing scheme at Priory Green, Finsbury, London, designed by Tecton with Skinner, Bailey and Lubetkin as executive architects, was occupied during the summer. It comprised 269 flats in two eight-storey and four four-storey blocks. A further eight-storey block would be built later. Construction—the same for all blocks—was reinforced concrete cross walls varying from 5 in. to 7 in. in thickness, with reinforced concrete floor slabs 4½ in. thick. The main elevations were divided into panels with an infilling of 4½-in. brickwork with straight vertical joints, separated from an inner lining of 2¼-in. cell concrete by a 2-in. air cavity. The ends of the reinforced concrete cross walls were covered by cast-iron downpipes, and the edges of the floor slabs with horizontal gutters, both of rectangular section. These served the treble purpose of facing the outside edges of the cross walls and floor slabs, covering the joint between the brick panel walls and the concrete structure and serving as a rainwater disposal system. The two-storey-high entrance halls were decorated with murals by Feliks Topolski depicting the history of London with emphasis on local events and traditions.

The " Commonwealth house " was exhibited on a site near Kew bridge, Middlesex. Designed by C. A. V. Smith and J. P. Meckridge, an Australian architect, it was intended mainly for export. In view of the shortage of skilled building labour in the colonies, the aim was to produce a house capable of quick erection by average handymen and one occupying the minimum of shipping space. It was hoped eventually to produce 20,000 of the houses each year. The estimated cost for a minimum of ten houses was £1,150 each (free on board). The total floor area provided was 905 sq.ft.

In the new towns housing was well under way: most spectacular were the large blocks of flats (small though the proportion of these to houses would be). At Sish lane, Stevenage, Hertfordshire, the firm of Yorke, Rosenberg and Mardall were responsible for a group of buildings which included a seven-storey block. This was constructed with a reinforced concrete box frame with no projecting beams or columns. Where cross wall and floor slabs projected beyond the main building face they were covered with blue-grey frost-proof eggshell glazed tiling. Flank walls were finished outside with panels of 4½-in. brick in Flemish bond, the headers having snapped ends facing outwards and allowed to project to random lengths, giving a rich textural effect. The whole scheme comprised 110 flats in all with 54 flats in the seven-storey block, and the rest in two and three-storey blocks.

By the end of the year demolition was completed of the temporary Festival of Britain exhibition buildings on the South Bank site, London. Several of the buildings in the downstream section were retained, among them the Telekinema, for use as the National Film theatre, and the former administration building for use as offices by the Council of Industrial Design. Hugh Casson, director of architecture for the Festival of Britain 1951, had been knighted in the New Years Honours.

Commonwealth. *Canada.* A memorial gymnasium was built at Vancouver, British Columbia, to the designs of Fred Lasserre in association with Sharp, Thompson, Berwick and Pratt. At first floor level the building had all-glass walls; the



London flats which were designed by Tecton and occupied in the summer. They are part of a large housing scheme at Priory Green, Finsbury.

flat roof above it had deep overhanging eaves. The completed scheme would include a swimming pool and snack bar.

Ceylon. The Colombo exhibition illustrating the possibilities of the Colombo plan (*q.v.*) opened during February. It was planned with the help of a London designer, Misha Black, whose United Kingdom pavilion was the most interesting of the structures there.

Nigeria. At Onitsha the first part (the lady chapel) of the new Anglican cathedral for the Niger diocese was consecrated in May. The architect was Richard S. Nickson. The building would be entirely without windows or glazing of any kind, natural ventilation being provided by concrete louvred panels spanning between buttresses which along with the end walls were of locally quarried ironstone laid in coursed rubble.

South Africa. The Van Riebeek Festival fair, celebrating the landing of the first white settler at the Cape in 1652, was held in Capetown from January to April. The architect in charge was Sir Hugh Casson. A number of tall office and flat buildings were erected in Johannesburg. Nearly all of them exhibited similar characteristics: a frank expression of the grid structure in the elevations; unpretentious but well-considered detailing; and well-balanced handling of texture and pattern. Groot Drakenstein, a block of luxury bachelor flats, can be taken as typical. Thirteen stories high, all flats consisted of a single living room, with dining recess and balcony and separate kitchen and bathroom. The framework was reinforced concrete with a panel infilling of red and plum-coloured rustic bricks. The architects were H. H. Le Roith and Partners.

Europe. *Denmark.* In Copenhagen a 14-storey office building named the Panoptiken was completed to the designs of Mogens Jacobsen and Alex Poulsen. The structure was of reinforced concrete with a facing of prefabricated panels. The largest congress hall in Denmark was opened at Aalborg in north Jutland. It included a theatre, concert hall and music rooms. The architects were Preben Hansen, Otto Frankild and Arne Kjaer. Two noteworthy small houses both showed American influence. One at Vedbaek, built by the architect Haldor Gunegsson for himself, acknowledged a debt to Frank Lloyd Wright with its brick walls, shingle roof and large sliding glass doors. The other at Hellebaek near Elsinore again built by an architect, Jorn Utzon, for himself was nearer in manner to the houses of the San Francisco bay region. All the outer walls were of glass but for the north wall which was of yellow bricks and entirely without windows. The roof was surfaced with aluminium.

France. Plans for the new Paris headquarters building of U.N.E.S.C.O. were published in November. The architects were Marcel Breuer (U.S.A.), Bernard Zerhrfuss (France) and Eero Saarinen (U.S.A.), with Pier Luigi Nervi (Italy) as engineer. A consultant advisory panel included Lucio Costa (Brazil), Walter Gropius (*q.v.*) (U.S.A.), Le Corbusier (France), Sven Markelius (Sweden) and Ernesto Rogers (Italy). The site was one bordering the Bois de Boulogne between the Porte Dauphine and the Porte Maillot. Owing, however, to objections by the Paris town planning authorities, the design was rejected, and the French government's offer of the site withdrawn. Instead the site originally proposed (behind the Ecole Militaire), was offered again, this time without aesthetic restrictions. U.N.E.S.C.O. accepted the offer and re-appointed the same team of architects and advisers to produce another (third) scheme.

Italy. An estate of 440 flats housing some 3,000 people was completed near St. Paul's Without the Walls at Rome. The architects were S. Muratori and M. do Renzi. The site was between the Via Ostense and the old *autostrada.* The

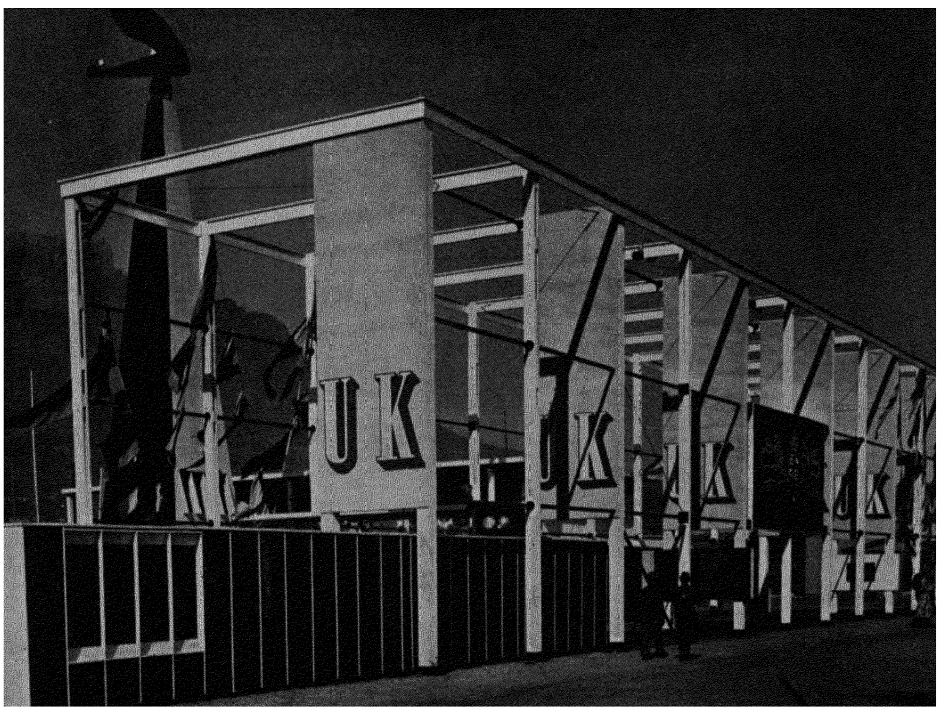
flats were built in blocks of from three to eight storeys; in addition, there were open and covered markets, arcaded shops, a covered area for newspaper kiosks and bars, a day nursery, playgrounds and public gardens. The structures were of reinforced concrete with infilling of brick, rendered; roofs were low-pitch and covered with pantiles. The whole scheme showed the influence of similar estates in Sweden. A new church was built at Recoaro Terme, a small tourist centre and watering place in the Veneto. The architect was G. Vaccaro. The walls were of cream-coloured stone laid in a strongly contrasting pattern with a light-red marble from Verona. The barrel-vaulted roof was of reinforced concrete, covered with copper. The new Centro Svizzero, Milan—containing the Swiss tourist offices, bank, consulate, chamber of commerce, clubs, etc.—replaced that destroyed in a World War II air raid: a competition for a new design sponsored in 1947 by the Swiss society of Milan was won by A. Meili and construction began in 1950. The Centro consisted of a multi-storey " slab " set obliquely over a lower (five-storey) building: it was a frame structure faced with Carrara marble " bricks ".

Netherlands. At Rotterdam the enormous wholesalers' building was opened. The idea for it arose as a result of the wartime destruction of the city centre, where most of the wholesalers were situated. The building, designed by van Tijen and Maaskant, provided accommodation for 150 firms, and included offices, showrooms, warehouses, exhibition space and a garage for 400 cars, as well as a restaurant, a cafeteria, recreation rooms and conference halls.

Switzerland. The two most interesting buildings to be completed during the year in Switzerland were an art gallery and an open air swimming pool. The art gallery, at Glaris, was designed by Hans Leuzinger and consisted of two wings. One housed a private art collection (a gift to the city), the other a public collection and rooms for temporary exhibitions. The structure was of reinforced concrete with walls of yellow brick. All galleries were top lit. The swimming pool was situated on a river, in the middle of Zürich, and was partly built over the river on reinforced concrete stilts. All structures were of reinforced concrete except for the changing-rooms which were of timber. The colour scheme was mostly white and grey with occasional bright accents. (I. R. M. M.)

United States. There was further experiment in 1952 with constructional methods, new materials and the employment of mechanical equipment. For example, one of the first buildings in America to use pre-stressed concrete in a structural system was erected on the new campus of Manhattanville college, Purchase, New York, from the designs of Eggers and Higgins. Among other structural innovations of interest were the 75-ft.-span light ribbed timber roof employed by E. J. Bartel at Newton, Kansas; and the 222-ft. diameter thinly spun dome of the Jordan Marsh store in " Shoppers' World " at Framingham, Massachusetts, designed by Ketchum, Gina and Sharp.

The United Nations' group in New York, as the conference building and the general assembly building were completed, proved to be the outstanding architectural attraction of the year for the critics. The desire to design and erect office buildings that would also be civic monuments manifested



The United Kingdom pavilion at the Van Riebeek Festival fair, Capetown, 1952. The architect in charge was Sir Hugh Casson. Table Mountain can be seen in the background.

itself in several cities. In some of these, potential revenue was sacrificed to achieve a distinguished design and to increase the attractiveness of the space to be occupied. Most conspicuous of these was Lever house, New York, by Skidmore Owings and Merrill, which included a splendid open court, which added distinction to the great glass-sheathed mass of the building, but was reported to sacrifice $200,000 a year in terms of rental space. The new 41-storey Prudential building by Naess and Murphy, under construction in Chicago, was designed to offer its tenants unusual luxury services rather than competitive rents. The Alcoa building, Pittsburgh, by Harrison and Abramovitz, dramatically took advantage of its site on the Golden Triangle. Using aluminium exterior wall panels, ingenious windows, sealed yet easily washed from the inside, and inside ceilings, ducts and piping in conjunction with a steel frame fireproofed with foam concrete, the building was probably the lightest of comparable size so far constructed.

Except in congested urban areas, there was a marked trend toward low spreading buildings, often employing noise-buffer courts and with interiors having a continuity of design with the outdoor environment. Attractiveness and increased "livability" from the pupil's point of view were admirably achieved, as in Flewelling and Moody's new El Segundo (California) public school and the Portola junior high school, at El Cerrito, in the same state, by Miller and Warnecke. Frank Lloyd Wright's continuation of his notable project for a new campus for Florida Southern college at Lakeland, Florida, was of marked architectural interest and influence.

The building of large private houses continued to be a rare occurrence, but many noteworthy moderate-sized houses, geared to informal and efficient living, were built, such as the Rawson house on Long Island, New York, by Petroff and Clarkson and the sub-tropical house for Roland Phillips at Miami, Florida, by Igor B. Polevitzky.



The central block of the new Swiss Centre in Milan, completed in 1952; A. Meili, architect.

New religious buildings included Percival Goodman and Associates' Temple Beth Israel at Lima, Ohio, and Kivett and Meyer's synagogue and school at Kansas City, both resourceful and distinguished designs. Among successful solutions to the small church problem were Pietro Belluschi's First Presbyterian church, Cottage Grove, Oregon, and Ramey, Himes and Buchner's Lutheran church at Clay Centre, Kansas.

Mexico. For the design of the spectacular Ciudad university near Mexico City, Carlo Lazo co-ordinated the activities of 140 architects. The new campus was to accommodate 26,000 students and included a stadium seating 110,000. (*See* also BUILDING AND CONSTRUCTION INDUSTRY; HISTORIC BUILDINGS; HOUSING; INTERIOR DECORATION; TOWN AND COUNTRY PLANNING.) (J. G. V. D.)

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.

Name of continent and state	*Area (in sq.mi.)*	*Population ('000)*	*Persons per sq.mi.*
WORLD TOTAL	58,209,392	2,400,000	41·2*
AFRICA	11,634,040	198,000	17·0
Belgian colony and trusteeship	940,540	15,307	—
British colonies, dependencies, etc.	2,997,189	59,582	—
Egypt	386,110	20,729	53·7
Ethiopia and Eritrea	398,350	16,104	40·4
French overseas territories and protectorates	4,252,124	50,245	—
Italian trusteeship	216,310	1,100	5·1
Liberia	43,000	1,350	31·4
Libya	679,183	1,124	1·6
Portuguese overseas territories	794,959	10,559	—
South-West Africa (mandate of South Africa)	317,725	430	1·4
Spanish colonies and protectorates	134,715	1,554	—
Tangier, International Zone of	232	150	—
Union of South Africa	472,494	12,646	26·8
ANTARCTICA	6,000,000	—	—
ASIA (exclusive of U.S.S.R.)	9,767,574	1,272,000	129·7
Afghanistan	251,000	12,000	47·8
Arabian desert	193,000	Largely uninhabited	
Bhutan	18,000	300	16·7
British colonies, dependencies, etc.	245,932	10,584	—
Burma	261,600	18,674	71·4
Ceylon	25,322	7,743	305·8
China (including Formosa, Kwantung, Manchuria and Tibet)	3,876,956	476,435	122·9
French overseas territory and associated states	285,987	27,897	—
India	1,174,116	356,692	304·9
Indonesia	583,479	76,500	131·4
Iraq	168,043	5,100	30·3
Israel	8,048	1,605	199·4
Japan	146,690	83,200	554·6
Jordan	37,100	1,267	34·2
Korea	85,225	30,000	351·9
Kuwait	9,000	170	18·9
Lebanon	3,475	1,285	369·8
Mongolia	606,000	850	1·4
Nepal	54,000	6,910	128·0
Netherlands New Guinea	152,100	700	8·5
Oman and Muscat	65,000	550	8·5
Pakistan	364,737	75,842	207·9
Persia	634,413	18,772	29·6
Philippines	115,600	21,400	185·1
Portuguese overseas territories	8,876	1,456	—
Qatar	4,000	20	5·0
Ryukyu Is. (U.S. occupied territory)	935	917	980·7
Saudi Arabia	597,000	6,000	10·1
Sikkim	2,745	136	50·4
Syria	66,063	3,228	48·9
Thailand (Siam)	198,270	18,836	95·0
Trucial Sheikdoms	16,000	80	5·0
Turkey	296,184	20,935	70·7
Yemen	75,000	4,500	60·0
AUSTRALASIA and OCEANIA	3,303,388	12,900	3·9
Australia	2,974,581	8,539	2·8

Name of continent and state	Area (in sq mi)	Population ('000)	Persons per sq mi
Australian dependencies	183,553	1,058	—
British colonies, dependencies, etc	23,800	535	—
French overseas territories	9,199	117	—
New Zealand	103,416	1,939	18 8
New Zealand dependencies	1,656	104	—
United States possessions	7,407	635	—
EUROPE† (exclusive of U S S R)	1,912,630	396,300	212 4
Albania	11,100	1,200	109 1
Andorra	191	6	31 4
Austria	32,375	6,919	213 7
Belgium	11,781	8,678	736 6
British colonies and dependencies	124	335	—
Bulgaria	42,796	7,735	180 7
Czechoslovakia	49,354	12,340	250 0
Denmark (incl Faeroe Islands)	16,616	4,281	258 3
Estonia	18,357	1,200	65 4
Finland (incl Åland Islands)	130,119	4,033	30 9
France	213,010	42,293	198 9
Germany (excl Saar)	136,461	68,363	500 9
Greece (incl islands)	51,182	7,604	129 0
Hungary	35,893	9,201	256 3
Iceland	39,768	144	3 6
Ireland, Republic of	26,601	2,961	111 2
Italy	116,226	47,021	404 6
Latvia	25,395	2,100	82 7
Liechtenstein	61	14	226 2
Lithuania	25,173	3,000	119 2
Luxembourg	999	299	298 9
Monaco	0 6	19	—
Netherlands	12,868	10,286	799 3
Norway (excl Svalbard)	125,182	3,294	26 2
Norwegian dependency (Svalbard)	24,295	3	—
Poland	120,359	25,500	211 9
Portugal (incl Azores and Madeira)	35,415	8,490	239 7
Rumania	91,671	16,094	175 6
Saar	734	848	1,155·4
San Marino	38	13	341 3
Spain (incl Canary Islands)	194,945	28,002	143 6
Sweden	173,390	7,047	40 6
Switzerland	15,944	4,715	295 8
Trieste, Free Territory of	293	378	-
United Kingdom	94,501	50,370	533 0
Vatican City	0 5	1	—
Yugoslavia	99,181	15,772	159 0
U S S R†	8,598,678	201,300	23·4
NORTH AMERICA	9,370,536	216,300	23 0
British colonies and dependencies	21,099	2,895	—
Canada	3,843,144	14,009	3 6
Costa Rica	19,238	794	41 4
Cuba	46,748	5,523	118 1
Dominican Republic	19,129	2,121	110 9
El Salvador	13,176	1,859	141 1
French territory and departments	1,206	544	—
Greenland (Danish possession)	839,782	23	0 03
Guatemala	45,452	2,787	61 3
Haiti	10,748	3,112	289 5
Honduras	59,160	1,505	25 4
Mexico	760,373	25,400	33 4
Netherlands Antilles	403	166	411 9
Nicaragua	57,145	1,503	18 4
Panama (excl Canal Zone)	28,575	850	28 2
United States (continental)	3,022,387	150,697	49 9
United States possessions	574,982	2,419	—
SOUTH AMERICA	6,956,904	111,400	16 0
Argentina	1,084,359	18,000	16 6
Bolivia	416,040	3,019	7 2
Brazil	3,288,042	52,645	16·1
British colonies and dependencies	90,681	433	—
Chile	286,396	6,032	21 1
Colombia	439,714	11,266	25 6
Ecuador	104,510	3,077	29 4
French Guiana	35,139	29	0·8
Netherlands territory (Surinam)	54,291	223	4·1
Paraguay	157,047	1,406	8 9
Peru	482,258	8,405	17·4
Uruguay	72,172	2,365	32 8
Venezuela	352,143	5,175	14·8

* In computing the world density the area of Antarctica is omitted. † Areas and populations of Estonia, Latvia and Lithuania are included in U S S.R. totals.

ARGENTINA. 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 Antarctica): 1,084,359 sq.mi. Pop.: (1947 census) 15,893,827; (mid-1952 est.) 18,000,000. 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. Language: Spanish. Religion: mainly Roman Catholic; Jewish 360,000. Capital and leading port (pop., 1952 est.): Buenos Aires (3,383,000). Other chief towns (pop., 1947 census): Rosario (761,300), Córdoba (351,644); La Plata, now Eva Perón (271,738); Lanús (242,760); Santa Fé (168,011); Tucumán (152,508), Mendoza (105,328); Mar del Plata (104,513). President of the republic, General Juan Domingo Perón.

History. The Argentine people would remember 1952 as the year of the death of Señora Eva Perón, the president's wife. After a long illness Señora Perón died on July 26 at the age of 33. Although she possessed no official standing in the government, "Evita" had exercised a powerful influence in public affairs: she won the franchise for women and helped to organize and direct the Labour movement from which Perón's régime had drawn much of its strength. Her death was the occasion for unparalleled demonstrations of sorrow and respect. Tributes to her memory included the following: the trade unions ruled that "every day for ever" a wreath would be laid on her tomb by a delegation of workers; the Ministry of Education decreed that portraits of Eva Perón should be hung in all schools in the country, and that offerings of flowers should be made before them every morning; the same ministry announced that one school in each of the principal towns of the republic would be renamed "Eva Perón"; congress passed a bill ordaining that "for the rest of history" July 26 would be a day of national mourning; the provincial legislature changed the name of the provincial capital from La Plata to Eva Perón; during her illness congress had officially pronounced that Señora Perón was the "spiritual chief of the state"; her autobiography was made compulsory reading for schoolchildren; and the former territory of La Pampa became Eva Perón state, with a Syndicalist constitution.

The economic life of the nation was beset with problems: the prolonged rise in the cost of living caused the government to adopt a drastic deflationary policy; the constantly diminishing reserves of foreign currency compelled the president to appeal again and again for greater production, in order that exports might be increased, and obliged him to take measures to enforce economy; for the same reason, imports were limited to essential supplies. Petrol was rationed at the beginning of January; one meatless day a week was decreed in that same month; a campaign was launched to persuade the people that excessive meat-eating was unhealthy; in February all prices were officially frozen, and many Argentine consulates abroad were closed. In August it was announced that it would be necessary for Argentina to import wheat from the United States. Because of the dollar shortage, this transaction had to be accomplished in a round-about manner, Argentina shipping 260,000 tons of maize to France; France exporting 200,000 tons of barley to the United States; and the United States sending 200,000 tons of wheat to Argentina.

By September it became apparent that a deflationary tendency had begun. This was partly the result of the government's policy of credit restriction. Another contributory factor was the recent decline in pastoral and agricultural production (largely caused by a succession of serious droughts) which reduced the buying power of rural workers,

thereby creating unemployment in some urban industries, particularly in textiles. Prices of certain goods were slashed in the shops, and bankruptcies multiplied. Deflation drove the black market value of the peso from 30 to the U.S. dollar (in January) to 19 (in September). But nobody believed that the crisis would be disastrous: all that was needed, was a bumper harvest, which, if it materialized at the turn of the year, would go a long way to solving the nation's problems. The Argentines had suffered many economic crises in the course of their history; but, after one or two lean years, the fabulous fertility of their soil had always saved them.

Perón blamed, firstly, the droughts, and, secondly, U.S. " imperialism " for Argentina's discomfiture, and U.S.-Argentine relations deteriorated during 1952. In a speech on Feb. 1 the president declared that the United States had cornered the world's raw materials and said that Argentina did not want dollars. A short while ago, he remarked, the Americans had come to buy Argentine meat for their men fighting in Korea, and offered dollars in payment. They had been told, however, that they would get no meat unless they paid in raw materials. He added: " They did not give us raw materials, and we did not give them meat." It so happened that there was no surplus meat available at the time; but Perón's statement was a typical manifestation of his resentment against Argentina's northern rival in the contest for South American hegemony.

Relations with Great Britain were amicable, though antarctic disputes occurred once again. In February Argentine forces at Hope bay temporarily expelled the British survey vessel " John Biscoe ", and it was later announced that the Argentines had established a permanent (their sixth) antarctic base in that locality. In the same month a regular air mail service between Buenos Aires and Antarctica was inaugurated. Perón stated in May: " Argentina will no longer discuss her antarctic claims. We shall defend them. Those who discuss our rights have thousands of years behind, but perhaps very few ahead. We have but a century behind, but many in front of us." He continued: " We must throw generations of Argentines towards the antarctic, but without fuss. Justice, God and the future are on our side." The meeting addressed by the president on this occasion was opened with a showing of the British film *Scott of the Antarctic*.

Relations between Argentina and the neighbouring republic of Uruguay became particularly strained. The Argentine government resented the fact that Uruguay continued to grant asylum to anti-Peronista refugees and that criticism of the Perón régime was frequently expressed in Uruguayan newspapers and by radio. The Argentine authorities made travel between the two countries increasingly difficult by various restrictive measures. In September the Uruguayan government expelled an Argentine labour attaché who was stated to have encouraged factory-workers at Montevideo to strike for higher wages. Argentina retaliated by launching a violent press campaign against Uruguay and by accusing the Uruguayan government of having officially recognized British sovereignty over the Falkland islands—an accusation which was withdrawn, with qualifications, in December.

The 1951 Anglo-Argentine commercial and financial protocol expired in April 1952. The final meat shipment due under this agreement was made, belatedly, at the end of June; and the British embassy at Buenos Aires complained repeatedly to the Argentine government that their undertaking to issue import licences for British " non-essential " manufactures had not been fulfilled. The Argentine reply was that unfortunately no sterling was available for this purpose. Negotiations for a new protocol were in progress, intermittently, throughout the year. Before the official Anglo-Argentine talks began, President Perón declared publicly that he would demand £250 per ton for beef, against the previous price of about £126. The protocol was at last signed on Dec. 31. It provided for the purchase by the United Kingdom of about 255,000 tons of meat in 1953, the agreed price of good quality frozen beef being £161; U.K. exports of crude oil, fuel oil and tinplate during 1953 would be of about the same quantities as fixed in the previous protocol; exports of coal to Argentina would be increased to 800,000 tons; the Argentine government undertook to issue import licences totalling £3 million by the end of Sept. 1953, and the United Kingdom agreed to make available



Troops lining the streets of Buenos Aires at the funeral of Eva Perón on Aug. 10. She died on July 26 but until Aug. 8 her body lay in state in the Ministry of Labour and Social Welfare.

a credit of £20 million, as previously. The transfer of financial remittances from Argentina was not mentioned in the new protocol.

An R.A.F. goodwill mission arrived at Buenos Aires in three Canberra jet-propelled bombers at the end of October. In November the British foreign under-secretary, Lord Reading, visited Buenos Aires during a tour of southern South America. In December President Perón introduced his second five year plan to congress in an address which was seen on television for the first time. The new plan was designed to continue the organization of the state on totalitarian lines, under the domination of the Peronista party, and, in particular, to assist the revival of agriculture. (G. P.)

Education. Schools (1949) primary 14,722, pupils 2,119,940, teachers 92,554, secondary (1946) 1,145, pupils 221,409, teachers 28,360 Universities (1946) 6, students 51,886, teaching staff 2,607

Agriculture. Main crops ('000 metric tons, 1950, 1951 in brackets) wheat 5,796 (2,050), barley 762 (349), oats 733 (442), maize 2,670 (1,990), rye 631 (87), potatoes 1,559 (1,250), rice, paddy 141 (191), cotton, fibre (1950-51, 1951-52 in brackets) 102 (129), sugar, raw value 613 (651), sunflower seed 920 (1,250), tobacco 35, groundnuts 150, cottonseed 200 (206), linseed 559 (360) Livestock ('000 head) horses (1949) 7,238, asses and mules (1949) 501, cattle (1951) 43,000, sheep (1948) 51,172, pigs (1949) 3,000 Fisheries: total catch (1951) 61,270 metric tons

Industry. Industrial establishments (1947) 101,884, persons employed in manufacturing industries (1949) 1,169,000 Fuel and power coal ('000 metric tons, 1950, 1951 in brackets) 26 4 (3 96), electricity (million kwh, 1950, 1951 in brackets) 4,428 (4,716), crude oil ('000 metric tons, 1951, 1952, six months, in brackets) 3,540 (1,808) Raw materials ('000 metric tons, 1950) lead, smelter 18 3, zinc, smelter production 7 53, sulphur 7 8 Manufactured goods ('000 metric tons, 1951, 1952, six months, in brackets) cement 1,548 (795), cotton yarn 91 32, rayon yarn 7 43

Finance and Banking (million pesos) Budget (1952 est.) revenue 6,000, expenditure 9,100 National debt (Dec. 31, 1950, Dec 31, 1951, in brackets) 15,997 (19,452) Currency circulation (July 1951, July 1952 in brackets) 12,655 (14,905) Gold reserves (million U S dollars, July 1951, July 1952 in brackets) 288 (268) Monetary unit *peso*, with a basic export rate (Oct 1952) of 14 0 pesos to the pound sterling and 5 0 pesos to the U S dollar, and a free market rate (Oct 1952) of 38 97 pesos to the pound and 13 92 pesos to the U.S dollar

Foreign Trade. (Million pesos, 1951, 1952, six months, in brackets) Imports 10,491 (5,172), exports 6,709 2 (2,028) Main sources of imports (1951) U S 21%, France 10%, Brazil 9%, U K 7 5%, Germany 7 5% Main destinations of exports U S 17 5%; U K 17%; Brazil 10 5%, Italy 7%, Germany 7% Main imports (1951) machinery and vehicles 18%, iron and steel products 15%, fuel and lubricants 10 5%, textiles 10% Main exports cereals and linseed 23%, meat 15%, wool 13 5%; hides 7 5%

Transport and Communications Roads (1950) 37,000 mi Motor vehicles licensed (Dec. 1950) cars 250,000; commercial 160,000 Railways (1949-50) 26,568 mi., passenger-mi 8,260 million, freight net ton-mi 10,580 million Shipping (merchant vessels of 100 gross tons and over, July 1951) 300, total tonnage 993,798 Air transport (1949) mi flown 8 million. Telephones (1951) 798,391 Wireless licences (1949). 1,704,893.

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ARMIES OF THE WORLD. United States.

The U.S. defence appropriation for the fiscal year 1953 (July 1, 1952-June 30, 1953) was $46,610,938,912 (*c.* 55% of the total expenditure). The army's share of the budget was $12,239,500.

Disposition. During 1952 all of the regular infantry divisions were located overseas. Divisions stationed in the United States included two airborne, one armoured division and four national guard infantry divisions which had been called to active duty. Six U.S. divisions were engaged in Korea; two were stationed in Japan. In addition, the 7th army in Germany was composed of four infantry and one armoured division, together with a constabulary force.

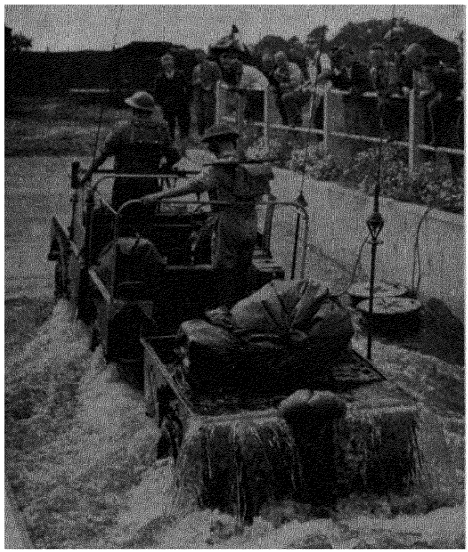
Organization. The average available strength of the army during 1952 was 1,552,000 men. Strength was maintained through the draft which had inducted more than a million men since its resumption in 1950. During the year congress approved legislation which provided that the army would be backed by a portion of the million-man ready reserve to be organized for the armed services. All other reserves would be in stand-by status. Stand-by reserves would be liable for service only in time of war or emergency declared by congress or when the ready reserve was exhausted. During 1952 the army recalled about 160,000 reserves for two-week periods of field training on a compulsory basis. About 11,000 officers holding mobilization designations were required to report for 15-day mandatory training The number of aircraft and pilots that were an integral part of the army increased greatly Strength in aircraft and pilots numbered about 1,600, with a tentative goal of between 3,000 and 4,000 aircraft. There was no army air corps or branch, but eight branches used aircraft within their establishments: infantry, artillery, armour, engineers, signal corps, ordnance, transport and medical corps. For example, each infantry division received 26 aircraft of which 10 were helicopters and the balance light aircraft for observation purposes.

Training Exercise "Longhorn", held in Texas, was the largest army-air force manoeuvre held since World War II. Troop carrier operations were conducted in cross co-ordination with the technical air control system, making the radar control facilities in the forward areas direct air drops. This enabled much greater accuracy in dropping men and cargo to ground units near the enemy. It also promised to supersede "pathfinder" techniques wherein parties were dropped in advance in a paratroop invasion area to guide in the main force. New armoured techniques were also developed in exercise "Longhorn", with the 1st armoured division making use of the 100th heavy tank battalion in company strength. Armoured-air co-ordination was improved, with air force officers riding in the advance tanks. At the conclusion of the exercise, the 31st infantry division was air-transported from Texas to its regular training centre at Camp Atterbury, Indiana

A second major exercise, "Snowfall", tested 32,000 troops and about 200 aircraft in cold weather conditions. The exercise included air drops, night attacks and offensive and defensive operations with simulated atomic weapons. Major units engaged in this exercise included the 11th airborne division and 3rd armoured cavalry. The principal objective in the exercise, in addition to testing equipment, was to determine what use could be made of airborne troops when facing atomic weapons.

Equipment A new lightweight air-to-ground plane was developed for the army during 1952 to provide close air-ground support. The FD-25 Defender with a speed range of 35 to 182 m.p.h., cruising range of 630 mi., was designed to provide battalion support. The plane carried 40 2·75-in. rockets, or 32 individually launched 2 75-in. rockets, or four 5-in. rockets. In place of the rockets the Defender could carry two 40-gal. napalm bombs or two 250-lb. general purpose bombs. The plane's fixed armament consisted of two ·30-calibre machine guns.

Troops in Korea tested an all-nylon lightweight armoured vest weighing about eight pounds. The vest was designed as protection against mortar, grenade and shell fragments. Reports indicated that the army had developed atomic shells which could be fired from heavy artillery of the 8-in. howitzer type. Tests were conducted at Yucca Flat, near Las Vegas, Nevada, with troops located in the area of atomic blasts. New equipment was developed for the army anti-aircraft command, including radar-controlled, fully automatic 77-mm. guns and guided missiles. These were in addition to the 90-mm. and 120-mm. anti-aircraft guns. An improved model of the jeep was produced. The new model cost less, consumed less petrol, and had a splashproof ignition system for driving in shallow water.



A waterproofed Land Rover of the British army being demonstrated at the Ministry of Supply Signals Research and Development Establishment at Highcliffe, Hampshire.

A new M-48 or Patton-48 tank was tested by the army. The tank, which weighed 49 tons, was powered by a 810-h.p. air-cooled engine with cross-drive transmission. It had a lower silhouette than any other U.S. tank and an egg-shaped sloping elliptical hull and turret, increasing the difficulty of shell penetration. The M-47 tank was adopted as the new medium tank of the army. This tank weighed 48 tons, carried a crew of five, had an air-cooled 810-h.p. engine, and was equipped with a 90-mm. high-velocity gun. (*See* also MUNITIONS OF WAR).

Great Britain. The annual defence budget estimates for 1951-52 amounted to £1,273·8 million (30% of the total expenditure). The conscription term was continued at a two-year period as the regular and reserve forces exceeded 1,250,000. Tank production was accelerated during 1952 with emphasis placed on the manufacture of Centurion tanks which were given a "super priority" rating for production. Guided missiles and anti-mine equipment were also given "super priority" ratings and together with Centurion tanks composed about one-sixth of British armament production. Great Britain received from the U.S. under the Mutual Security Aid programme anti-tank rocket launchers, rocket ammunition, tank transporter tractors, medium and self-propelled guns.

Disposition. During 1952 about 12,000 troops served in Korea, where together with the Australian, Canadian and New Zealand troops they were included in the Commonwealth division. Other main dispositions were: Germany, four divisions; Austria, one brigade; Trieste, one brigade; the middle east, including the Suez canal zone, two divisions and one parachute brigade; Malaya, about 22,000 troops; Hong Kong, 11,000. The strength of the British army reached an effective fighting organization of 10 divisions, with 10 reserve divisions.

Organization. During the year General Sir John Harding succeeded Field Marshal Sir William Slim as chief of the imperial general staff. General Harding, who commanded the 7th armoured division at El Alamein, was formerly commander of the British Army of the Rhine. In that post General Harding was succeeded by Lieut.-General Sir Richard Gale, a wartime commander of airborne troops. (*See* also BRITISH ARMY.)

Malaya. General Sir Gerald Templer (*q.v.*) was sent to Malaya during 1952 to accelerate the campaign against the Communists. The Malayan federation police force was put through an intensified period of training. Plans were drawn up for arming more than 100,000 of the 320,000 home guard. A new conscription law was passed to allow the regular and auxiliary military formations to be enlarged. The regular forces in Malaya consisted of 30,000 troops with 120,000 police regulars, specialists and auxiliaries. It was estimated that there were about 8,500 Communists, most of whom were Chinese. (*See* also MALAYA.)

France. The French military appropriation bill totalled Fr. 1,045,000 million, a record defence budget accounting for about one-third of French government spending for 1952. The budget was an increase of 71% above that for 1951. It would provide the North Atlantic Treaty organization forces, by 1953, with eight mobilized front-line divisions with four additional divisions ready for immediate mobilization. France expected $625 million worth of offshore contracts from the United States for its armament industry. The actual amount received was $185 million, creating serious budgetary difficulties.

The War in Indochina. At the beginning of the year the Vietnam army consisted of about 60,000 regular troops with a similar number of auxiliary troops. This army relied largely on French officers, with about 3,750 serving in the Vietnam army formations. The principal operational units were 35 battalions supplied with light arms from U.S. military equipment. There was no general staff and the Vietnam officers' corps, totalling about 1,000, comprised only 4 colonels and 76 majors. The National Military academy produced 200 lieutenants every nine months. During the year the first regimental assault team was formed under General Nguyen Van Hinh, the first commanding general of the Vietnam army. The French shifted the command of the Vietnamese army to General Nguyen, and assigned the independent Vietnamese force to occupy captured areas and mop up guerrilla resistance. The Vietnamese forces concentrated on the development of armour, artillery, engineering and other specialized units. The total number of troops in the anti-Communist armies in Indochina was about 400,000. Of these more than 50,000 were French. Another 165,000 were French Union troops (Moroccans, Algerians, Senegalese and Foreign Legion). Another 160,000 were Vietnamese.

The Vietminh (Communist) forces numbered about 350,000, although a large number of these were irregulars. There was an attrition of Vietminh strength during the early months of the year as a result of heavy fighting in the Tonkin war theatre. In this battle zone Vietminh regulars were well armed with basic infantry weapons but lacked heavy weapons, armoured vehicles and transport and had no air support. By the start of the rainy season in June, the French and allied forces had practically driven the Vietminh forces from the Red river delta. But in October Vietminh attacked again in Red river delta. From Nov. 1, 1951, to May 30, 1952, the French counted 16,756 Vietminh dead and had taken 9,801 prisoners. French estimates put total Vietminh casualties at more than 50,000. There was increasing evidence during the year of additional Communist Chinese military advisers and technicians supporting the Vietminh forces in Indochina. These Chinese forces were estimated to number 10,000. (*See* also INDOCHINA.)

Other N.A.T.O. Powers. *Belgium.* A defence budget of B.F. 10,080 million or one-seventh of the total expenditure, was passed in 1952. The term of conscription was reduced from 24 to 21 months. This reduced by 15% the effectiveness of the three active divisions. About 20,000 native troops were being trained in the Belgian Congo for defensive purposes. The troops were led by 356 Belgian officers and 406 N.C.O.s who had volunteered for five-year periods.

Denmark. A defence strength of about 225,000 was the aim for 1952, including an army of 100,000, a local defence force of 20,000 and a home defence force of 50,000. The establishment of a permanent, fully trained division started. In order to man the division, conscription was extended from 12 to 18 months.

Greece. Armed forces totalled about 176,000, with a conscription period of three years. However, the cutting of conscription to two years because of reduction in U.S. aid was discussed. This would reduce the size of the Greek army to about 145,000. It was organized into 10 divisions, with shortages in tanks and artillery.

Italy. Twelve divisions were to be at full strength by the end of 1952 with three additional divisions to be organized in 1953, provided that military equipment was received from the United States. Italy provided four divisions for the European army, together with one armoured brigade (Ariete) and two Alpine brigades. A second armoured division, the Centauro, and a third Alpine brigade would be organized. Italy had received more than 800 tanks, with artillery, electronic equipment and anti-tank and anti-aircraft equipment. During 1952, L.437,760 million or 24% of the total expenditure was earmarked for defence, an increase of about one-fifth in the defence appropriation.

The Netherlands. About Fl. 1,500 million (35% of the total expenditure) was scheduled for the Netherlands national defence in 1952. The army was to have by the end of 1954 five front-line divisions organized into one corps of three divisions, with two independent divisions. In addition, special troops would be organized to defend lines of communication and vulnerable points in the Netherlands. A request was made to S.H.A.P.E. to provide U.S., British and French officers to advise in the training of troops. In addition, these liaison officers were to act as staff officers in the headquarters of the corps and two divisions that the Dutch provided for S.H.A.P.E. Dutch officers numbering 200 to 300 were sent to the U.S. for intensive training.

Norway. The defence budget for 1951-52 was a record, Kr. 980 million (34% of the total expenditure), the largest proportion of this sum being allotted to the army which would be expanded to a total of 11 brigades by 1955. The standing peacetime defence establishment consisted of two divisions of reduced strength. This was supplemented by the home guard. The principal difficulty facing Norway was the development of a corps of officers and non-commissioned ranks sufficient to lead an army of expanded size.

Turkey. Turkey's entry into the North Atlantic Treaty organization, together with Greece's, was one of the important developments of the year. U.S. military advisers were attached to each corps, division and brigade of the Turkish army. These teams consisted of advisers on infantry, artillery, administration, engineers, signals and ordnance. The strength of the Turkish army was about 400,000 men maintained by universal military training, with compulsory service for two years at the age of 20.

European "Neutrals". *Sweden.* Principal developments included re-equipping the army with modern weapons and increasing the firepower of the artillery. Also, the programme to place major defence industries, aircraft installations, army barracks and hospitals underground was accelerated.

Switzerland. Although the permanent regular ground force numbered no more than about 500 men, all commissioned or non-commissioned officers, an army of 600,000 could be placed in the field within 48 hours. This consisted of 4 corps, composed of 9 infantry divisions, 3 motorized brigades and 24 squadrons of cavalry, together with fortress troops. About 25% of the national budget was allotted to defence. All small arms were produced in Switzerland, motor transport and tanks being purchased from the United States or Great Britain.



Tanks of the French 7th Regiment lining the approach to Rheims cathedral when the regiment received its colours in May. In 1952 **France** *had a record defence budget.*

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Yugoslavia. The defence appropriation amounted to 22% of the national income, or approximately £238 million. A military agreement was reached between Yugoslavia and the United States during 1952 providing for the latter to supply tanks and heavy artillery to the Yugoslav army. This agreement followed an inspection tour of Yugoslav installations by a U.S. military mission. In addition, U.S. supplies of transport and signal equipment and light weapons continued and a study was made of the financing of orders for military equipment in Yugoslavia to contribute to the expansion of the armament industry. Aid was received from Great Britain and France as well as from the United States.

U.S.S.R. and the Satellites. The official estimate of the defence appropriation gave a figure of 23 8% of the 1952 budget of Rb. 476 900 million. This appropriation was about 18% larger than that for the preceding year. The increased budget was for additional production of guns and tanks and expansion of the armament industry.

Disposition. There continued to be 36 Soviet divisions in the German Democratic Republic, although only 22 of these were at fighting strength, totalling about 230,000 men. The remaining divisional headquarters were for administration of various technical units and anti-aircraft and anti-tank regiments. The 22 line divisions were believed to be at about 95% of strength (the normal strength of a Soviet division being around 8,000 men). It was reported that the class of 1930 was sent home from Germany and demobilized There were unconfirmed reports that the Russians planned to send additional line divisions to eastern Germany. In addition to the Soviet divisions in Germany, there were about four divisions in Austria and six in Poland. Two of the divisions in Poland were armoured. A strategic reserve of 30 front-line divisions was reported to be stationed in the Minsk-Leningrad area.

Over-all strength of the Soviet army continued to be about 175 divisions. However, in addition to regular troops, the Voluntary Society for Assistance to the Armed Forces continued to train about 16 million civilians in various military techniques. This society engaged in training with rifles, in grenade-throwing and in other fundamentals of infantry fighting.

Reports indicated that European people's democracies had 80 active divisions under an average peacetime establishment of 9,000 men to a division. The length of conscription in the satellite nations was two years and in some categories three. Estimated strength in divisions included: Poland 22, Rumania 15, Czechoslovakia 15, Bulgaria 12 and Hungary 16. (*See* also POLAND.)

Equipment. The Soviet group of armies in eastern Germany was refitted during the year with new field and anti-aircraft artillery and motor transport. This equipment was sent to the 18 tank or mechanized divisions. The U.S.S.R. also continued to rearm the satellite armies. All old heavy equipment such as tanks, guns and trucks was replaced by modern Soviet material. However, the transformation of the satellite infantry divisions into Soviet-type mechanized rifle divisions was reported to be making slow progress. The U.S.S.R. was reported to rate the efficiency of the satellite armies in the following order: Bulgaria, Poland, Hungary, Rumania and Czechoslovakia

During 1952 there was a sharp increase in the funds available to the German Democratic government for construction of military training facilities and barracks. Reorganization of the *Bereitschaften* (alert units) into cadre formations capable of rapid expansion into combat divisions was completed. It was reported that at least one armoured division was being formed. There were also signs that a number of plants in eastern Germany had been retooled to produce Soviet heavy weapons, indicating the possibility that the Democratic Republic could arm its own force. It seemed that the German Democratic force was capable of being organized into 25 brigades, although probably not consisting of more than 100,000 men altogether during 1952.

China. The Chinese Communist army numbered about 2,800,000 mobilized troops, with an estimated 2 million reserve and garrisoned forces. The combat forces were grouped in four to six field armies containing between 75 and 100 divisions each. Of these troops about 900,000 were in Korea. There were only five artillery divisions with heavy artillery, and three armoured divisions with about 500 tanks, probably Soviet T-34s. Very extensive training was being conducted in the military academy at Peking, as well as in the artillery schools at Peking and Paoting, and armoured schools at Fengtai, Suchow, Nanking and Urumtsi.

During the year increased emphasis was placed on modernizing the army and revising its tactics and training in order to provide increased firepower. Special artillery and armoured force commands were organized. Unconfirmed reports indicated that tank repair factories had been established. Reports also suggested that the Chinese Communists planned to supplement the 18th division in Tibet with additional troops in order to dominate the Himalayan area. The headquarters of the 4th field army, previously at Hankow, had been shifted to Canton. This shift took the army headquarters closer to the southeast coastal defences. According to an article by General Hsio Hua, of the political department of the military council, " the Soviet army of today will be the model of the People's Liberation army of tomorrow." The premier announced that Communist China had organized an armed militia of 12 million men to act as reserve forces for the regular field armies. (*See* also EUROPEAN DEFENCE COMMUNITY, NORTH ATLANTIC TREATY ORGANIZATION.)

(L. B. K.)

ART EXHIBITIONS. The most striking exhibition of 1952 was undoubtedly the magnificent display of mediaeval art treasures from Italy held at the Petit Palais, Paris. It ranged from the middle of the 3rd century A.D. to about 1350 and brought together works from religious buildings and museums that had never before been seen outside Italy. This brilliant assemblage threw into sharp relief the artistic vitality of an epoch not too well-known to the general public. Italian art of this period had often been considered as little more than a mixture of Roman and Byzantine styles and, in the later period, as a pale counterpart, even an offspring, of the more glorious French tradition. True enough that many of the paintings shown were in the international-gothic spirit, though Giotto and Duccio, to say the least, made their own revolutionary contributions. The most powerful effect, however, was formed by the impressive sculpture of Niccola and Giovanni Pisano and Tino da Camaino, which convincingly demonstrated the continuity of the classical spirit in Italian art even before it had been " officially recognized " in the Renaissance.

At Bordeaux and subsequently at Genoa and Barcelona an attempt was made to suggest the community of spirit shared by painters working in Italy, Spain and France during the 15th and 16th centuries, when trade, pilgrimages and dynastic alliances formed the backcloth to an artistic movement that stretched from Sicily, Naples and Sardinia, through Pisa, Genoa and Nice, across Provence and down through Catalonia to Valencia and finally to Majorca. Certain formulae were shared by many of the artists represented, though the indifferent examples of Bartolomé Bermejo's work, the exclusion of the Master of Aix and the restriction of Antonello da Messina to only one picture lessened the contribution of the major men, and tended to suggest a level of common mediocrity. The extent to which the artists of

this period at their best approximated to a common style was debatable, but the survey did indicate how a sort of Mediterranean objectivity and the use of classical forms were imposed on a visual language derived in many cases from Flemish art. Further light on the variety of influences at work in the 15th century was provided by the well-selected exhibition at Tours devoted to the origins of the Renaissance in France.

These examinations of the cross-currents of European art provided a fitting introduction to the magnificent Leonardo exhibitions held in London, Paris, Amboise and Florence to commemorate the 500th anniversary of the great Florentine's birth. The notable exhibition held at Burlington house, London, presented the finest group of the master's drawings (many from the royal library at Windsor) ever to have been held. Every facet of his genius was represented, including whole series of sketches for paintings such as the Uffizi "Epiphany", the "Leda", "The Last Supper", the "Battle of Anghiari" and the "Madonna with St. Anne", as well as for the Sforza and Trivulzio equestrian monuments. Almost a complete set of caricatures and grotesques and a series of designs for masquerades and other court theatricals were also displayed. The landscape drawings included the "Deluge" series. Drawings of plants and anatomical studies were complemented by a section dealing with Leonardo's scientific and literary interests. None of his masterpieces of painting was shown, only copies and related pictures. The Louvre presented its own Leonardos with particular emphasis on documentation relating to cleaning.

One of the most suggestive shows of the year, devoted to mannerism and the school of Fontainebleau, was held at Naples. An uneasy compromise was reached between an endeavour to illustrate the specific theme and an attempt to survey mannerism as an Italian movement with international ramifications. Few first-rate pictures were included, and the emphasis was placed rather on "interesting" works. Both the British Museum's exhibition of Emilian drawings and a large exhibition at Nuremberg of German art from Dürer to the Thirty Years' War skilfully stressed the European affiliations of mannerism.

The spread of Italian influence at a later date was the theme of the exhibition "Caravaggio and the Netherlands", held at Utrecht and Antwerp. Though many of the followers lagged behind the master, much of historical importance was shown, but examination of the early Vermeer and Hendrick ter Bruggen failed to prove any substantial connection with Caravaggio. This impact on the Netherlands would have been clearer if the choice of items had been more precise. The regular channel of Dutch art was examined in the fine exhibition "Three Centuries of Portraits" staged at the Rijksmuseum, Amsterdam. The selection of works by the Master of Alkmaer, Lucas van Leyden, Jan Scorel and Antonis Mor formed a valuable introduction to the golden age of the 17th century. Frans Hals and Rembrandt were seen to great advantage in a number of important pictures, many of which came from private collections. Another section dealt with the 18th-century school, little known outside the Netherlands. Dutch art was well to the fore in the fascinating show of still-life painting from antiquity to the present time held at the Orangerie, Paris. Though the inclusion of a number of the earlier works seemed to stretch the theme rather far, the prime examples of the Dutch 17th-century masters and of Chardin and Cézanne provided a fine compensation.

Dutch painting was honoured at the close of the year in the magnificent exhibition at the Royal Academy, London. Though a small group of important paintings was loaned from the Netherlands, most came from English collections, and a number of little-known works were introduced to the public. If the early phases of Dutch painting and mannerism were not too well represented, the 17th century was seen to great advantage. Over 40 Rembrandts were on display, though none of his landscapes was shown, while the landscape painters of the 17th century, particularly Philips Koninck, were seen in full splendour. One of the most impressive exhibitions of recent years, it indicated that English collections still contained almost unparalleled riches. It was certainly more adequately chosen than the selection of Flemish portraits shown at the Orangerie during the autumn, at the same time as the welcome, if small, collection of Tiepolos and Guardis exhibited at the Cailleux gallery, Paris. Parisians were also able to examine D. G. van Beuningen's celebrated collection from the Netherlands which contained amongst other treasures the famous "Three Marys at the Sepulchre" by Van Eyck, formerly in the Cook collection.



Leonardo's "Profile of a warrior wearing an elaborate helmet and cuirass" seen during the year at the Royal Academy exhibition.

French painting of various ages continued to hold a major position in exhibitions. Fresh light was thrown on Philippe de Champaigne at the Orangerie by the display of several recently discovered or little-known works, including the rare landscape from Mainz. Of more general interest was the rich survey of French draughtsmanship down the ages, held at the Arts Council galleries in London, where the representation of Claude and Watteau, not to speak of the 19th-century draughtsmen, was especially strong.

The major exhibition of French 19th-century art to appear in England was devoted to Delacroix (at Wildenstein, London) and a number of the paintings shown stressed his acquaintance with English art, as well as his dependence on the Venetians and Rubens. The theme of Anglo-French artistic relations was further stressed by a smaller, though no less interesting, group of Géricaults (Marlborough galleries,



"St. Agnes" (mid-6th century), from S. Appolinare Nuovo, one of the replicas of the Ravenna mosaics which were exhibited in London by the Arts Council during 1952.

London). English painting of this period was admirably shown in the survey of Constable at Guildhall, London. A set of unknown and rare oil sketches on paper by J. M. W. Turner was also a feature of the season at Leggatt's gallery, London.

Besançon appropriately celebrated Courbet with a group of 60 pictures—including a number of lesser works—amongst which were some important figure paintings. The custom of regional museums' honouring the distinguished sons of their localities was followed at Le Havre, where Boudin, "king of skies" was justly celebrated. On a larger scale was the selection from Claude Monet's works which appeared successively at Zürich, Paris and The Hague. This generous choice provided a real understanding of his change in the late 1880s from a purely Impressionist style to one connected with the Symbolist movement. The Degas exhibition at Edinburgh and later at the Tate gallery, London, was disappointing and far too few of his important oils found a place. Amongst late 19th-century French painters, Paul Signac was awarded a welcome exhibition at the Musée de l'Art Moderne, Paris. The realization that 19th-century and early 20th-century art is now a period for exact study was demonstrated at Zürich, which witnessed a lively exhibition of *Art Nouveau*. The decorative arts of this period were examined, not quite so admirably, at the Victoria and Albert museum, London. An exhibition of 19th- and 20th-century paintings from private collections was held at the Musée des Arts Décoratifs, Paris.

Controversy was aroused in Paris, as in London, by the selection of 20th-century masterpieces arranged by the Congress for Cultural Freedom. It was a personal anthology rather than a historical exhibition, and the emphasis was a little too strongly placed on Piet Mondrian and the constructivists. The need for a first rate exhibition, detailing various phases of the modern movement, was emphasized by the number of smaller shows of vital schools, such as the Expressionists (at Roland, Browse and Delbanco, London), that did little more than hint at the fringes. The failure to develop such themes was proved at the Venice *biennale*. Though Haïm Soutine and Raoul Dufy were given one man shows, the treatment of Goya and the group known as "The Bridge" was not wide enough. (Dufy, however, was the theme of a large retrospective exhibition at Geneva.) Corot, the Piedmontese landscape painters of the 19th century and Frederico Zandomeneghi all aroused interest; the struggle between the protagonists of realism and abstraction was well conveyed on this occasion.

Retrospective exhibitions of Gwen John, Ethel Walker, Frances Hodgkins and Jacob Epstein were held at the Tate gallery, while Max Beerholm (*q.v.*), Charles Keene and Roger Fry were honoured elsewhere in London. A welcome examination of the New English Art club was held at Birmingham; modern French primitives, Albert Marquet, Henri Laurens, Max Ernst and Barbara Hepworth had good exhibitions. The younger French school was shown at the Arts Council gallery. Nicolas de Stael was introduced to London. Old masters from Barnard castle were on view at Agnew's, London, while loan exhibitions of old masters were seen at Bedford, Peterborough, Worthing and King's Lynn. The Brunswick art treasures at the Victoria and Albert museum were of historical, rather than artistic importance. In London Sung paintings at the British Museum and Hiroshige prints at the Arts Council galleries made a fine showing, while Paris saw a splendid exhibition of early Mexican treasures.

(D. STN.)

United States. The Art Institute of Chicago and the Metropolitan museum, New York, organized jointly an impressive exhibition of paintings, water colours and drawings by Paul Cézanne, which included the famous "Blue

Vase " from the Louvre and such notable pictures from American collections as the " Card Players " and the portrait of Mme. Cézanne, both belonging to Stephen Clark. An impressive exhibition of 13 paintings and 4 pieces of sculpture bought with Mrs. Simon Guggenheim's bequest (1938) to the Museum of Modern Art, New York, included Henri Rousseau's " Sleeping Gypsy ", Pablo Picasso's " Girl before a Mirror " and " Three Musicians ", Fernand Léger's " Three Women " and Amedeo Modigliani's " Stone Caryatid ". The Albright gallery, Buffalo, New York, put on an exhibition of Expressionism. Works by Vincent Van Gogh, Paul Gauguin, Edvard Munch and James Ensor, the fathers of Expressionism, were included, as well as those of the later German group Franz Marc, Wassily Kandinsky and Emil Nolde, such French artists as Haim Soutine and contemporary Americans such as Jack Levine and Hyman Bloom. The Institute of Contemporary Art, Boston, held a retrospective exhibition of Kandinsky Many pictures were borrowed from the artist's widow in Paris. The National Gallery of Art, Washington, showed the collection of 19th- and 20th-century French paintings belonging to the Paris dress designer Edward Molyneux.

The Society for Contemporary American Art held its 12th annual exhibition at the Art Institute of Chicago. From the exhibition the institute was permitted to select $1,500-worth of pictures or sculpture This time the selections were a bronze by David Smith called " Beach Scene " and Hans Hofmann's oil-painting, " Blue Rhythm ". The Museum of Modern Art, New York, showed the work of " Fifteen American Painters and Sculptors ", mostly *avant-garde* but mostly well known. Included were Mark Rothko, Jackson Pollock, Bradley Walker Tomlin, William Baziotes, Joseph Glasco and Herbert Katzman, the sculptors Herbert Ferber and Richard Lippold, and the lately recognized older painter Edwin Dickinson. A retrospective exhibition of the work of the American artist John Sloan, held at the Whitney Museum of American Art, New York, turned out to be a memorial show as the artist died in 1951 during the course of arrangements. He was associated with Robert Henri and the group known variously as The Eight, the New York Realists and the Ashcan school.

The County museum, Los Angeles, staged an exhibition of 4,000 years of Chinese ceramics from the third millenium B.C. to the time of the Emperor Ch'ien Lung (d. 1799) An exhibition of great interest and superb quality was " Two Thousand Years of Tapestry Weaving ", showing work from Egyptian and Greco-Roman times to the present, put on at the Wadsworth Atheneum, Hartford, Connecticut Among the 182 items was one of the famous Vie Seigneuriale tapestries, lent by the Musée de Cluny, Paris, and a Goya Caprice tapestry from Madrid. (*See* also ART SALES, ARTS COUNCIL OF GREAT BRITAIN, DRAWING AND ENGRAVING; PAINTING; SCULPTURE) (F. A SW)

ARTHRITIS: *see* RHEUMATIC DISEASES.

ART SALES. The excitement of the Hutchinson sale of sporting pictures enlivened the last days of 1951 and at Christie's in December nearly £10,000 was given for a second batch, less important than the first. The most startling event of the new year at these rooms was the sale of a Pieter Bruegel " Christ and the Woman taken in Adultery " for the record price of £11,025; its last recorded auction price had been ten guineas. A few weeks later seven small drawings by Sir Max Beerbohm (*q.v*) fetched £118 13*s* and a Philippe de Champaigne of " Cardinal Richelieu " £231. A sale of water colours showed that Birkett Foster, though still commanding high prices, did not get the attention that he had been attracting some years before, whilst the comparatively impressive figure of £273 was given for a work by Francis Towne. A portrait by Goya of the Duchess of Alba brought in £525 more than the £105 which it had realized 14 years before and a curiosity, " The Daughters of George III bathing at Weymouth " by that lascivious academician M. W. Peters reached £346. The current taste for mannerist paintings was shown by the £315 given for a " Madonna and Child " by Niccolo dell'Abbate. Each year seems to produce its own Constable and at Christie's in 1952 it was the small " Salisbury Cathedral " which was sold for £21,525 to a London dealer. At the same sale a drawing by Bruegel of a " View on the Rhine " was knocked down for £6,200. Two drawings by Samuel Scott failed to reach their reserve; they belonged to the Duke of Windsor The third portion of the Hutchinson pictures came up on April 4. The outstanding item was Richard Andsell's " J. Machel with his family, servants and hounds." That hunting pictures are still good value was seen on May 29, when £966 was given for a Charles Towne of a groom holding a horse A Raeburn portrait of " Alexander Hume " brought in the commendable price of £3,045 on July 25 and on the same day Giampaolo Pannini's " Interior of the Parthenon " was sold for £1,365. A small Cézanne oil painting failed to reach the reserve of £2,940.

At Sotheby's the year ended with an impressive sale of Goya etchings. Nine impressions of " The Disasters of War " went for £1,800 and a complete set of " Los Caprichos ", first impression, brought £500 In February a Richard Wilson brought in £420 and three large paintings by Sebastiano Ricci £1,420. A Renoir landscape went for the modest price of £460, possibly a sign that the market for Impressionism was beginning to reach a more sensible level, though it was surprising to find a signed half-length portrait by Allan Ramsay going for £190. The 18th century, however, was still holding its position Fragonard's " L'Homme a l'Épée " reached £7,500 in February and two Bouchers £3,000. A small 16th-century French panel of Francis I attributed to Jean Clouet was sold for £1,500. Dutch paintings were very variable during 1952. Over 100 of them from the collection of the Duke of Northumberland realized only £5,020 and a Frans Hals was brought in at the reserve of £11,000 On the other hand £950 was bid for a small Jan van Goyen landscape and a similar sized W van de Velde brought in £550. In May a rare edition of Durer's " Apocalypse " reached £1,400 for the 15 woodcuts. In July another Raeburn, " Miss Macartney ", reached £2,200 and a Francis Cotes oil painting, " The Young Cricketer ", formerly belonging to Lord Brocket, £2,000. An interesting portrait of " Charles II " by Simon Verelst changed hands at £850 whilst examples of historical portraits of the same period by artists such as Lely reached around the £500 mark. One of the highest prices at Sotheby's in 1952 was the £3,800 paid for a small Goya painting " Pobrecitas ". In June the Birmingham museum and art gallery acquired for £2,400 an altarpiece by Jan van Scorel. This was the only outstanding purchase during the year by a public collector, though the Victoria and Albert museum, London, bought a Chippendale commode for £700 and the Tate gallery acquired privately a study of a dancer in bronze by Degas and was seeking the funds necessary for acquiring the large group " Le Baiser " modelled under the direction of Rodin.

In Europe the main sales event of the year was the dispersal of the Mannheimer collection at Amsterdam. Many of the items sold came from such famous collections as those of the Hermitage, Leningrad, and of the Rothschilds. A dinner set of 24 plates from the table of Catherine of Russia was sold for £35,000 and a Louis XVI desk by Carlin, ornamented with Sèvres plaques, brought £2,500. A Parisian lustre of the period of Louis XIV reached £4,500 and a Donatello relief £750. A great wealth of porcelain and other objects brought the total of the sale to well over £1 million

The Hôtel Drouot reflected the quietness of the market during the year. There were the regular dealers, occasional novices, but very few spectacular events or moments of high excitement. Works by members of the school of Paris still commanded respectable prices. In Brussels a set of etchings by Dunoyer de Segonzac was able to raise nearly £4,000 at the Palais des Beaux-Arts. (*See* also ART EXHIBITIONS.)

(B. DR.)

See *The Export of Works of Art, etc* (H.M.S.O., London, 1952)

ARTS COUNCIL OF GREAT BRITAIN. In 1952 the Arts Council was faced with the difficulty of maintaining its work during a period of rising costs on a Treasury grant that for four years had remained stationary at just over £500,000. The extra grant given to the council for the Festival of Britain, 1951, had been carefully allocated and, as the success of the Festival meant that not all the council's guarantees were called up in full, part of the surplus could be used in 1952 as a reserve for special contingencies. This was particularly important in view of the difficulties experienced by many organizations because of rising costs. In addition, certain local authorities were beginning to take advantage of their powers under the Local Government act, 1948, to help the arts, and the burden of patronage could therefore be shared between the Arts Council and the local authorities.

There was no major change in the pattern of the council's work in association with opera, ballet and drama companies, and with the symphony orchestras, but it became clearer than ever that Covent Garden, Sadler's Wells, the Old Vic and the permanent symphony orchestras must be regarded as national institutions in the same sense as the British Museum, the National gallery and the Tate gallery. A considerable portion of the council's grant from the Treasury went accordingly to these organizations. The Old Vic suffered a year of extremes. During the first six months it ran into a serious financial crisis, due mainly to lack of public support; but in the autumn its affairs seemed to take a turn for the better with the success of *Romeo and Juliet*. The year closed on a sombre note for the symphony orchestras, who were faced with the necessity of finding a considerable amount of extra money to meet the players' increased salaries.

After the emphasis laid on festivals during 1951, there was a return to more normal conditions in 1952. The council was associated with ten festivals of the arts. The art exhibitions it presented included "French Drawings (Fouquet to Gauguin)", "Ravenna Mosaics", "Twentieth-Century Masterpieces", "The Paintings of Degas", and "The Works of Epstein". These were all seen in London; and most of them, in addition to numerous other exhibitions, were toured through the provinces. The council continued—sometimes directly and sometimes through a body like the National Federation of Music Societies—to help with expert advice and to underwrite financially many choral societies, orchestral societies, music clubs, art clubs and poetry societies in different parts of the country.

See *The Arts in Great Britain Seventh Annual Report of the Arts Council of Great Britain, 1951-52* (London, 1952) (E. W. WTE.)

ARUBA: *see* NETHERLANDS OVERSEAS TERRITORIES.

ASCENSION ISLAND: *see* SAINT HELENA.

ÁSGEIRSSON, ÁSGEIR, Icelandic statesman (b. Koranes, Iceland, May 13, 1894), after graduating in theology at the University of Iceland in 1915, was appointed teacher at the Teachers' college in Reykjavik (1918-26). He was politically active in the Social Democratic party, was elected to the *Althing* in 1923 and was afterwards constantly re-elected; in 1930-31 he was president of the *Althing*. He was director of education in 1927, minister of finance from 1931 to 1934 and prime minister from 1932 to 1934. During 1934-38 he was again director of education. During 1938-52 he served as director of the Fisheries Bank of Iceland. On June 29, 1952, Ásgeirsson was elected president of Iceland by 32,924 votes, as against 31,045 votes for Bishop Bjarni Jónsson and 4,255 votes for Gisli Sveinsson.

ASSOCIATION FOOTBALL: *see* FOOTBALL.

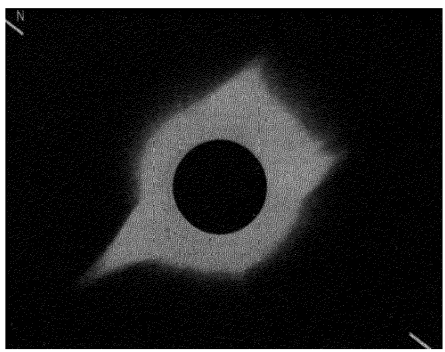
ASTRONOMY. The eighth general assembly of the International Astronomical union (the second since World War II) was held in Rome, Sept. 4-13, 1952. It was attended by over 400 delegates representing 35 countries. Resolutions were adopted concerning the making of observations and publication of the results in many branches of astronomy, particularly those in which planned international co-operation had become indispensable. Astronomers reviewed much of the work of recent years and, as a result, were enabled more effectively to arrange their programmes of future work. As just one instance of international co-operation, which had originated informally at the previous assembly and whose success was reported at Rome, may be mentioned the sharing between the British Nautical Almanac office and the U.S.S.R. Institute of Theoretical Astronomy in Leningrad of the calculations for the international periodical volume of *Apparent Places of Fundamental Stars*. As an instance of a production of a single institution that was welcomed for its usefulness to so many others, there was the *Catalogue général des orbites de comètes de l'an 466 à 1952*, by F. Baldet and G. de Obaldia of the Meudon observatory (France). As an instance of a special requirement noted by the union, there was the need to extend to the southern sky the survey of faint extra-galactic nebulae (galaxies) in progress at the Lick observatory (U.S.) for the northern sky; this would demand the installation at some observatory in the southern hemisphere of a telescope like the Lick instrument.

Sun. A total eclipse of the Sun, visible along a track from the south Atlantic to Siberia, crossing Africa and Persia on the way, occurred on Feb. 25, 1952. Parties of observers from a number of countries, equipped to carry out several different kinds of observation, established themselves at various places on the track, the majority in the vicinity of Khartoum (Sudan), where totality lasted for 3 minutes. They experienced more favourable observing conditions than had most observers at other recent eclipses. The corona was seen to be generally of the form characteristic of intermediate solar activity, but the well-developed coronal streamers showed some unusual features. These were photographed out to a distance of about 4 solar radii from the limb.

Only preliminary reports upon most of the observations became available during the year. Some of the measurements of the more orthodox kinds, such as those made by the Utrecht astronomers of the variation with height in the chromosphere of the intensities of spectral lines of various elements, were so successful that they were expected to become the standard results for the problems concerned. Of the more novel sorts of observation mention may be made of the measurements by French astronomers of solar radio-noise. Were a human eye sensitive to radiation of radio frequencies instead of ordinary light, it would see the Sun as having a larger disk with a less definite limb than that seen in the ordinary way. This is because the tenuous solar corona offers negligible obstruction to ordinary sunlight but the "inner" corona is highly opaque in radio frequencies. All this had been known for some years. But it was impossible with any available type of radio "telescope" to form an image of the Sun in the same way as with an optical telescope, and the form

that such an image would take could be inferred from available methods of observation only to a not very good approximation. However, by using these methods during the passage of the moon across the Sun's disk at the eclipse and suitably analysing the results, additional information was obtained leading to a much better approximation. The preliminary conclusions were in general agreement with what had been inferred theoretically from existing knowledge of the corona. Further study of these results and others obtained by U.S. observers was expected to give improved knowledge of the structure of the corona and of the transmission of radio-noise through it.

Interstellar Matter. In 1949 W. A. Hiltner had discovered that the light from some stars is partially polarized. It had become generally accepted that this effect is produced in the passage of the light through interstellar " dust ", elongated particles of which are for some reason aligned parallel to a particular direction. Considerable theoretical investigations had been made as to the possibility of such alignment being due to the existence of interstellar magnetic fields and of suitable magnetic properties of the particles. In 1952, T. Gold published a much simpler suggestion depending on dynamical effects. He showed that when a cloud of elongated dust-particles collides with a gas-cloud, a partial alignment of the particles is produced, in the direction of the relative motion. The conditions assumed were those believed to exist in interstellar matter and the result appeared to be adequate to account for all features of the observed polarization effects.



The solar corona photographed by the Cambridge expedition on Feb. 25, 1952, at Khartoum, Sudan. Both polar and equatorial streamers are shown: the asymmetry of the latter is somewhat unusual.

Most astronomers had accepted the identification (1942) by W. Baade and R. Minkowski of the Crab nebula as the visible remains from a supernova outburst in the year 1054. However, it had been difficult to explain why the nebula was still shining, there being apparently no associated star capable of illuminating it. W. H. Ramsey made the fruitful suggestion that the presence of sulphur and nitrogen, whose lines are a prominent and unusual feature in the spectrum, is due to the radioactive decay of certain isotopes of chlorine and carbon. This decay could release energy at a rate sufficient to account for the observed luminosity. Moreover, these isotopes would be a likely product of the processes occurring in a supernova explosion according to a theory previously given by F. Hoyle.

Galaxy. Two new methods of studying the structure of the Galaxy confirmed each other in making outstanding progress in the subject. It was known that the brightest (O- and B- type) stars render luminous some patches of interstellar hydrogen in their neighbourhoods. Also it had been noted that such patches of luminous hydrogen in the Andromeda nebula, to which our Galaxy was considered to be similar, are concentrated in the spiral arms. By very careful measurements, W. W. Morgan and colleagues determined the distances of some of the O- and B- stars and the associated hydrogen emission regions in the Galaxy. He found that these enabled him to trace out portions of the spiral structure; his results were greatly in advance of anything previously known of this structure. But now it had been verified in the previous year that, as theoretically predicted, interstellar hydrogen emits radiation of 21 cm. wave length detectable by radio observations. (This emission does not depend upon excitation by any stars immersed in the hydrogen gas.)

In 1952 a general survey of the characteristics of such radiation coming from various directions in the Galaxy was made by C. A. Muller, H. C. van de Hulst and J. H. Oort of Leyden, and the first results were reported by Oort in Rome. They found that the Doppler frequency-shift, varying with distance from the Sun and produced by the known rotation of the Galaxy, enabled them to study the space-distribution of the emitting gas. The main regions of maximum density in the gas were found in fact to define three spiral arms in our Galaxy. Moreover, these were in excellent agreement with Morgan's results for the parts of the arms revealed by his quite independent method, thus confirming the interpretation placed upon the radio observations. However, the latter were such as to yield the results much more simply and to reveal longer segments of the arms. Indeed, after similar observations had been made from a station in the southern hemisphere, and all the work subjected to more detailed analysis, it was confidently expected that practically the whole of the spiral structure of the main part of the Galaxy would become known. As it was, these two investigations furnished much the most direct evidence hitherto obtained that the Galaxy is actually a " spiral nebula " as well as the most extensive information to date about its particular configuration. Also our own Galaxy thus became the first for which the spiral configuration could be quite reliably related to the sense of rotation: the spiral arms were found to be " trailing ".

Some results similar to those of the Leyden workers, but as yet less extensive, were announced about the same time by W. N. Christiansen and J. V. Hindman of the Council for Scientific and Industrial Research, Sydney, Australia.

Radio Astronomy. In addition to the application of radio astronomy already mentioned, much other fundamental work was done. In particular, renewed efforts were made to identify " radio stars " with otherwise detectable astronomical objects. Two remarkable provisional identifications were made by W. Baade, one with a hitherto undetected nebulosity in the Galaxy having the appearance of possibly being the remains of a supernova outburst (this being in agreement with the character of one or two cases for which identifications had already been made), and one with a pair of external galaxies which appeared to be in course of a " flat-on " collision. Though the physical mechanism of the production of radio-noise in general had still eluded discovery, T. Gold pointed out that these identifications offered fresh evidence that the mechanism is in general associated with the existence of bodies of gas meeting each other with high relative speeds.

Plans were announced and work started upon a giant " radio telescope " of 250 feet aperture to be erected at the Jodrell Bank station of the University of Manchester.

Galaxies. The distance-scale of the universe had depended, in regard to one vital step in its determination, upon the period-luminosity relation for one type of cepheid variable star. Certain technical considerations had left the resulting scale-factor in some doubt. But this was not generally expected to be by as much as transpired from the new examination by Baade which he described in Rome. While his results

confirmed the accepted scale of distances within the Galaxy, they had the effect of approximately doubling all previously accepted distances of other galaxies. Also they would consequently double the "age of the universe" inferred from them according to certain cosmological theories. In face of the evidence, other astronomers were inclined to accept this startling revision.

See H. Spencer Jones, *Life on Other Worlds*, 2nd ed., (London, 1952); H. Bondi, *Cosmology* (Cambridge, 1952); Bernard Lovell and J. A. Clegg, *Radio Astronomy* (London, 1952). (W. H. McC.)

ATHLETICS. The 1952 season was not unnaturally dominated by the celebration of the XVth Olympic Games at Helsinki, Finland, in July. The intense competition and the special incentives combined to produce conditions in which only the most exceptional world's records survived.

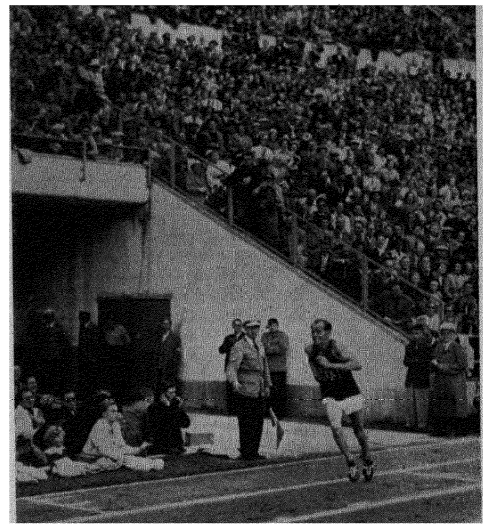
At the start of any sporting occasion which occurs only at four-yearly intervals, the meeting records must inevitably be well in arrears of the newly reigning world standards. At Helsinki the unleashing of this pent-up progress in the seven-days' competition resulted in the equalling or bettering of the existing Olympic records on no less than 197 occasions. This wholesale modernization was only to be expected but the true greatness of the occasion lay in the fact that in 11 of the 33 events completely new ground was broken and the up-to-date world records were themselves further improved. (*See* TABLE I.)

Every Olympian galaxy has always had its *super nova*. At Berlin in 1936 it was the coloured U.S. sprinter J. C. Owens. At Wembley it was the redoubtable Dutch housewife, F. E. Blankers-Koen. At Helsinki it was Emil Zátopek (*q.v.*), the Czech army major who proved himself to be the greatest distance runner the world had ever seen. Having won the 5,000 and 10,000 m., each in Olympic record time, he then turned out for the 26 mi. 385 yd. Marathon race, which distance he had never before attempted. After 14 mi. Zátopek took the lead from the 68-man field and forged on to win by nearly half a mile in 2 hr. 23 min. 3·2 sec.—yet another record.

In the women's events Marjorie Jackson of Australia took up the mantle of Mrs. Blankers-Koen in winning both the 100 m. and 200 m. by decisive margins in world record times. Apart from Zátopek and Miss Jackson, no other athlete won more than one individual gold medal.

The 100 m. provided an even closer finish than that of 1932. L. Remigino (U.S.) was awarded first place over H. H. McKenley (Jamaica) in 10·4 sec. by a margin of less than 1/100th sec. McKenley gained his third silver medal when he also tied the time of the 400 m. winner, V. G. Rhoden (Jamaica) with 45·9 sec. This was the first race in history with two athletes beating 46 sec. M. G. Whitfield (U.S.) became the first man since Great Britain's D. G. A. Lowe (1924 and 1928) to retain an 800 m. title, while the 1948 100 m. victor, H. Dillard (U.S.), returned to win his real speciality, the 110 m. hurdles. No "unknowns" achieved major success, though the 1,500 m. victory of J. Barthel (Luxembourg) and perhaps the hammer-throwing win by Hungary's J. Csermák occasioned some surprise.

The United States with 14 men's and the women's relay title maintained the superiority that had been theirs since the revival of the Games in Athens in 1896. Great Britain, together with 51 other competing nations including the U.S.S.R., failed to win any of the 24 men's titles at stake.



Emil Zátopek, Czechoslovakia, entering the stadium, Helsinki, to complete the marathon event in the 1952 Olympic Games.

TABLE I. WORLD RECORDS IMPROVED IN 1952

Event	*Name and Nationality*	*Place*	*Date*	*Performance*
1,000 m.	O. Aberg (Sweden)	Copenhagen	Aug. 10	2 min. 21·3 sec.
1,000 m.	S. Jungwirth (Czech.)	Houtska	Oct. 26	2 min. 21·2 sec.
1,500 m.	W. Lueg (Germany)	Berlin	June 29	3 min. 43·0 sec.
2 mi.	G. E. G. Reiff (Belgium)	Paris	Aug. 26	8 min. 40·4 sec.
15 mi.	E. Zátopek (Czech.)	Houtska	Oct. 26	1 hr. 16 min. 26·4 sec.
25 km.	G. Jansson (Sweden)	Göteborg	July 7	1 hr. 20 min. 10·0 sec.
25 km.	E. Zátopek (Czech.)	Houtska	Oct. 26	1 hr. 19 min. 21·8 sec.
30 km.	E. Zátopek (Czech.)	Houtska	Oct. 26	1 hr. 35 min. 23·8 sec.
4 × 400 m. relay	Jamaican team‡	Helsinki	July 27	3 min. 03·9 sec.
4 × 440 yd. relay	U.S. team*	London	Aug. 9	3 min. 08·8 sec.
4 × 880 yd. relay	U.S. team†	London	Aug. 4	7 min. 29·2 sec.
440-yd. hurdles	C. H. Moore (U.S.)	London	Aug. 4	51·9 sec.
	C. H. Moore (U.S.)	London	Aug. 9	51·6 sec.
2-hr. walk	J. Dolezal (Czech.)	Prague	Oct. 12	15 mi. 1,591 yd.
30-km. walk	J. Dolezal (Czech.)	Prague	Oct. 12	2 hr. 21 min. 38·6 sec.
50-km. walk	A. Roká (Hungary)	Budapest	June 1	4 hr. 31 min. 21·6 sec.
Hop, step and jump	A. F. da Silva (Brazil)	Helsinki	July 23	53 ft. 2½ in.
Hammer	J. Csermák (Hungary)	Helsinki	July 24	197 ft. 11⅛ in.
	S. Strandli (Norway)	Oslo	Sept. 14	200 ft. 11⅛ in.
Decathlon	R. B. Mathias (U.S.)	Tulare (U.S.)	July 1-2	7,825 pts.
	R. B. Mathias (U.S.)	Helsinki	July 25-26	7,887 pts.
Steeplechase§	V. Kazantsev (U.S.S.R.)	Kiev	June 12	8 min. 48·6 sec.
	H. Ashenfelter (U.S.)	Helsinki	July 25	8 min. 45·4 sec.
Marathon§	J. H. Peters (G. Britain)	London	June 14	2 hr. 20 min. 42·2 sec.

* G. E. Cole, J. W. Mashburn, R. Pearman, M. G. Whitfield. † W. Ashenfelter, R. Pearman, J. B. Barnes, M. G. Whitfield. ‡ A. S. Wint, L. A. Laing, H. H. McKenley, V. G. Rhoden. § No official I.A.A.F. recognition of this event.

TABLE II. TOP PERFORMANCES OF 1952—WORLD AND BRITISH COMMONWEALTH

Event	*World's Best*	*Performance*	*British Commonwealth Best*	*Performance*
100 m.	A. W. Stanfield (U.S.)	10·3 sec.	E. McD. Bailey (Trinidad)	10·4 sec.
200 m.	*A. W. Stanfield (U.S.)	20.6 sec.	E. McD. Bailey (Trinidad)	20·9 sec.
400 m.	*V. G. Rhoden (Jamaica)	45·9 sec.	*V. G. Rhoden (Jamaica)	45·9 sec.
800 m.	*M. G. Whitfield (U.S.)	1 min. 48·0 sec.	A. S. Wint (Jamaica)	1 min. 49·4 sec.
1,500 m.	W. Lueg (Germany)	3 min. 43·0 sec.	R. G. Bannister (Gt. Britain)	3 min. 46·0 sec.
5,000 m.	*E. Zátopek (Czech.)	14 min. 6·4 sec.	D. A. G. Pirie (Gt. Britain)	14 min. 18·0 sec.
10,000 m.	*E. Zátopek (Czech.)	29 min. 17·0 sec.	F. D. Sando (Gt. Britain)	29 min. 51·8 sec.
110-m. hurdles	*H. Dillard (U.S.)	13·7 sec.	R. H. Weinberg (Australia)	14·0 sec.
400-m. hurdles	*C. H. Moore (U.S.)	50·7 sec.	J. M. Holland (New Zealand)	52·0 sec.
3,000-m. steeplechase	*H. Ashenfelter (U.S.)	8 min. 45·4 sec.	J. I. Disley (Gt. Britain)	8 min. 51·8 sec.
High jump	*W. Davis (U.S.)	6 ft. 10¼ in.	O. Odabo (Nigeria)	6 ft. 6 in.
Pole vault	*R. E. Richards (U.S.)	15 ft. 1⅛ in.	G. M. Elliott (Gt. Britain)	13 ft. 7⅜ in.
Long jump	G. H. Brown (U.S.)	26 ft. 3¼ in.	N. H. Price (South Africa)	24 ft. 9½ in.
Hop, step and jump	*A. F. da Silva (Brazil)	53 ft. 2½ in.	K. E. Miller (Australia)	49 ft. 1 in.
Shot-put	J. E. Fuchs (U.S.)	58 ft. 5½ in.	J. A. Savidge (Gt. Britain)	54 ft. 9¾ in.
Discus	*S. G. Iness (U.S.)	183 ft. 5¼ in.	I. M. Reed (Australia)	158 ft. 5½ in.
Hammer	S. Strandli (Norway)	200 ft. 11⅜ in.	E. C. K. Douglas (Gt. Britain)	179 ft. 1½ in.
Javelin	T. A. Hyytiäinen (Finland)	249 ft. 1 in.	R. D. W. Miller (Gt. Britain)	221 ft. 11½ in.

* Olympic champion at this event.

Its 15 placings in the final six for the various finals ranked third in merit behind the United States and the U.S.S.R. The British Commonwealth competitors as a whole amassed 46 placings of which the women athletes from the antipodes and Jamaica's great 400 m. runners contributed most.

After the Games the assault was directed towards records for the less standard events and at three great meetings at the White City stadium, London, the year's tally of world records for both men and women was raised from 41 to 48. Nationally the most striking improvement was that of the U.S.S.R. who confirmed its newly won European supremacy. Sweden's victory over Germany showed that the Germans still had some way to go to regain their great strength of 1939. Great Britain's margin of victory over France was so decisive that it seemed that this long-standing fixture was fast losing much of its earlier attraction. (*See* TABLE II.)

(N. McW.)

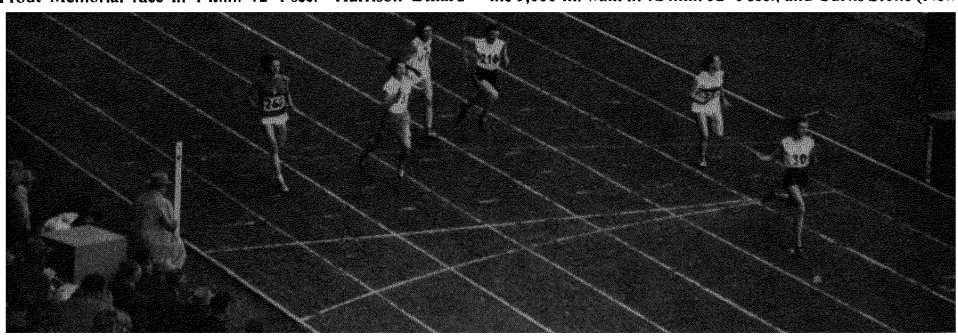
United States. *Indoor.* In the 1952 indoor athletics season the highlights were the mile run, with Fred Wilt and Don Gehrmann as the top stars, and the pole-vaulting duels of Bob Richards and Don Laz. On Jan. 12 at New York City Wilt won the mile in 4 min. 14·6 sec. In the *Washington Star* games Laz won the pole-vault at 15 ft. 3 in. (beating Richards for the first time in 50 consecutive meets); Gehrmann won the mile in 4 min. 14 sec.; and Dick Attlesey set up a U.S. indoor record of 8·3 sec. for the 70-yd. high hurdles. In the *Philadelphia Inquirer* games on Jan. 18 Gehrmann, Richards, Roscoe Browne, George Rhoden and Horace Ashenfelter all set up new records for the meeting. At Boston on Jan. 19, Rhoden continued unbeaten in the 600-yd. race, winning the Prout Memorial race in 1 min. 12·1 sec. Harrison Dillard equalled his own record of 5·6 sec. in the 50-yd. hurdles and Ashenfelter again won the 2-mi. race, in 9 min. 6·2 sec.

Rhoden's photo-finish victory over C. Moore in a 600-yd. race (1 min. 12 sec.) made him the star of the Millrose games at Madison Square garden, New York, on Jan. 26. L. Remigino (Manhattan) won the 60-yd. sprint, Gehrmann won the mile run, and Richards won the pole-vault for the 12th time. In the Boston Athletic association meet on Feb. 2 Ronnie Ferraro, Louis Jones, Vernon Dixon and Robert Carty ran a mile in 3 min 17·6 sec., the fastest speed ever recorded, on an 11-lap track.

Two of the season's best feats occurred in the *Milwaukee Journal's* games on Feb. 1. Richards vaulted 15 ft. 4⅝ in., his peak for the year, and Gehrmann ran a mile in 4 min. 8·4 sec., his fastest of the year. At the national A.A.U. championships in New York on Feb. 16 Gehrmann set up a new U.S. record of 2 min. 8·2 sec. for the 1,000 yd. and John O'Connell, Vernon Dixon, Louis Jones and Robert Carty established a U.S. record time of 1 min. 52·7 sec. in winning the medley sprint.

At the inter-collegiate A.A.A.A. games Wilt set up a North American record of 8 min. 50·7 sec. for the 2 mi. Reggie Pearman (New York university) ran a record half-mile in 1 min. 51·3 sec. on an 11-lap track.

Outdoor. Four championship records fell at Long Beach, California, in the 64th national A.A.U. outdoor games (June 20-21). Walter Davis (San Antonio Athletic club) made a record high jump of 6 ft. 10½ in., Parry O'Brien (Los Angeles Athletic club) set up a shot-put record of 57 ft. 4⅜ in., Henry Lask (New York) broke a 32-yr. U.S. record when he won the 3,000-m. walk in 12 min. 52·6 sec., and Curtis Stone (New



Marjorie Jackson, Australia, winning a heat in the 100 m. event in the Olympic Games at Helsinki. She went on to win the title, equalling the world record of 11·5 sec. She won a second gold medal in the 200 m. event.

York Athletic club) won the 10,000 m. in 30 min. 33·4 sec. Bob Mathias (Tulare, California) retained the national A.A.U. decathlon title and Stella Walsh (Dreyer Athletic club) kept the women's pentathlon title. In the women's national A.A.U. outdoor championships Catherine Hardy (Fort Valley State college) won the 50 m., 100 m. and 200 m.

A number of U.S. teams toured other countries before and after the Olympic Games and Dillard was awarded the John Thornton trophy by the A.A.A. for winning the 120-yd. hurdles in London in August, his time of 13·9 sec. being the fastest of the year in Britain. (*See* also OLYMPIC GAMES.)

(T. V. H.)

ATOMIC ENERGY. During 1952 effort continued to be directed mainly to the production of fissile material and to military applications of atomic energy. In the United States a nuclear reactor provided enough electrical power to run its own auxiliary equipment without external sources of power. No progress was made in the negotiations for the international control of atomic energy. It was believed that the United States had tested a thermonuclear bomb.

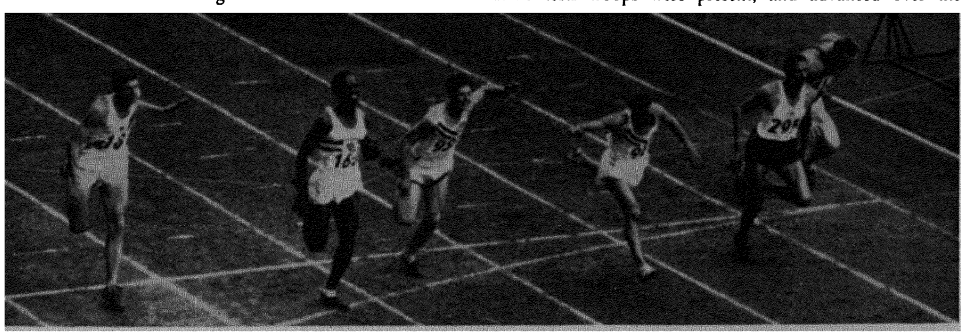
Production of Fissile Material. Important sources of uranium were discovered in several countries. The cost of development of the Canadian deposits in Saskatchewan was estimated at about £50 million, and important deposits in Australia were being developed jointly by Australia, the United States and the United Kingdom. Uranium began to be produced on a large scale from the residues of the South African gold mines, and the thorium and uranium content of the monazite sands in Travancore-Cochin, India, were to be exploited. Deposits of possible commercial interest were found in western Germany and on Christmas Island.

In the United States a new plant for the separation of U^{235} by the gaseous diffusion process was planned at an estimated cost of $1,000 million. It was expected to have a power consumption of 1·8 million kw. Production of fissile material in the United Kingdom was sufficient to manufacture an atomic bomb. A heavy-water pile was operating in Norway (under a joint Norwegian-Netherlands project) with a power output of 100 kw., and a second pile, with a power of about 1,500 kw., in France. A small reactor was also built in Sweden. The United States completed a materials testing reactor and a "homogeneous" reactor using fissile material, moderator and coolant in a slurry. Considerable attention was given to "breeder" reactors which might produce more fissile material than they destroyed. An experimental breeder reactor, a fast neutron reactor, was in operation in the United States, and it was reported that one was to be constructed in the United Kingdom.

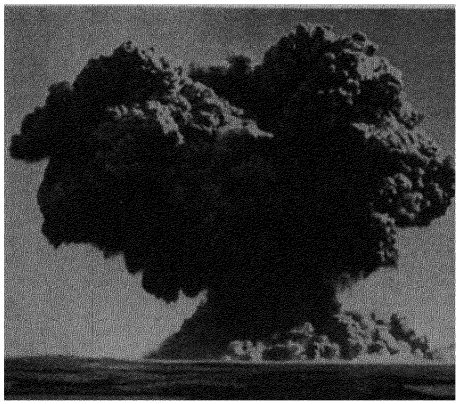
Generation of Power. Heat from "Bepo" (British experimental pile) had been used to warm offices since late in 1951. The output was about 200 kw. The experimental breeder reactor at Arco, Idaho, was used to drive a 100-kw. turbine by means of a liquid metal heat exchanger. On Dec. 21, 1951, it ran for an hour without an external power supply, driving its own pumps and lighting the building in which it was housed. The primary purpose of the reactor, however, was experimental breeding, not power production. Two prototypes of reactors for driving submarines were under construction in the United States. The first, built by the Westinghouse Electric corporation at Arco, was a thermal reactor using slow neutrons, with water cooling. The second, built by General Electric at Schenectady, New York, was an intermediate reactor cooled by liquid metal. Research continued on the design of a reactor for aircraft, and aircraft carriers driven by nuclear reactors were to be built.

Isotope Production. The production of radioactive isotopes and their incorporation in special chemical compounds continued on an increasing scale. The United Kingdom had become the largest exporter, sending abroad nearly 4,000 consignments, as compared with 2,308 in 1951. Total U.K. deliveries, including domestic, since 1948 exceeded 20,000, and total U.S. deliveries since 1946 exceeded 35,000. Early in the year, the total output of radioactive isotopes produced by the small French pile Z.O.E. reached six curies. In Canada, two Co^{60} sources each of 1,000 curies were prepared. Isotope production was also reported from the U.S.S.R.

Atomic Weapons. In the United States, President Harry S. Truman's 1952 budget message asked authority to spend over $5,000 million on atomic energy, not all in the following year. This was followed by a request for a further $3,000 million. The chairman of the Atomic Energy commission, Gordon Dean, stated that the production of "certain elements" of hydrogen bombs was included in this estimate, but that the hydrogen bomb was "now in the development stage rather than the production phase." Senator Brien McMahon, chairman of the Congressional Committee on Atomic Energy, in a speech shortly before his death, made it clear that he considered the production of hydrogen bombs to be imminent. Earlier, in an interview, he had indicated that there was some truth in the reports that a small atomic bomb had been made, though he added, "Well, if it is a baby, it is a tough baby." Frank Pace, secretary of the U.S. army, stated that a gun weighing 75 tons had been developed to fire atomic shells, and it was reported that 20 of these guns had been ordered. An extensive series of tests of atomic bombs was carried out in the United States. In some tests troops were present, and advanced over the



The finish of the 100 m. final at Helsinki. Left to right, J. Treloar, Australia (6th); E. McDonald Bailey, Great Britain (3rd); F. Smith, U.S. (4th); L. Remigino, U.S. (1st); H. McKenley, Jamaica (2nd); V. Sukharev, U.S.S.R. (5th). The first four all recorded 10·4 sec.



An official photograph taken after the explosion of the first British atomic bomb off the Monte Bello Islands, Australia.

area of the blast. One test had a television audience estimated at 35 million. A further series of tests at Eniwetok was announced. A test on Nov. 1 was reported by many witnesses to have caused an explosion much larger than they had seen before, and was widely rumoured to have used a thermonuclear (" hydrogen ") bomb. An official statement by the Atomic Energy commission on Nov. 16 said that " the test programme included experiments contributing to thermonuclear weapons research."

The first British atomic weapon was exploded on Oct. 3 in H.M.S. " Plym ", a frigate of 1,370 tons. The test took place off the Monte Bello Islands, west of Australia, and was designed to assess the effect of an atomic bomb exploding in a harbour. The ship was vapourized except for some red-hot fragments which were sprayed over one of the islands, starting fires in the vegetation. " Thousands of tons of water and of mud and rock from the sea bottom were thrown many thousands of feet into the air and a tidal wave was caused," Winston Churchill, British prime minister, told the House of Commons. Newspapermen watched the explosion from a hilltop on the Australian coast, about 65 mi. from the centre of the test area. The bomb exploded with the usual bright flash, followed by the appearance of the familiar ball of fire. A ragged billowing cloud was formed. The hilltop observers experienced a sharp atmospheric shock wave about four minutes after the flash. The noise was a sharp crack followed by a prolonged roll like thunder.

The project was under the command of Rear Admiral Arthur D. Torlesse. The civilian scientific director was William George Penney (*q.v.*), chief superintendent of the armament research unit of the Ministry of Supply. Penney was knighted on Oct. 23. The Royal Air Force announced on Oct. 23 that the nation had embarked upon the production of other atomic bombs and the necessary aircraft to deliver them. It was stated that all future bombers would be able to carry atom bombs.

Politics. In the United Nations, the problem of the control of atomic energy, linked to that of the control of conventional weapons, came no nearer to a solution. The U.S.S.R. made limited concessions, agreeing that the ban on atomic weapons should not become effective until control measures were ready to begin work, and accepting the principle of " continuing " inspection, but still insisted that there should be a formal prohibition of atomic weapons before detailed disclosure and verification of military resources began. In the United States the Atomic Energy act was amended to allow slightly wider exchange of information with friendly governments. The memoirs of the late J. V. Forrestal, formerly U.S. secretary of defence, and of the late Senator Arthur H. Vandenberg, disclosed secret negotiations between the United States, Canada and the United Kingdom on co-operation in the field of atomic energy. In Canada the atomic energy project was taken over by a crown company, Atomic Energy of Canada, Ltd. In the United Kingdom, the government decided that any change of control was undesirable while the first weapon trial was being organized. A European Council for Nuclear Research was formed. Facilities on the cyclotrons at Uppsala and Liverpool were made available to the council, which was to build its own laboratory in Geneva. A 600-Me.v. synchrocyclotron had been designed, and a proton synchroton of not less than 10^{10}ev. was to be built. Development over the next seven years was estimated to cost $27 million, with an annual running cost thereafter of at most $1·5 million. (*See* also MINERAL AND METAL PRODUCTION; PHYSICS.)

(F. R. N. N.)

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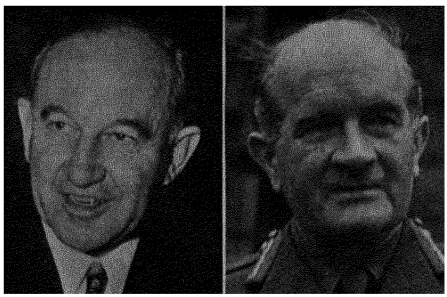
AUSTRALIA, COMMONWEALTH OF. Self-governing member of the Commonwealth of Nations, situated in the southern hemisphere. Areas and populations of the six federated states, Australian Capital territory and Northern territory are given in the table below.

States and Territories	*Capital*	*Area* (sq.mi.)	*Population* 1947 census	*Population* (June 1952 est.)	*Premier*	*Ministry*
New South Wales	Sydney	309,433	2,984,838	3,388,437	J. J. Cahill	Labour
Victoria	Melbourne	87,884	2,054,701	2,335,475	John Cain	Labour
Queensland	Brisbane	670,500	1,106,415	1,238,425	Vincent Clair Gair	Labour
South Australia	Adelaide	380,070	646,073	739,563	Thomas Playford	Liberal-Country
Western Australia	Perth	975,920	502,480	601,266	Duncan Ross McLarty	Liberal-Country
Tasmania	Hobart	26,215	257,078	302,111	R. Cosgrove	Labour
Northern Territory	—	523,620	10,868	16,478	—	—
Australian Capital Territory	Canberra	939	16,905	26,784	—	—
		2,974,581	7,579,358	8,648,539		

In 1947 full-blooded aboriginals were estimated at 50,000 and half-castes numbered 27,179. Territories under the administration of the Commonwealth but not included in it comprise Papua and the trust territory of New Guinea, Norfolk Island, the trust territory of Nauru, Ashmore and Cartier islands, Heard and Macdonald islands and the Australian Antarctic territory. Language: English. Religion (1947 census): Anglican 2,957,032; Roman Catholic 1,569,726; Methodist 871,425; Presbyterian 743,540; Baptist 113,527; Lutheran 63,243; other Christian 354,443; Jewish 32,019; other non-Christian 4,543; indefinite and no religion 45,036; no reply 824,824. Chief towns (pop., Dec. 1951 est.): Sydney 1,585,000; Melbourne 1,326,000; Brisbane 444,700; Adelaide 422,000; Perth (incl. Fremantle) 309,000; Newcastle 134,580; Hobart 87,120. Governor-generals: Sir William McKell and (from 1953) Field Marshal Sir William Slim (*q.v.*); prime minister, Robert Gordon Menzies (*q.v.*).

History. In February the Commonwealth was shocked to hear of the death of King George VI. The journey to



Sir William McKell (left), governor-general of Australia from 1947, and Field Marshal Sir William Slim who succeeded him in 1953.

Australia of Princess Elizabeth and the Duke of Edinburgh was interrupted by their immediate return to London.

The most notable domestic event in 1952 was the check to inflation. The government action was not popular and it increased what was generally described as a " very marked swing to Labour ". It was clear that in Australia inflation was far less unpopular than a probable depression. There was some evidence of public dissatisfaction with the conduct of affairs in Korea and a marked desire for an end to hostilities. It appeared that people in Australia felt that the chances of war had receded, but there was still much concern in the parliaments and the press with Communism and defence.

Check to Inflation. The height of the postwar inflationary boom was passed at the end of 1951. Australia's postwar history of expansion—rapidly rising incomes and employment (unemployment was rare and of short duration), as well as record immigration and investment—was now checked. Unemployment appeared in 1952 and by the beginning of November 30,000 people were receiving unemployment benefit, while some 62,000 were registered as unemployed. Probably comparatively few were out of work for more than a few weeks. Immigration was substantially cut and the nature of investment, but not its volume, changed. Although Australia experienced reductions in demand for goods which before were always followed by severe depression the 1952 trend towards depression did not seem likely to continue. It soon became clear that whilst the government's imposition of drastic import restrictions had caused unemployment through a measure of internal dislocation of industry and commerce, the object of converting an unfavourable into a favourable balance of trade would be achieved. For the first five months of the 1952-53 financial year Australia's overall favourable trade balance was* £112 million, as compared with an adverse overall balance of nearly £200 million for the corresponding period of the previous year.

The check to the postwar boom was brought about by a fall in the price of wool to about half its record level and by a change in government policy. The fall in wool prices had its usual depressing psychological effect on business, but not nearly so marked as such a fall had always had in the past. This was because there was confidence that " cold war " demands for wool would continue. The change in government policy produced a cut in bank lending in certain fields (although bank loans continued to rise in total), and a change in the incidence of taxation against consumption and in favour of investment. The net result was an increase in private investment as a proportion of total expenditure, a fall in the proportion of personal consumption, of government expenditure on administration, health and repatriation, and a rise in the proportion of expenditure on war and defence. National income rose by less than 5%, but expenditure rose by nearly 25% during the year. This rise in expenditure (without anything like a corresponding rise in income) came about because £1,239 million was spent on imports, whilst only £721 million was obtained for exports. The result was a heavy drain on London funds and a sudden imposition of restrictions on imports, which had a very harmful effect both upon British producers and upon merchants.

Although the proportion of total expenditure made for war and defence rose, and the number of men in the armed services was a record for peacetime, the rate at which these developments were to take place was reduced. This was partly because it was realized that the initial aims would have been inflationary on an already overloaded economy and partly because a policy was decided, in collaboration with the United States and Great Britain, for Australia to import more of its arms requirements and produce more food and raw materials.

The year opened with a Commonwealth finance ministers' meeting in London in January, and closed with a Commonwealth Economic conference in which the pressing issues of financial, commercial and economic policy with which several governments were faced were discussed. Little was achieved in 1952 towards the solution of these issues but it was certain that a downward pressure on wages and costs would be maintained in an effort to ease sterling-dollar exchange.

The Commonwealth parliament settled down during the year to a government majority in both houses and more constructive action was taken than in 1951. The Commonwealth Loan council met in May and the prime minister announced that the government could support a loan programme of no more than £125 million, but the state premiers outvoted the Commonwealth and adopted £247·5 million for the year. The prime minister announced the intention of the government to end uniform taxation and return the function of raising taxes to the states. The state parliaments, except in Victoria, worked uneventfully. In Victoria the Labour party withdrew support from the Country party government, which was then kept in office by the Liberal opposition. When the government was defeated in the house late in the year general elections were held on Dec. 6 and the



R. G. Menzies, prime minister of Australia, with his wife, driving to Guildhall, London, on June 4, to receive the freedom of the City.

* Australian pounds throughout.

Labour party was returned as the government. It was the first time in the history of the state that Labour had been able to form a government in its own right, and it was Victoria's first one-party government since 1927.

An outcome of the agreement between the United States, New Zealand, and Australia negotiated as a result of the Japanese peace treaty, which was ratified by the Australian parliament during the year, was the formation and first meeting of the Pacific council in Honolulu in August.

The 1952-53 Commonwealth budget included adjustments and reductions of taxation, particularly on companies, increased expenditure on war and defence and social service benefits. None of the increased expenditure on social services was the result of increases in the rates.

Industrial and Economic Conditions. Record employment in industry of 2,643,000 was passed in Nov. 1951 and the trend afterwards was downward. Unemployment was not uniform over the Commonwealth or over industry. However, prices continued to rise with little change in the rate. The Commonwealth basic wage reached an average for the six capital cities of £11 11*s.* a week in November 1952, and average earnings in industry of all males receiving wages and salaries were £710 (£13 13*s.* a week) in the year 1951-52. The year 1950-51 showed a fall in the quantity produced of wheat, oats, maize, hay, cane-sugar, wool, milk, butter, cheese, lamb, mutton, pork, bacon and ham, whilst beef was the only primary commodity to show an increase. There was, on the contrary, an increase in all the main manufactured commodities and in coal, pig iron, steel, electricity and building materials, but except in a few cases the percentage increase was less than that in population. It should be noted that these changes took place in the last year of inflation and the position after the check to it could not yet be seen.

The year closed with the hearing of an application to the Commonwealth Arbitration court by employers' organizations for a reduction of £2 6*s.* a week in the basic wage and an increase in the working week to 44 hr.

During the year a further loan of $50 million was made to Australia by the International Bank. There were important discoveries and developments of uranium deposits in Australia, and atomic weapons were tested (*see* ATOMIC ENERGY).

Arts and Sciences. The Centenary of Sydney university was celebrated in the presence of a number of distinguished overseas visitors and several honorary degrees were conferred upon Australians and upon Sir John Cockcroft, the director of the British Atomic Energy Research establishment. The Research School of Physical Science was opened at the Australian National university. The conference of the Australian and New Zealand Association for the Advancement of Science took place in August. Wilson hall at the University of Melbourne was destroyed by fire and a fund was opened to receive contributions for its reconstruction. It was decided to build an international house for overseas students of this university, and the chancellor stated that Australia should act as an interpreter between the United States and Asia. All Australian universities found themselves in financial difficulties at the end of the year despite considerable increases in fees. (*See* also AUSTRALIAN LITERATURE; PAPUA-NEW GUINEA; TRUST TERRITORIES.) (J. F. C.; X.)

Education. Schools (1950): state 7,969, pupils 869,906, teachers 33,271; private 1,835, pupils 281,056, teachers 12,425. Universities 8, students 33,000.

Agriculture. Main crops ('000 metric tons, 1950; 1951 in brackets): wheat 5,014 (4,392); oats 456 (505); barley 497 (522); maize 102; sugar (raw value) 936 (759); potatoes 418 (429). Livestock ('000 head, Oct. 1950-Sept. 1951): sheep 115,556; cattle 15,239; pigs 1,134; horses 999. Wool production ('000 metric tons, clean basis, 1950; 1951 in brackets): 285 (282). Milk production (million gal., 1950; 1951 in brackets): 1,021·3 (1,012·7). Food production ('000 metric tons, 1950; 1951 in brackets): butter 177·6 (142·8); cheese 46·8 (42); meat 1,021 (1,003), incl. beef and veal 632 (649).



The abattoir at Glenroy in the Kimberleys, Western Australia, where cattle are now slaughtered, the carcasses being flown to Wyndham.

Industry. Manufacturing establishments (1950-51): 43,129; persons employed (incl. working proprietors) 968,232. Fuel and power (1951; 1952, six months, in brackets): coal ('000 metric tons) 17,892 (9,633); lignite ('000 metric tons) 7,956 (4,130); manufactured gas (million cu.m.) 10,716 (1952, five months, 4,539); electricity (million kwh.) 10,476 (1952, five months, 4,640). Raw materials ('000 metric tons, 1951; 1952, six months, in brackets): refined copper 12·7 (1952, five months, 6·2); refined lead 202·8 (91·1); zinc 78·9 (45·3); pig iron 1,344 (698); steel ingots and castings 1,419 (708); gold ('000 fine ounces, 1951): 870. Manufactured goods ('000 metric tons, 1951; 1952, six months, in brackets): wool yarn 20·6 (6·2); cement 1,236·3 (1952, five months, 539·7). New dwelling units completed (1950-51; 1951, six months, in brackets): 67,444 (38,994).

Finance and Banking (£A million). Budget: (1951-52) revenue 1,002·4, expenditure 903·9; (1952-53 est.) revenue 959·9, expenditure 959·4. National debt (Dec. 1950; Dec. 1951 in brackets): 2,993·6 (3,183·1). Currency circulation (July 1951; July 1952 in brackets): 274 (301). Gold and balances held abroad (£A million, March 1951; March 1952 in brackets): 640·2 (316·6). Bank deposits (July 1951; July 1952 in brackets): 1,100 (995). Monetary unit: Australian pound with an exchange rate of £A1·25 to the pound sterling and £A0·45 to the U.S. dollar.

Foreign Trade. (£A million, 1951; 1952, six months, in brackets). Imports 940·8 (576·8); exports 916·9 (409·9). Main sources of imports (1951): U.K. 48%; U.S. 8%; India 5%. Main destinations of exports: U.K. 33%; U.S. 15%; France 9%. Main imports (1951): machinery and vehicles 27%; piecegoods 10%; petroleum and products 9%; textile manufactures 7%. Main exports: wool 65%; wheat 8%; wheat flour 4%; dairy products 3%.

Transport and Communications. Roads (1947): 515,710 mi. Licensed motor vehicles (Dec. 1951): cars 955,537; commercial vehicles 579,492. Government railways (1950-51): 26,954 mi.; passenger journeys 476,113 million; goods carried 41,324 million tons; train miles run 88,676 million. Shipping (merchant vessels of 100 gross tons and over, July 1951): 357; total tonnage 557,484. Air transport (1951): internal and overseas mi. flown 51,180 million; passenger-mi. 910,904 million; freight, incl. mail, net ton-mi. 28,990 million. Telephones (1951): 1,182,035. Wireless licences (March 1952): 1,985,111.

See R. M. Crawford, *Australia* (London, 1952); Sir Griffith Taylor, *Australia* (London, 1952).

AUSTRALIAN LITERATURE. During 1952 most Australian writers and their works were drawn within the orbit of the political tensions which had developed in recent years. The budget debate provided an opportunity for attacks to be made upon the Commonwealth Literary fund's alleged patronage of leftist writers. Individual

authors were also attacked, particularly those whose *métier* was the social novel, a feature of Australian creative writing. Writers found the year a disturbing one.

Poetry had a creditable year. Colin Thiele's *The Golden Lightning*, written in the Jindyworobak tradition, included some vivid descriptive passages and Francis Webb's *Leichhardt in Theatre*, which took its title from its chief work, an imaginative and dramatic account of the journeys of the explorer, revealed more clearly the originality and power seen in the young poet's first book, *A Drum for Ben Boyd*. Douglas Stewart and Robert D. Fitzgerald enhanced their established reputations, the former with his *Sun Orchids and Other Poems*, written with his usual sensitivity of expression, and the latter with *Between Two Tides*, an 80-page poem of Tonga. *Australian Poetry 1951-52* was selected in its tenth issue by Kenneth Mackenzie and blended a variety of material from 32 writers, some of whose work rose to genuine artistry. Important, too, was James Devaney's *Poetry in Our Time: a Review of Contemporary Values*, a provocative discussion of 20th-century poetic standards.

Most successful of the novels of 1952 was T. A. G. Hungerford's *The Ridge and the River*, a convincing re-creation of three or four days in the life of an Australian patrol fighting in the jungle campaign against the Japanese on Bougainville island, notable for its atmosphere and realistic dialogue. Jon Cleary's *The Sundowners*, first published in the United States, was praised most for its characterization and for the "outback" atmosphere it created. Dymphna Cusack's *Say No to Death*, first published in England, was republished in the United States under the title *The Sun in My Hands*. Two first novels of promise were *Heaven Knows, Mister Alison* by Charles Shaw and *The Shades Will Not Vanish* by Helen Fowler. Among new editions in 1952, the most interesting was that of *Ralph Rashleigh*, which made available for the first time the text of the original manuscript which the researches of the editor, Colin Roderick, led him to ascribe to a convict, James Tucker of Port Macquarie.

Coast to Coast. Stories 1951-52 was edited in this issue by Ken Levis and included, for the two years, 26 short stories from an imposing team of contributors whose work showed technical proficiency and fluency. A collection of Judah Waten's stories, published under the title *Alien Son*, told mainly of a Jewish family which came to Australia from Russia before the revolution.

Meanjin and *Southerly* were joined during the year by a new literary journal, *Direction*, devoting itself to the encouragement of a youthful and vigorous literature in Australia, and by *Language*, publishing literary and artistic discussions generally, as well as creative works of prose and poetry. *The Austrovert* continued its outspoken comment on Australian writing. (C. A. Br.)

AUSTRIA. Republic of central Europe, bounded N. by Germany and Czechoslovakia, E. by Hungary, S. by Yugoslavia and Italy and W. by Switzerland. Area: 32,375 sq.mi. Pop.: (1939 census) 6,652,720; (1951 census) 6,918,959. 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), other 5·12%. Principal towns (pop., 1951 census): Vienna (cap., 1,760,784); Graz (226,271); Linz (185,177); Salzburg (100,096); Innsbruck (94,599); Klagenfurt (62,792). President, Theodor Korner; chancellor, Leopold Figl. 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, 1952, members of the A.C.A. were: France, Jean Pavart: United Kingdom, Sir Harold Caccia; United States, Llewellyn E. Thompson; U.S.S.R., Lieut.-General V. P. Sviridov.

History. Two factors continued to dominate the Austrian political scene in 1952: the four-power occupation and the coalition government. There remained little doubt that but for the former the latter would have disintegrated. Characteristic of the strain between the two coalition partners, the Austrian People's party (Ö.V.P.) and the Socialist Party of Austria (S.P.Ö.), was the dispute over the return of the estates of Prince Ernst Rüdiger von Starhemberg, the prewar Heimwehr leader. These estates had been confiscated by the Nazis and were now to be returned under the restitution law The Socialists, who regarded the prince as the arch-enemy of the Austrian working class, condemned this decision. On Jan. 7, they called a token strike and on the same day the Communists led demonstrations in Vienna. On Jan. 23, the Socialists introduced a bill to prevent Starhemberg from taking possession. This bill was bitterly opposed by the Ö.V.P. and the extreme right-wing League of Independents (V.d.U.) on the grounds that being directed against a legitimate court decision it undermined the rule of law The Socialists argued that Starhemberg, by being largely responsible for the collapse of Austrian democracy, had put himself outside the rule of law. Finally a compromise was found. A bill was passed which empowered the government to suspend for an indefinite period the operation of the court decision. The estates were placed under the administration of the provincial authorities concerned. The coalition was shaken but not broken.

In October the coalition parties agreed to a general election early in 1953. Shortly afterwards the two parties reached deadlock on the budget estimates for 1953 which had to be presented to parliament on Oct. 22. In view of the imminence of a general election neither side would budge: the Socialists claimed that the proposals were deflationary, stinted the social services and state investment, and would cause more unemployment; the People's party emphasized that the Socialists would not maintain the stability of the currency. On Oct. 23 the government tendered its resignation which the president did not accept. His statesmanlike appeal to continue negotiations succeeded. The 1952 budget was accepted as a basis for the period until the general election The Figl government formally resigned and was immediately sworn in again on Oct. 28

Throughout the year suspicion and bitterness between the two coalition parties was heightened by allegations of jobbery and corruption in the administration of nationalized industries and banks. The judiciary was accused of bias in these matters. On Sept. 16, Otto Tschadek, the Socialist minister of justice, resigned and was succeeded by the non-party expert Josef Gero.

The Ö.V.P., itself an uneasy alliance of industrial, agricultural and "white collar" interests, remained subject to internal strains. Tension within the party found expression in the resignation on Jan. 23 of three Ö.V.P. ministers: Eugen Margaretha (finance), Josef Kraus (agriculture) and Felix Hurdes (education). They were replaced by Reinhard Kamitz, Franz Thoma and Ernst Kolb (all Ö.V.P.) respectively. The last-named was transferred from the Ministry of Trade and Reconstruction where he was succeeded by Josef Böck-Greissau, a manufacturer and vice-president of the Association of Austrian Industrialists.

The first task of the reorganized government was to cope with the worsening economic situation. In this it was only partially successful. Inflation was stopped but export prices could not be reduced sufficiently to make up for the ending of boom conditions in the world markets. The slackening of demand for exports coupled with severe credit restrictions caused a considerable increase of unemployment. In June the

number of those seeking work was 118,950 which represented an increase of 39,370 over the corresponding figure of 1951. In some of the provinces the position became so serious that funds had to be made available for relief works. All this despite the fact that in this the last year of the European Recovery programme a further $115 million was pumped into the Austrian economy. Total E.R.P. aid received by Austria therefore amounted to approximately $909 million or about three times as much as the League of Nations loan granted to Austria after World War I (calculated at present day prices). It began to be widely recognized that the continued dependence of the Austrian economy on foreign aid was due not only to the burden of occupation and the Soviet hold on important industrial assets but also to Austria's inability to trade with its neighbours in eastern Europe.

Relations with Yugoslavia improved considerably. In June Karl Gruber, the foreign minister, visited Marshal Tito and reached general agreement on the desirability of expanding trade between the two countries and on reopening the common frontier. The latter point was settled in detail at a conference held at Bad Gleichenberg in September.

Friendly relations between the Austrian government and the western occupying powers continued and were extended—too much indeed for the liking of the Communists who alleged that Austrian foreign policy was directed by the U.S. State Department. Leopold Figl, the federal chancellor, paid official visits to London where he asked for a lightening of British occupation costs and to Washington where he affirmed his government's intention not to conclude a separate treaty with the western powers as this would cut Austria in two. Official visits were made to Vienna by Dean Acheson, Anthony Eden and Maurice Schumann.

Soviet policy towards Austria seemed to take a more favourable turn with the permission to resume traffic on the Danube between Vienna and the U.S. zone. But the Soviet view continued to be that Austria was not democratized, that " Fascist " influences had not been eliminated and that rearmament was carried on in the western zones. In these circumstances negotiations for concluding the long-awaited state treaty were continued in an atmosphere of pessimism. In March the western powers put forward a shortened draft of the treaty (it contained only eight clauses instead of 59). Designed to by-pass minor disagreements, it was in effect much less favourable to the U.S.S.R. than the longer version. It left out provision for the payment of $150 million by Austria in return for Soviet cession of the German assets, nor did it deal with Soviet claims on Austrian oil production and on the Danube Shipping company. There was no surprise when the shortened draft was rejected by the Soviet government on Sept. 28. In the meantime the Austrian government had secured the good offices of Brazil to raise the question of the treaty at the United Nations but here again no results were forthcoming by the end of the year.

(V. T. É.)

Education. Schools (1951-52): elementary and private 4,517, pupils 622,603, teachers 24,992; secondary 167, pupils 61,634, teachers 3,896; technical and commercial 31, pupils 8,652, teachers 1,266. Teachers' training colleges 35; students 4,030, professors and lecturers 548; universities 4, students 12,939, professors and lecturers 1,825.

Agriculture. Main crops ('000 metric tons, 1951; 1952 in brackets): wheat 343 (360); barley 246 (268); oats 298 (347); rye 334 (360); maize 159; potatoes 2,149; sugar (raw) 159. Livestock (Dec. 1951): cattle 2,280,548; sheep 362,457; pigs (March 1951) 2,523,182; horses 283,025; goats 322,816; poultry 6,971,694.

Industry. Insured persons employed (Aug. 1951): 2,046,000. Fuel and power (1951; 1952, six months, in brackets): coal ('000 metric tons) 195 (1952, five months, 83); lignite 4,992 (2,587); manufactured gas (million cu.m.) 305 (155); electricity (million kwh.) 5,652 (3,119); crude oil ('000 metric tons, 1950) 1,525. Raw materials ('000 metric tons, 1951; 1952, six months, in brackets): iron ore 2,376 (1952, five months, 1,070); pig iron 1,050 (605); steel ingots and castings 1,028 (537); magnesite 664; lead (smelter) 9·5 (1952, five months, 3·5). Manufactured goods: woven cotton fabrics 14·4 (1952, four months, 4·5); cotton yarn 21·8 (1952, five months, 7·5); wool yarn 20·8 (1952, five months, 4·1); rayon staple fibre 41·8 (17·4); paper 261.

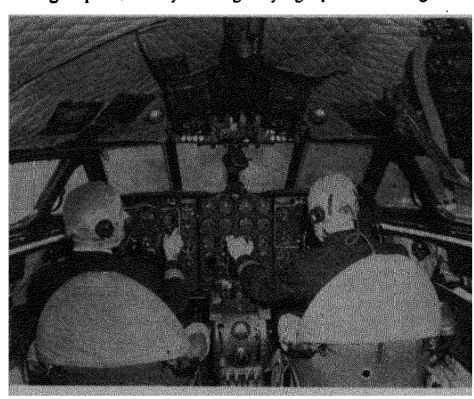
Finance and Banking (million schillings). Budget (1952 est.): revenue 18,669, expenditure 19,700. Internal debt (Dec. 1948; Dec. 1949 in brackets): 11,152 (11,826). Currency circulation (July 1951; July 1952 in brackets): 6,796 (8,720). Bank deposits (June 1951; June 1952 in brackets): 8,197 (8,940). Monetary unit: *schilling* with an exchange rate (Nov. 1952) of Sch. 59·81 to the pound sterling and Sch. 21·42 to the U.S. dollar.

Foreign Trade. (Million schillings, 1951; 1952, six months, in brackets.) Imports 14,027 (7,858); exports 9,635 (5,249). Main sources of imports (1951): U.S. 22·2%; Germany 16·8%; U.K. 9%; Italy 5%. Main destinations of exports: Germany 14·2%; Italy 11%; U.S. 8·8%. Main imports: coal, grain, machinery and vehicles. Main exports: iron, steel and manufactures, pulp, paper and manufactures, and wood.

Transport and Communications. Roads (1947): 53,000 mi. Licensed motor vehicles (Dec. 1950): cars 51,300, commercial vehicles 47,000. Railways (March 1951): 3,761 mi.; passenger-mi. (1950) 2,670 million; goods, ton-mi. (1950) 3,311 million. Telephones (1951): 412,394. Wireless receiving sets (1950): 1,318,000.

AVIATION, CIVIL. The introduction of the mark I Comet jet liner on three routes of British Overseas Airways corporation was the outstanding event of 1952 in the civil aviation field. This development was watched with special interest by operators all over the world as both a bold experiment and the probable beginning of a new epoch. This mark of Comet had been criticized on the grounds that it had too short a range and carried too small a payload. Fears were expressed that control authorities would not be able to give it adequate aids or fit it into traffic patterns, and that the cost of maintenance, particularly of engines, would be heavy. The first service, London-Johannesburg, began on May 2. The second, London-Colombo, opened on Aug. 11. The third, London-Singapore, started on Oct. 10 and was later to be extended to Tokyo. Inevitably there were minor troubles: one abortive attempt to take off from Rome on Oct. 26 caused much damage to one of the fleet.

In general, the first six months of operation gave little support to the fears which had preceded the Comet's appearance: right up to the end of the year advance bookings on the Comets remained heavy; and the first six months' maintenance costs were no heavier than those for comparable piston-engined aircraft. The Comet was not unduly handicapped by bad weather or by the difficulty of obtaining navigational aids and traffic control systems appropriate to its high speed, or by its high flying speed and high fuel



The cockpit of the B.O.A.C. de Havilland Comet that on May 2 opened the first scheduled passenger service with jet aircraft.

consumption while waiting at low altitudes to land. However, its makers had realized that its limitations had to be tackled: by Feb. 16 the Comet II prototype had begun test flying.

The Comet II promised to give a stage-length of about 2,000 mi. (Comet I, 1,500 mi.) with 44 passengers (Comet I, 36); in this mark the Avon engine was used instead of the Ghost. After some hundreds of hours' flying experience had been gained with the Avon, the design was announced—and deliveries promised in 1956—of the Comet III, which would have a range of 2,700 mi. carrying 58 to 78 passengers. Various United States operators now made inquiries about deliveries: Eastern airlines withdrew because delivery dates were considered to be too remote; Pan-American World airways placed an order for three Comet IIIs to be delivered in 1956 and took an option on seven more for delivery in 1957. This arrangement meant that only B.O.A.C. and Pan-American could have Comet IIIs in 1956. It was estimated that the maximum output in later years would be 70 a year. But with the announcement of a new engine, the Conway, reputed to have a much more economical fuel-consumption, there were hints that a Comet IV would appear in 1960. Five other international operators had placed orders for Comets of various marks: two slightly modified Comet Is were delivered to Canadian Pacific airlines for use between Honolulu and Sydney; three Comet Is were to be delivered to Union Aéromaritime de Transport for the Paris-French Equatorial Africa and Paris-Saigon services; six of the later Comets were on order for the British Commonwealth Pacific airlines' Vancouver-Sydney service; two Comet IIs each had been ordered by the newly revived Japan Air lines and by the Venezuela Aeropostal company. Meanwhile, there was no sign in the United States either of agreement between operators and constructors or of enterprise on the part of a constructor that would produce competition for the Comet. On the other hand it was suggested that a second British constructor was designing a jet liner.

Some operators resolved their dilemma without hedging: the Belgian line, Sabena, announced flatly that it would have nothing to do with jets at this stage but would wait to see the jet aircraft expected from the United States; K.L.M. decided to re-equip with modern piston-engined aircraft; the Australian Qantas Empire airways ordered the new Super-Constellation to supplement and replace its existing Constellations; other companies turned to the DC-6 and DC-7; even B.O.A.C. ordered some additional Stratocruisers. There were two reasons (apart from the desire to avoid the troubles of the Comet's development period) for sticking to piston-engined planes: one was the prospect of an expanding second-class tourist traffic, for which high-capacity aircraft were needed; the other was a belief that the advantage of the Comet's speed could be offset by the abnormally long range of the newest orthodox liners, a belief first expressed when the Comet began operations to South Africa. On the London-Johannesburg run the Comet had to refuel five times and about one hour was spent on the ground at each landing. It was pointed out that when K.L.M. received its Super-Constellations, it would be able to compete with the Comet on the same run on a similar time-schedule by making only one refuelling halt between Amsterdam and Johannesburg. A similar argument applied to the London-Australia route: here Qantas would be able to fly 4,000-mi. stage-lengths, as compared with the Comet II's 2,000-mi. stages, thus making range offset the difference of about 120 m.p.h. in the cruising speeds of the two planes, without sacrificing payload. The reaction of passengers to longer non-stop stages in aircraft from which noise and vibration could not be eliminated was borne in mind by operators who contemplated this form of competition; but the risk was thought to be no bigger than that to be taken in " bedding down " the revolutionary Comet. This aspect was not expected to be fully tested until 1954 when Comet IIs were due to appear on the Australia and south Atlantic routes and possibly, at certain times of the year, on the north Atlantic run and New York-Bermuda and New York-Bahamas holiday services.

For tourist traffic, the value of capacious aircraft on the busy routes had already been proved. Eleven operators ran tourist services at reduced fares on north Atlantic routes during 1952 and from May to September offered between them up to 3,460 seats each week at fares roughly 30% below the standard fares. When the season opened the total seats available each week were only 2,452 of which Pan-American provided 738 and Trans-World airways 420; Trans-Canada airlines came next with 280, having turned over the whole of its capacity on the Atlantic route to tourist traffic; at the same time B.O.A.C. offered 136 seats but at the season's peak it provided 544 weekly. The cheaper fares were made possible



The Bristol Britannia airliner which first flew on Aug. 16. The aircraft was powered by four Bristol Proteus propeller-turbine engines to cruise at 360 m.p.h. It could carry 50 passengers for long-distance travel or 100 for tourist-class over short distances.



The Saunders-Roe SR.45 Princess made its first flight from Cowes, Isle of Wight, on Aug. 22. Powered by 10 Bristol Proteus propeller-turbine engines, Britain's largest flying-boat was originally designed to fly non-stop from Southampton to New York.

by fitting more seats in the aircraft and by cutting down the lavish "hospitality" en route. Heavy traffic justified the experiment but, except at the height of the season, operators had to accept a large flow of one-way traffic. At the end of the year analysis of the first year's tourist business was still awaited but the trend towards the multi-seat liner had been established. Pan-American, for example, had fitted 82 and the Scandinavian Airlines system 81 seats in the DC-6B for this class of work. B.O.A.C. put 68 seats into the Constellation. This development turned attention to the new Britannia turbo-prop liner which made its first flight on Aug. 16 and had been ordered for B.O.A.C. It could carry 98 passengers and was expected to have long range. A yet bigger turbo-prop liner, the Princess flying-boat, which first flew a week later, still appeared to be of no interest to airline operators although it could be fitted to carry 200 passengers. Throughout the year there were signs that low-priced tourist travel could be expected to develop in various directions. Two British independent companies obtained permission to operate third-class short-stage services between London and destinations in British African territories. B.O.A.C. also arranged to run tourist services to certain British colonies in Africa. British European airways and Air France proposed to begin tourist services between London and Paris during the winter and expected to amplify the system as additional aircraft were obtained.

The principal business feature of the year therefore was an intensification of traffic on existing routes rather than the exploitation of new routes. A general marked increase in loads and revenue was reported. Only one new route of any importance was opened—Australia-South Africa *via* the South Indian ocean. On Sept. 1 the fortnightly Sydney-Johannesburg service began, with calls at Perth (Western Australia), the Cocos Islands and Mauritius. It introduced the longest over-sea stage so far being operated—that of 2,763 mi. between the Cocos and Mauritius. This service was linked with the regular trans-Asian route by a spur-route from Cocos to Djakarta and Singapore; and there were hopes of tapping the Asia-South Africa traffic when east Asia became more settled. The new service was operated with Constellation aircraft and the spur with DC-4s. Its opening depended on the construction of a landing strip 10,000 ft. long and 1,000 ft. wide on one of the bigger islands of the Cocos group (West island) and the installation there of a radio beacon and passenger accommodation. The preparation of the airport was undertaken by the Australian government and of the passenger facilities by Qantas Empire airways, which operated the service. During the year the restoration to Japan and Germany of rights to resume international services was announced. Steps were taken by both countries to procure commercial aircraft and to secure help in training crews. There was no sign that either country would organize new routes immediately.

The restriction of aviation fuel supplies because of strikes in mid-1952 at U.S. oil refineries led to a slight diminution of many operators' services, chiefly those for freight. There was also some dislocation of services normally passing through Cairo, first when mob violence occurred in Cairo and Alexandria and later when the abdication of King Farouk made conditions temporarily unsettled. During both periods (in the second, up to October) aircraft on services to and from the far east and Australia called instead at Beirut and those on African routes called at Tripoli (Libya). There was some loss of traffic, particularly mail traffic from British troops in the canal zone.

On the whole business was better during 1952 than in the previous year: British European airways, heavily affected

TABLE I. U.K. CIVIL AIR TRAFFIC: SCHEDULED SERVICES*

	All Services		Internal		International	
	1950-51	1951-52	1950-51	1951-52	1950-51	1951-52
Mi. flown ('000)	48,893	52,995	6,945	6,217	41,948	46,778
Pass. carried ('000)	1,198	1,436	488	533	710	904
Pass.-mi. ('000)	836,136	1,094,223	80,162	89,674	755,974	1,004,548
Freight (short tons)	23,195	39,396	2,598	2,859	20,597	36,538
Freight ('000 short ton-mi.)	26,636	31,181	478	530	26,158	30,652
Mail (short tons)	7,531	9,396	1,652	2,576	5,879	6,821
Mail ('000 short ton-mi.)	14,147	18,084	271	426	13,876	17,658

* B.O.A.C., B.E.A. and associated companies.

TABLE II REVENUE STATISTICS FOR BRITISH AIR LINES
(Financial Year, April 1-March 31)

	B.O.A.C.*		B.E.A.	
	1950-51 £	1951-52 £	1950-51 £	1951-52 £
Operating Revenue	24,252,115	33,567,862	8,998,821	10,817,687
Operating expenditure	27,564,071	32,164,801	9,796,079	12,060,005
Operating profit (+) or loss (−)	−3,311,956	+1,403,061	−797,258	−1,242,318
Non-operating expenditure	1,253,472	1,128,062	182,009	181,293
Profit (+) or loss (−) for year†	−4,565,428	+ 274,999	979,267	−1,423,611

* Excl profit or loss on disposal of assets and redemption of stock †After payment of interest on capital

by the halving of the British tourist's foreign currency allowance, was able to report a record profit of £109,300 for the month of July. This corporation had incurred the heaviest loss—£1,423,611—in the previous financial year and had expected in the current financial year to show a loss; but it was beginning to reap the benefit of its long-needed new aircraft. For the first time since the end of the war, B.O.A.C. showed a small profit—£274,999—in the 1951-52 financial year. Two companies showed signs of high prosperity: Sabena's profit was £1,378,309, that of K.L.M. about £1 million. (K.L.M.'s deficit of £3,500,000 in 1949 had been brought to a point of "break-even" in 1950, when passengers increased by 57,000, freight by 3,900 tons and revenue by 44%, no loss was shown as reported in the *Britannica Book of the Year 1952.*) Air France made a modest profit of £52,000. Trans-Canada airlines showed its first profit since the war—£1,390,000. The total number of passengers on all air lines rose by one-third—to 39 million. But the increase in passengers was not evenly distributed over all lines: B.O.A.C. and B.E.A. for instance reported an increase of 25%, Air France one of 20%; Sabena's increase was 33%, K.L.M.'s 24%. During the year the two London airports handled 1 5 million passengers

British passenger helicopter services ceased during the year, but a Belgian postal service, working a circuit of 230 mi. from Brussels through six towns to Antwerp, was operated with remarkable regularity and success. In London, special tests of the proposed helicopter station on the South Bank were undertaken to find out how much noise-nuisance regular operation might inflict on parliament and public offices in the vicinity. B.E.A. had on order at the end of the year a small number of twin-engined twin-rotor helicopters capable of carrying 12 to 14 passengers and had put out a specification for a 40/50-seat helicopter.

Air-carriers' liability for third-party damage was redefined at a conference held in Rome during September by the International Civil Aviation organization. Under the new plan maximum liability, except in cases of wilful damage, was related to the loaded weight of the aircraft involved and provision was made both for claims to be heard in the courts of the country in which an accident occurred and for awards to be enforced if necessary in other countries. The highest liability in respect of loss of life or injury was set at £13,150 per person. Acceptances of the new convention by member countries were being received during the later months of the year. (E. C. SD.)

United States. Most significant of the events in civil aviation during 1952 were the success of scheduled airline tourist fares on the north Atlantic route and the introduction of regular turbo-jet airline travel. North Atlantic tourist services were inaugurated on May 1, with a New York-London fare of $270, using the carriers' largest and most modern equipment. During the first three months of its operation about 150,000 persons crossed the north Atlantic, as compared with 100,000 in the same period of 1951. With a much higher seating density than that operated in regular service, the 50% traffi increase was achieved by only a 10% increase in the number o flights At the same time the average number of passenger carried on first-class flights rose by nearly 20%.

The advent of British Overseas Airways corporation' Comet service between London and South Africa stirre competing lines all over the world into action. Pan-Americai Airways led the U.S. operators with an order for thre improved Comets for 1956 delivery, after U.S. manufacturer had been unable to quote delivery dates or prices on ai American-built jet liner.

U.S. air transport continued its remarkable growth Revenue passengers increased nearly 10% over the previou year, from about 25 3 million to 27·8 million, while th volume of revenue passenger-miles moved up sharply fron 14,242 million to 17,100 million or 20%.

Carriers comprising the U.S air transport industry (exclu sive of Alaska) included in 1952: 14 domestic trunk lines, 2(local service, 4 certificated cargo, 12 international, 3 territorial more than 50 large irregular and a substantial number of smal irregular carriers who were not required to report operating results to the federal regulatory agency—the Civil Aero nautics board. The territory of Alaska, because of terrain anc lack of integrated surface facilities, is basically dependen upon air transport. It was served by 11 certificated airline and about 100 pilot owners, or bush pilots, as they are generally called.

The figures in Table III compare industry activity during 1951 with estimated 1952 volumes. They do not include intra Alaska air services and small irregular air carriers. A breakdown of this activity by carrier group is shown ir Table IV.

Important actions in the development of U S. air transport during the year included the approval by the Civil Aero nautics board of two airline mergers and active consideration of several others, reflecting a policy of encouraging the formation of fewer but stronger carrier organizations.

The local service experiment was continued by the renewal of temporary authorizations, and in the international field permanent operating rights were granted to Pan-American and Trans World Airlines for the important transatlantic section of their certificates.

A large portion of the traffic increase in 1952 was the result of substantial expansion in the volume of domestic air coach services with the reduction in rates in April. The maximum fare per mile for off-peak hour service was reduced to 4 cents. from a basic fare of approximately 4½ cents per mile, established in Nov. 1950. The response to this fare reduction was evident in the 40% increase in coach passenger-miles—proportionately greater than the 20% experienced in first-class traffic—from 1,200 million to 1,700 million in the fiscal year 1952 over the fiscal year 1951. Domestic coach traffic in 1952 represented 15% of the total revenue passenger-miles flown by the domestic trunk-line operators. The Air Transport association's economic research department reported 1,017,082,000 air coach passenger-miles flown during the first

TABLE III. U S COMMERCIAL AIR TRANSPORT INDUSTRY

Traffic	1951 (actual)	1952 (est.)	Increase
Revenue passengers	25,315,179	27,773,400	9·7%
Revenue passenger mi ('000)	14,241,714	17,099,100	20·1%
Mail ton mi	90,918,031	102,836,400	13 1%
Cargo ton mi	391,806,831	411,233,100	5 0%
Total revenue ton mi *	1,915,101,892	2,193,486,800	14 5%
Revenue			
Passenger	$809,609,318	$959,283,400	18·5%
U S. mail	120,975,375	122,114,500	9%
Cargo	110,522,160	118,593,900	7 3%
Other	38,339,997	37,886,100	1·2%†
Total operating revenue	1,079,446,850	1,237,877,900	14 7%

* Including passenger ton-mi. † Decrease.

six months of 1952, compared with 599,696,000 in the same period of 1951.

High air-traffic levels in 1952 were accompanied by increased demands for new and additional capacity. Since the beginning of 1951 materials had been allocated for the production of 492 new transport aircraft, with a value of more than $425 million, for U.S. air carriers In addition, substantial allocations were made for aircraft purchased by foreign airlines. Of this total, 192 aircraft were delivered between the beginning of 1951 and the end of Sept. 1952, with the balance of 300 scheduled for delivery up to the first quarter of 1955. These aircraft would produce a lift which would be more than double that of the fleet in the carriers' possession at the end of 1950, thus assuming sufficient flexibility for expansion of traffic and retirement of some obsolete aircraft types.

Included in the backlog of transport planes were 12 passenger-carrying helicopters which had been approved for the inauguration of shuttle service in two major metropolitan areas in the country

Lockheed reported that it would deliver 19 Super Constellations by July 1953 to transatlantic carriers. Of these, nine were to go to Royal Dutch Airlines (K L.M) and ten to Air France. These planes could be modified to seat 99 for tourist travel, as compared with 65 for standard flight. Douglas announced it would deliver 20 new DC-6Bs in the same period for the European passenger shuttle These 39 additional planes alone would increase the passenger capacity of the transatlantic carriers by about 50% in 1953.

Whereas three years earlier the U S flag carriers flew about 70% of the transatlantic traffic, it was now divided fairly equally between U.S. and foreign carriers Sir William P. Hildred, director-general of the International Air Transport association, pointed out that Pan-American Airways, largest of all international carriers, had 22,000 first-class and 21,000 tourist passengers between May 1 and Aug. 15 This compared with 29,000 for the same period in 1951. During the same time, Trans World Airlines, the other U.S. flag line operating regular transatlantic flights, increased from 21,000 in 1951 to 30,000 in 1952. The foreign flag carriers over the north Atlantic had an increase of 66% in the ocean-crossing traffic for the summer of 1952, as compared with the previous year.

Passenger fatalities on the domestic U.S. scheduled carriers, in relation to the volume of traffic carried, decreased substantially during the year. The 12-month period ending Sept. 30 was one of the best in the airlines' history, with 0 38 passenger fatalities per 100 million passenger-miles. This compared with 1·3 fatalities during 1951. Three spectacular accidents, involving one large irregular carrier and two scheduled airlines, occurred near Elizabeth, New Jersey, in late 1951 and early 1952 and resulted in the temporary suspension of activity at the Newark airport. Service was later restored on a restricted basis. A direct outgrowth of the Elizabeth accidents was the appointment of the President's Airport commission, to study the problems of airport location.

Vice-Admiral Emory S. Land, president of the Air Transport association, calling attention to the naming of 42 scheduled U.S. airlines as winners of National Safety council awards, pointed out that during the period covered there had been an average of 12,464 daily take-offs and landings, and the percentage of fatal crashes was roughly 1/10,000 of 1%. He quoted traffic figures to prove that it was nine times safer to fly than it had been in 1931.

On June 30 the Civil Aeronautics board released its second subsidy separation report, wherein it established, for international, territorial and overseas operations of U.S. carriers, an administrative separation of service and subsidy mail payments. For the fiscal year 1952, the board estimated that subsidy payments amounting to $45,343,000 had been included in the total mail payments of $63,112,000 made to international, territorial and overseas carriers. The report noted that subsidy support for these operations would tend to increase for several years.

TABLE IV PRINCIPAL DIVISIONS OF U S AIR TRANSPORT

Revenue ton miles	1951 (actual)	1952 (est)	Increase
Domestic trunk line	1,204,665,707	1,382,554,100	14 8%
Domestic local service	31,739,077	36,114,500	13 8%
International and territorial (excl Alaska)	396,128,093	464,190,900	17 2%
Certificated cargo	100,576,038	90,012,300	10 5%*
Irregular	181,992,977	220,615,000	21 2%
Total revenue ton mi	1,915,101,892	2,193,486,800	14 5%
Operating revenues			
Domestic trunk lines	$658,520,841	$757,257,800	15 0%
Domestic local service	37,643,132	42,341,100	12 5%
International	299,098,518	327,954,500	9 6%
Certificated cargo	17,690,063	12,288,900	30 5%*
Irregular	66,494,296	98,035,600	47 4%
Total operating revenues	1,079,446,850	1,237,877,900	14 7%

* Decrease

During the year a study was initiated to develop a multi-element service rate structure for use in mail rate-making procedures The study, which would differentiate between terminal and transit costs, was being conducted by interested government agencies in co-operation with the air carrier industry

Plans for mobilization of the air transport industry moved ahead in 1952. The Department of Defence presented the initial requirements of the civil reserve air fleet and the Civil Aeronautics board released its proposed war air service pattern, a plan to provide service for essential wartime traffic with equipment remaining with the airlines after military diversion.

Current mobilization planning reflected the desire of the military agencies to maintain a strong civil transport system during a wartime emergency In 1942, after the outbreak of World War II, the scheduled airlines were permitted to operate only 166 twin-engine aircraft. Under the 1952 plan it was contemplated that more than 800 twin-engine and about 300 four-engine would be available for servicing priority traffic in wartime. Significantly, the civil reserve air fleet plan called for contract operation of military services by the air carriers rather than by militarization of the equipment or personnel. (A. O. C.)

AVIATION, MILITARY: *see* AIR FORCES OF THE WORLD.

AZORES: *see* PORTUGAL.

BACON: *see* MEAT.

BACTERIOLOGY. Fertilizer from Garbage. Every bacterial cell is a microscopic chemical factory, and there are many possible applications of that fact. One recent application was the compounding of a mixture of bacterial cultures which could transform the waste of a city or the stubble from farm crops into rich humus of exceptional growth-stimulating powers.

Garbage from which paper, wood, glass and metal had been removed was ground into small bits, sprayed with water containing a tablespoonful of bacteria per ton of garbage and composted for three weeks. During that time the bacteria multiplied rapidly and digested the mass of garbage. At times steam rose from the heaps as the intense chemical activity raised the temperature of the mass to 150° F. In three weeks there resulted a humus so rich that vegetables grown in it were 25% larger and contained up to three times as much vitamin A as those grown in conventional fertilizers.

The nitrogen content of this bacterially made soil was four times that of other soils and grain produced from its was of a consistently higher protein content. More than 50 strains of bacteria, of unrevealed identities except that many were said to have been isolated from the intestinal tracts of man and domestic animals, were blended together to fit the requirements of the type of garbage and the season.

It was estimated that in the United States alone, if all garbage were so composted, 30 million tons of fertilizer a year would result, capable of fertilizing 10 million ac. of land—and there would be no garbage disposal problem. The possible ultimate impact of microbial humus on a hungry world was even more important.

Therapy of Fungal Diseases. A promising new weapon against the intractable fungal diseases appeared during 1952. Stilbamidine (4,4-stilbenedicarboxamidine) was used in the treatment of blastomycosis and actinomycosis and produced prompt therapeutic responses. It also proved efficacious against blastomycosis when propamidine (4,4-diamidinodiphenoxypropane dihydrochloride) was administered locally It was suggested that diamidines be given a further trial in treatment of severe yeastlike infections.

The failure of medically proven antibiotics to inhibit or kill pathogenic yeasts and fungi had been further complicated by the fact that their use against bacteria had often removed from the environment bacteria which were the normal antagonists and controlling factors for the fungus population. After antibiotic therapy many dangerous and even fatal cases of fungus infections had resulted. To reduce the prevalence of moniliasis infections after aureomycin therapy, methylparaben and propylparaben were incorporated into the drug

Antibiotic Antagonism and Synergism. The frequency with which unpredicted results occurred when two or more antibiotics were used in combination clinically induced test tube and animal studies of the phenomena. During 1952 some semblance of order began to emerge from the hitherto random pattern. It became evident that the wide spectrum antibiotics, aureomycin, terramycin and chloramphenicol, constituted a group apart from the others of more limited scope, penicillin, streptomycin, bacitracin and neomycin When combinations from the latter group were used, a high percentage of synergism (bactericidal action greater than the dosage of the agents used should warrant) occurred When combinations of antibiotics of both groups were used, the largest percentage of antagonisms developed. In this case it seemed that the ineffectual agent negated the efficacy of the active agent Combinations of wide spectrum antibiotics were of only additive value probably because of their close chemical similarities. There were no fixed pairs which could be designated antagonistic or synergistic because the bacterial strain involved seemed to be the determining factor. Under these conditions, complete bacteriological laboratory diagnosis should not only report bacterial sensitivity to single antibiotic agents but to combinations in order to achieve the greatest possible efficiency in antibiotic therapy. (M. N.)

BADMINTON. Malaya retained the International Badminton championship and the Thomas cup when its team beat the United States by 7 matches to 2 at Singapore in June. The U.S. reached the challenge round after beating India, conquerors of Denmark. Twelve nations took part.

Twenty-four national organizations were affiliated to the International Badminton federation, of which Sir George Thomas was president. Several more countries were expected to become eligible in 1953.

Wong Peng Soon (Malaya), in singles, and E. L. and E. B. Choong (Malaya), in doubles, retained their All-England championship titles. Fru Tonny Ahm (Denmark) won the three other events, her doubles partners being Frk. Aase Jacobsen and Poul Holm. Other outstanding players were Marten Mendez, Wynn Rogers and Ethel Marshall (all U.S.) and Ong Poh Lim (Malaya).

The game continued to gain large numbers of new adherents in many countries; in England alone over 2,600 clubs were affiliated to the Badminton Association of England. The shortage of courts remained, however, a great stumbling block to progress although open tournaments and other competitions had been increasing annually throughout the world. Coaching and junior play had also become well organized in many countries mainly because of international rivalry. (H. A. E. S)

See *Annual Handbook of the International Badminton Federation, 1952-53* (London, 1952)

BAHAMA ISLANDS. British colony, *c.* 20 inhabited and 680 uninhabited islands off the Florida coast. Area: 4,404 sq.mi. Pop.: (1943 census) 68,846; (1951 est.) 81,000. Language: English. Religion: Christian. Capital: Nassau (pop. 1943, 29,391), on New Providence island. Administration: governor; executive council; legislative council, 9 unofficial nominated members; House of Assembly, 29 elected members. Governor, Major-General Sir Robert Neville.

History. Butlin's vacation village at West End, Grand Bahama, remained closed, but it was reported in July 1952 that an offer of £805,000 had been made for the company's assets; however, no decision was reached and negotiations continued. The colony prospered as the result of a building boom, the substantial remittance to the colony from earnings of Bahaman labourers in the United States and the continued growth of the tourist industry, the main basis of the islands' economy.

Immediate and future airport requirements were studied, account being taken of the possible use by B.O.A.C. of Comet aircraft. The U.S. air force officially took possession of the first guided missile bases in July.

The foundation stone of a new £300,000 hospital was laid in Nassau in March. But six out of eight bills for raising increased revenue were rejected by the House of Assembly on the grounds that revenue already exceeded expenditure and that there was room for economy in government departments.

Great concern was expressed during the year about the possible extinction of the roseate flamingo, of which only some 15,000 were believed to exist. Their principal breeding grounds are in the Bahamas where their numbers had been diminishing rapidly in recent years. In 1952 the Society for the Protection of the Flamingo in the Bahamas was established.

Education. Schools (1951) primary 178, enrolment 17,909, secondary 6, enrolment 598

Finance and Trade. Budget (1951 actual) revenue £2,044,385; expenditure £1,828,642 Foreign trade (1951) imports £7,650,419, exports £729,012, re-exports £290,643 Principal exports lumber, tomatoes, crawfish and salt Monetary unit pound sterling; U.S. dollars also generally accepted. (J. A. HU.)

BAHREIN: *see* ARABIA.

BAKERY PRODUCTS: *see* BREAD AND BAKERY PRODUCTS.

BALANCE OF PAYMENTS. The year 1952, a year of readjustment, was characterized by continued violent changes in the balance of payments position of the important trading nations. Following the short-lived period of near-equilibrium in international payments, the forces leading to disequilibrium reasserted themselves and the disequilibrium became even larger than in the pre-Korean period, the dollar problem appearing more intractable. There was some

TABLE I. EXPORTS OF GOODS AND SERVICES OF THE UNITED STATES AND MEANS OF FINANCING
($ million)

	1951	1952		
		1st Qtr	2nd Qtr.*	3rd Qtr.
Exports of goods and services	20,219	5,310	5,317	4,613
Means of Financing				
Imports of goods and services	15,113	3,855	3,867	3,910
Addition to (—) or liquidation of (+) foreign gold and dollar assets	—442	382	—404	—709
U.S. government grants and other unilateral transfers (net)	4,501	820	1,234	1,176
Remittances (net)	412	96	94	86
Long-term and short-term loans (government and private net)	1,229	375	729	212
Transfer of funds between foreign areas, and errors and omissions	—594	—218	—203	—62

* Provisional
SOURCE *Survey of Current Business* (U S Department of Commerce, 1952)

readjustment in 1952 towards equilibrium but this had not gone far enough. The two strongest factors at work during the last few years were the heavy buying of raw materials which started after the Korean war and of which the effects ceased only in 1952 and, secondly, the increasing pressure of demand arising from the defence programme.

Owing to time-lags the full effects of the restocking boom manifested themselves in Europe's balance of payments only in the course of 1951, leading to rising deficits and in turn to the imposition of new and drastic quantitative restrictions of imports. This was especially so in the United Kingdom and France with the result that in the first half of 1952 Europe's imports fell both in volume and in value. In the course of the year (especially from the second quarter onwards) exports fell as a result of import restrictions by the United Kingdom, France and the sterling area, thus hampering the readjustment process.

The movements in the U.S. balance of payments were equally large and rapid; they also seemed to indicate that the short-run disturbances of international economic relations, starting with Korea, passed their peak by the end of 1951.

The large foreign losses of gold and dollars which characterized the period from July 1951 to Feb. 1952 appeared to have stopped. In the second quarter of 1952 the foreign gold and dollar assets of the world increased by about $380 million through transactions with the United States, as compared with a loss of an identical amount in the first quarter of 1952 and a loss of $305 million in the fourth quarter of 1951. Although some of the improvement was due to special factors, a move towards a new balance in international transactions could be found in the decline of U.S. exports of goods and services and a rise in imports. This latter movement started in the first quarter of the year and continued at the new high level in the second quarter.

United Kingdom. *Current Account.* This somewhat more favourable turn of events towards a possible readjustment also manifested itself in the U.K. balance of payments. In the first half of the year the United Kingdom earned a surplus of £24 million (or, including the defence aid, £82 million) as compared with a deficit of £71 million and £394 million respectively in the first and second halves of 1951. The improvement in the first half of 1952 was almost entirely in visible trade; the deficit (*i.e.*, the difference between imports and exports both valued at f.o.b. prices) declined to £84 million from £336 and £443 million in the first and second halves of 1951 respectively. The value of imports dropped substantially in the first half-year (by 3% and 13% respectively as compared with 1951) while the value of exports increased. In view of the fact that Britain tended to pay for its imports more promptly than it received payment for exports, these figures did not reflect yet the fall in U.K. exports which, according to the trade returns, started in the second quarter and continued in the third quarter. Admittedly the volume of imports also continued to decline and import prices were getting back to a more normal level, but export prices were also weakening and consequently a readjustment of the U.K. balance of trade was expected to become more difficult.

The balance of invisibles deteriorated somewhat in the first half of the year. The United Kingdom earned a surplus of £108 million only as compared with £265 million and £49 million in the first and second halves of 1951 respectively. The most important decline was in the omnibus item of "other net payments" and probably reflected the loss of income from Persian oil The net income from shipping and

TABLE II UNITED KINGDOM BALANCE OF PAYMENTS, 1948 TO 1952
(£ million)

		1948	1949	1950	1951 Jan - June	1951 July - Dec	1952 Jan - June (prov)
A.	CURRENT ACCOUNT						
	Debits						
1	Imports (f o b)	1,790	1,974	2,372	1,646	1,848	1,600
2	Shipping	174	192	198	130	180	182
3	Interest, profits and dividends	102	107	119	68	114	85
4	Travel	66	74	83	43	63	33
5	Migrants' funds, legacies, private gifts (net)	44	25	—3	3	1	4
6.	Government transactions (net)	87	148	139	74	77	96
7	Total debits	2,263	2,520	2,908	1,964	2,283	2,000
	Credits						
8	Exports and re-exports (f o b)	1,584	1,820	2,226	1,310	1,405	1,516
9	Shipping	250	274	318	210	220	231
10	Interest, profits, dividends	179	185	245	148	132	130
11	Travel	33	44	61	35	38	37
12	Other (net)	188	203	316	190	94	110
13	Total credits	2,234	2,526	3,166	1,893	1,889	2,024
14	*Balance of current transactions* (credit, +; debit, —)	—29	+6	+258	—71	—394	+24
	of which						
	(*a*) visible trade	—206	—154	—146	—336	—443	—84
	(*b*) invisible	+177	+160	+404	+265	+49	+108
15	Defence aid—grant less U S share of counterpart	—	—	—	+3	+1	+58
16.	Balance of current transactions nil, defence aid net (credit, +, debit, —)	—29	+6	+258	—68	—393	+82
B	INVESTMENT AND FINANCING ACCOUNT						
1	Grants, etc (to U K, +)	+138	+154	+139	+30	+13	—
2.	Overseas investment, borrowing, etc. (investment by U.K., —)	+11	—353	—40	—163	—99	+31
3.	Sterling liabilities, etc. (increase, +)	—174	+190	+219	+404	—68	—345
4.	Gold and dollar reserves (increase,—)	+54	+3	—576	—203	+547	+232
5.	*Total, investment and financing*	+29	—6	—258	+68	+393	—82
	of which net change in capital account (B.2-4 above: investment, —, disinvestment, +)	—109	—160	—397	+38	+380	—82

SOURCE *United Kingdom Balance of Payments, 1946 to 1950* and *United Kingdom Balance of Payments, 1949 to 1952* (H M S O London, 1950 and 1952)

from interest, profit and dividends had also declined somewhat On the other hand expenditure on foreign travel was seriously curtailed and showed in the first half of 1952 an unusual small surplus. The second instalment of service payments on the North American loans (amounting to £41 million in interest and £29 million in capital) was due only in December and thus would reduce the surplus from invisibles.

Regional Distribution. The U.K. deficit with the dollar area in the first half of 1952 declined to £147 million as compared with £110 million and £333 million in the first and second halves of 1951 respectively. This was due to a cut in imports, for example, of tobacco and foodstuff since the second half of 1951, and was thus probably seasonal. As compared with the first half of 1951 raw material imports from the dollar area had in fact increased. The value of exports remained broadly on the same level throughout and there was little change in invisibles, except for the payment of the first instalment of the service on the North American loans in Dec. 1951.

The United Kingdom succeeded in increasing its surplus with the sterling area in the first half of 1952 to £268 million from £88 million and £182 million in the first and second halves of 1951 respectively. This was achieved by a substantial cut in imports (mainly of raw materials) and an even more substantial expansion of exports. Invisibles showed little change The favourable effect of this development was somewhat reduced by the fact that the Commonwealth members of the sterling area (though not the colonies) had drawn heavily on their sterling balances to finance this surplus of the United Kingdom.

The United Kingdom continued to have a deficit with O.E.E.C. countries (£68 million as compared with £26 million and £162 million in the first and second halves of 1951 respectively), although in 1950 it had a substantial surplus (£130 million). In this case the United Kingdom cut its imports (especially of foodstuff) very substantially, while exports remained for the time being on the same level as before.

The U.K. balance with countries in the western hemisphere improved to £54 million in the first half of 1952 as compared with a surplus of £22 million and a deficit of £16 million in the first and second halves of 1951.

Gold and Dollar Reserves. The continued deficit of the United Kingdom with the dollar area constituted a drain on the gold and dollar reserves of the sterling area as a whole.

TABLE III. U K BALANCE OF PAYMENTS, CURRENT ACCOUNT

	1949	1950	1951		1952
			Jan.-June	July-Dec	Jan -June (prov)
Net Payments					
Excess of imports over exports	154	146	336	443	84
Travel	30	22	8	25	--4
Migrants' funds, legacies, private gifts	25	—3	3	1	4
Government transactions	148	139	74	77	96
Surplus	6	258	—	—	24
Total	363	562	421	546	204
Net Receipts					
Shipping	82	120	80	40	49
Interest, profits, dividends	78	126	80	18	45
Other receipts (mainly income of oil and insurance companies operating abroad)	203	316	190	94	110
Deficit	—	—	71	394	—
Total	363	562	421	546	204

SOURCE *United Kingdom Balance of Payments, 1948 to 1952* (H M S O London, 1952)

Two further factors aggravated this drain. Firstly, the Commonwealth members of the sterling area were much slower with their policy of retrenchment than the United Kingdom and in consequence called heavily on the gold and dollar reserves. They had a deficit of £109 million in the first half of 1952 as against a surplus of £38 million and a deficit of £105 million in the first and second halves of 1951. Also the United Kingdom and the sterling area had exhausted their quota of credits in the European Payments union and for several months in 1952 their total deficit had to be paid fully in gold; thus the European currencies had become as "hard" for a while for the United Kingdom as the dollar. Fortunately gold sales of the sterling area to the United Kingdom continued on the past level and the colonies continued to earn a dollar surplus (£68 million in the first half of 1952 as against £117 and £43 million in the first and second halves of 1951). Nevertheless the gold and dollar reserves declined to $1,685 million at the end of June 1952 as compared with $3,867 million a year before and $2,335 million at the end of 1951. There was no further deterioration in the third quarter and a substantial surplus in the fourth quarter was earned in spite of the payment of the service in the North American loans. The reserves stood at $1,846 at the end of 1952.

Although gold and dollar reserves of the sterling area as a whole reached a low level, the sterling liabilities of the United Kingdom substantially declined to £3,966 million at the end of June 1952 as compared with £4,736 a year before. Dependent overseas territories continued to increase their sterling balances, but the Commonwealth countries as well as the non-sterling area countries drew heavily on those balances so that those of, for example, the South American countries virtually disappeared, affecting British trade to this area.

European Payments Union. The violence of the changes in the balance of payments position of the important trading countries had its repercussions in the European Payments union producing a series of critical situations. In the earlier period, shortly after the outbreak of the Korean war, Germany developed a large deficit In the course of 1951 this was corrected, but the persistent Belgian surplus led to difficulties, settled only by an agreement in mid-1952 by which Belgium agreed to extend further credits to E.P.U. members. From the middle of 1951 onwards there was a strong deterioration in the position of the United Kingdom and France, in part because the operation of E.P.U. had helped other members to protect themselves against the sudden deterioration of the dollar position, and in consequence the brunt of readjustment fell in the first instance on the U.K. and France. The United Kingdom continued to lose gold until Sept. 1952, after which there was a surplus in its favour and a flow back of gold. The results for the last few months were however affected by the demand for sterling in connection with the short-lived commodity arbitrage scheme by which British merchants were allowed to re-sell dollar commodities in Europe with the hope of earning additional foreign income through profits. The turnover of this arbitrage was estimated at $171 million. Lately France also succeeded in stabilizing its position in the E.P.U., although both countries achieved this only by reducing the area of liberalization of trade, to the detriment of other members.

See A. R. Conan, *The Sterling Area* (London, 1952); Economic Co-operation Administration Special Mission to the United Kingdom, *The Sterling Area. An American Analysis* (London, 1952). (L. Rs.)

BALLET: *see* DANCE.

BANK FOR INTERNATIONAL SETTLEMENTS. Though turnover was stated to have further increased, the previous rapid expansion in the bank's resources was halted in the year covered by the report to March 31, 1952, the balance-sheet total at the end of this period at Swiss

BANK FOR INTERNATIONAL SETTLEMENTS

	(Million Swiss gold francs, pre-1936 value) March 31, 1952	March 31, 1951
Assets		
Gold in coins and bars	438 5	363 8
Cash and sight funds	95 0	75 0
Bills, acceptances, investments	406 8	517 0
Miscellaneous assets	1 6	1 4
Own Hague investments in Germany	68 3	68 3
	1,010 2	1,025·5
Liabilities		
Short-term and sight deposits (gold)	305 0	178 6
Short-term and sight deposits (currencies)	435 6	582 4
Miscellaneous items	124 4	119 6
Reserves (legal and general)	20 2	19 9
Paid-up capital	125 0	125 0
	1,010 2	1,025 5
Execution of Hague Convention		
Claims on German banks and other assets	297 2	297 2
Deposits of creditors and other liabilities	297 2	297 2

(gold) Fr.1,010·2 million being slightly lower than that recorded a year before. The upward movement was resumed, however, in the later months of the year, and at the end of September the record figure of Swiss (gold) Fr.1,217·3 million was recorded. The expansion in business in the later months of the year was attributed to the increased use of the bank by the central banks of European countries—its principal customers—for short-term credit and deposit transactions, following an improvement in their external payments circumstances. The net profit for the year to March 31, 1952, at Swiss (gold) Fr.6 4 million, showed an increase of about 5% when compared with the previous year. The bulk of the surplus was again transferred to reserve, but part was used to continue, at a slightly higher level, the dividend service resumed in 1951.

The section of the balance sheet relating to the execution of The Hague agreement of 1930 on German World War I reparations showed no change during the year, but an arrangement between the bank and the German government for dealing with this matter was reached in August at the international conference on German debts in London. Under this provisional settlement, Germany agreed to pay the bank between 1953 and 1966 an annual sum of Swiss Fr.5·6 million in satisfaction of all claims to current interest (including interest on arrears of interest) that the bank possessed as a result of its investments in Germany. In consideration of these payments, the bank undertook not to demand, before 1966, reimbursement of its investments in Germany or discharge of arrears of interest.

The international agreement prolonging the European Payments union beyond its original expiry date of June 30, 1952, provided for the re-appointment of the bank as agent for the scheme. (C. H. G. T.)

BANKING. The new economic forces generated by the development of the world commodity boom immediately after the opening of the war in Korea and by its subsequent collapse about a year later dominated the banking scene in Great Britain, the Commonwealth, Europe and the middle east throughout 1952. During the early months of the year the rise in the price level came to an end in most countries under the influence of the weaker turn in international commodity markets in the second half of 1951. The resulting check to the previous steady expansion in the demand for money for financing trade and commerce exercised a restraining effect on the growth of bank deposits. In the majority of countries the impact on banking structures of the change in the trend of prices was emphasized by the credit restriction policies which many governments imposed in 1951 or in the early months of 1952 to counter inflationary processes set in motion by the earlier rise in the price level. In general the tendency in operating credit restriction was to place more emphasis on monetary controls such as manipulation of the bank rate and adjustment of the money supply through central bank operations and less emphasis on so-called physical controls like the banning or partial banning of particular types of bank lending. Thus, besides exerting a downward pressure on bank deposits, governmental measures often brought about wide and frequent changes in rates of interest for all classes of banking business. In some cases they also caused bankers considerable worry over such questions as the adequacy of their liquid resources in relation to sight liabilities.

The interruption of the previous growth in domestic banking activity in money terms was accompanied in the majority of countries by a definite contraction in the volume of banking business for foreign trade account. This was due in part to official discouragement of external credit transactions because of the additional strain such operations were likely to impose on weakened balance of payments structures. Other important factors were the downward movement in prices for many classes of goods and a tendency for the physical volume of world trade to diminish.

Towards the end of 1952 banking conditions became more stable over a large part of the area. By this time inflationary processes had been brought under control in many countries and in some countries had been so far reversed that it was thought advisable to reduce the bank rate and ease other monetary controls to avoid incurring the danger of precipitating a deflationary spiral.

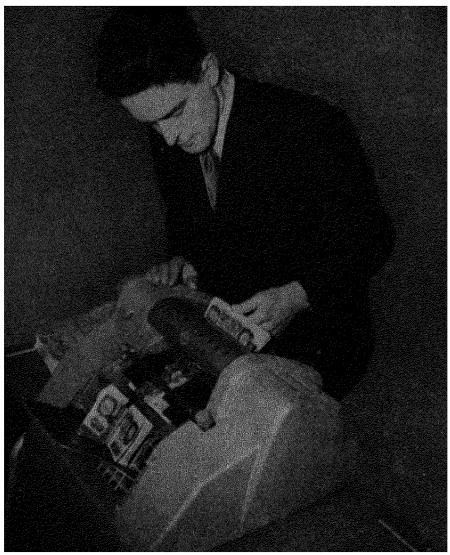
Great Britain. During the early part of 1952 the banking system was required to adjust itself to the situation created by the government's decision late in 1951 to make more use of monetary controls in contending with inflationary pressures. Encouraged by a second rise in the bank rate from 2½ to 4% in March (in Nov. 1951 the rate had been raised from 2 to 2½%), the commercial banks increased rates of interest for all classes of business. The rate of interest on time deposits was stepped up to 2%. Charges for short-term loans to the money market were raised to a minimum of 2% and an entirely new scale established for ordinary loans to other business concerns and private borrowers. The increased charges, coupled with the reduced demand for bank money for stock financing after the price fall and the banks' energetic response to the official request for a strict ban on loans for non-essential purposes, brought down the advances of the London clearing banks (which together account for about 95% of the country's commercial banking business) from an all-time high level of £1,953 million in April to £1,747 million in October. Compared with Oct. 1951, the latter figure showed a net fall of £150 million.

The downward pressure on bank deposits exerted by the contraction in loan facilities was countered during the second and third quarters of the year by a resumption of government borrowing from the banking system for the purpose of covering the growing budget deficit. Thus, after dropping to less than £5,900 million in the first half of the year, the deposits of the London clearing banks climbed to £6,126 million in September. At that point, however, the government

ELEVEN LONDON CLEARING BANKS

(£ million)

	Oct. 1949	Oct. 1950	Oct. 1951	Oct. 1952
Deposits	6,050	6,204	6,204	6,167
Net deposits	5,868	6,006	5,981	5,941
Cash	499	509	514	498
Call money	556	557	579	500
Bill holdings	1,162	1,414	1,340	1,122
Treasury deposit receipts	744	496	177	nil
Investments	1,517	1,505	1,555	2,142
Advances	1,466	1,598	1,897	1,747
Acceptances, etc.	261	346	481	373



A new note counting machine being demonstrated in February. It counts notes three times faster than a cashier.

launched a new funding operation, partly with the object of ensuring that large additional sums would not have to be borrowed from the banking system to deal with the redemption of two maturing government bond issues and partly to mop up some of the money that had been created to deal with the earlier budget deficit. This slowed down the rise in deposits in the closing months of the year, the London clearing banks' total for October at £6,167 million being £37 million lower than a year before.

The tendency for international trade to contract, the fall in the price level and a tightening of British exchange control restrictions on overseas credit combined to produce a severe contraction in the clearing banks' commercial bill holdings from £187 million in February to £64 million in September. Over the same period the acceptances item dropped from £532 million to £386 million for similar reasons.

The decline in advances to the general public and the rising trend over a large part of the year of the banks' Treasury bill holdings meant that in the vast majority of cases little difficulty was encountered in keeping the ratio of liquid assets to sight liabilities above the traditional minimum of 30% despite the government's decision to replace a portion of the Treasury bill issue by long-term debt at the end of 1951 and again in Oct. 1952. But although few banks were required to sell government securities for strengthening liquidity, the fall in the book values of these assets due to the slump in stock exchange quotations in the first half of the year was a source of anxiety. Inner reserves built up in earlier years were almost or wholly exhausted in covering book losses and a number of banks therefore decided to adopt a new procedure for investment valuation. One important banking institution—the Yorkshire Penny bank—raised additional capital to remedy the deterioration in its financial structure caused by investment losses. The fusion of two important Scottish banks—The Bank of Scotland and the Union Bank of Scotland—was announced during the year.

Commonwealth. The severe deterioration and subsequent improvement in the country's external payments situation and other major changes in the economic field gave Australian banks another very difficult year in 1952. In the early months the commercial banks experienced a heavy demand for loans for financing the big inflow of goods from abroad stimulated by fears of the imposition of import restrictions. After the government's decision to curtail imports in order to check the rapid fall in external reserves, there was a tightening up of restrictions on bank credit for less essential purposes. This slowed down the rise in loan totals, but at the end of June the advances of the trading banks, at £A 691 million, were still some £A 180 million higher than a year before. Funds required to satisfy the enlarged demand for loans were obtained by drawing on the banks' special accounts with the Central Bank. There was thus no appreciable new creation of credit, the trading banks' deposits at the end of June (£A 1,123 million) being slightly lower than a year before. Towards the close of the year, Central Bank restrictions on credit transactions were largely discontinued following indications that inflationary pressures had been brought under control. In New Zealand the government kept a fairly close hold on the monetary situation. Credit restrictions were reinforced early in 1952 and bank deposits remained fairly steady during the succeeding months.

In Canada, the restrictions on the banks' lending activities imposed in the 1950-51 period were gradually removed during 1952, the authorities taking the view that the inflation danger had been greatly reduced. Bank deposits were steady during most of the year at the higher levels established in the closing months of 1951. The government's dear money programme, coupled with a marked slowing down in the inflow of capital from abroad, led to a moderate contraction in banking activity in South Africa. At the end of June, deposits of the commercial banks were about 5% lower than in June 1951.

The Indian government's vigorous use of monetary controls led to the development of a domestic financial crisis in the country in the early months of the year, causing the banking system considerable concern. More stable conditions prevailed in the second half of the year, but at the end of July the total money supply was about 7% lower than a year before. In Pakistan, official monetary policy showed little change during most of the year and movements in banking figures were small. The government's measures to deal with the deterioration in the external payments situation had only limited repercussions on the banking structure. In Ceylon, the government reversed its earlier policy of discouraging banks from repatriating funds accruing from export earnings. The purpose of this move was to encourage the banks to take a more active part in financing capital development projects.

Europe. There were wide differences in the experiences of European bankers in 1952. This was largely due to the fact that, whereas in some countries the underlying trend was still towards monetary expansion, in others the inflationary trends of 1951 had given way to deflationary movements. In the latter group of countries there was a tendency to reverse the dear money policies introduced in the previous year. Thus, both the German Federal Republic and the Netherlands made successive cuts in the bank rate. France, by contrast, did not altogether succeed in checking the wages-prices spiral, although fairly strict controls were maintained over credit transactions. The money supply showed a further large expansion during the year, causing a corresponding distortion of banking structures. In western Germany there was a partial reversal of the decentralization of the banking system that took place at the end of World War II. The 27 " successor " banks which in 1945 replaced

the " big three " prewar institutions were fused into 9 separate institutions. At the same time banking legislation was revised to give the government increased control over central bank policy.

Middle East. Steps were taken to establish banking institutions in the newly created kingdom of Libya to assist the capital development of the region. The need to provide a large amount of money to finance cotton stocks, following a sharp fall in sales abroad, severely strained the resources of Egyptian banks. Israeli banks again had to grapple with the repercussions of the country's continuing payments crisis. Plans were pushed forward during 1952 for the creation of a new central bank to take over the note issue functions temporarily exercised by the Bank Leumi-le Israel (formerly the Anglo-Palestine bank). (C. H. G. T.)

United States. The money and capital markets of the United States experienced during 1952 the heaviest over-all demands since World War II. Shifting tactics by the federal reserve brought about a great uncertainty as to its operations in the money market. Member banks greatly increased their use of discounts and advances to obtain reserve funds, with their total indebtedness to the federal reserve banks rising to $1,667 million on Nov. 5.

The total of all corporate securities issued in 1952 promised to exceed that of 1951 and set a new yearly record since 1929. From Jan. to Aug. 1952, total new corporate securities offered for cash in the United States aggregated $6,540 million as compared with the previous postwar record, $7,741 million for the full year 1951. Bonds offered from Jan. to Aug. 1952 totalled $5,112 million, which was at a postwar record rate.

State and local government borrowings were at record levels in 1952. Commercial banks absorbed about one-half of the new state and municipal issues, with fire, marine and casualty insurance companies, individuals and personal trust funds accounting for the bulk of the remainder. New state and local government bond issues totalling almost $1,300 million, almost all of them to finance public improvement, were approved by the voters early in November.

The year saw another large increase in home-mortgage debt. Savings and loan associations showed the largest increase in their mortgage portfolios, followed by the net additions by life insurance companies, mutual savings banks and commercial banks. Consumer credit expanded rapidly during the year. At the end of September, total consumer credit outstanding stood at a record level of $21,656 million (*See* CONSUMER CREDIT.)

The privately held money supply reached a new record level during the year. Total deposits adjusted and currency outside banks stood at $187,400 million on Sept. 24. The increase was primarily the result of expansion of bank credit.

The volume of bank deposits at commercial banks in 342 reporting centres reached another record high level in 1952. New peaks were reached during the year in total loans and investments on all commercial banks, at $137,090 million by Sept. 24; in total loans, $61,200 million; and in holdings of state and local governments and other securities, $14,280 million. Commercial bank holdings of government securities showed little net change in 1952 and on Sept. 24 amounted to $61,610 million.

On June 30, 1952, national banks, which numbered almost 5,000, held $92,720 million of total deposits. State banks, which numbered about 9,200, had total deposits of $69,648 million. Late in 1952 money in circulation stood at an all-time high record of more than $30,000 million, about $1,200 million more than a year earlier.

During the first quarter of 1952, the gold stock rose by almost $700 million, continuing the increase which began in Aug. 1951. Starting in the second quarter of 1952, however, there was very little change in the gold stock, as merchandise exports fell sharply. At the end of October, the gold stock stood at $23,340 million.

The year saw a further increase in the gross federal debt to almost $265,000 million on Oct. 31. Gross federal debt was $1,676·91 *per capita* on Oct. 31, 1952, and the computed annual interest rate on interest-bearing debt was 2·349% on that date.

During the second quarter the Treasury obtained $1,600 million of new funds by increasing a number of its weekly bill offerings by $200 million each. In October the Treasury offered 161-day tax anticipation bills, with $2,501 million issued at an average rate of 1·720%. In May the Treasury offered a 2¾% non-marketable bond, redeemable into five-year, 1½% marketable notes, but obtained only a little more than $300 million from this issue. In June the Treasury raised $4,450 million through offering a heavily over-subscribed six-year 2⅜% bond, the first marketable bonds offered for cash subscription since 1945. (J. K. L.)

Mutual Savings Banks. During the year ended July 1, 1952, the mutual savings banks of the United States had the third largest yearly net gain in assets and deposits recorded to date, with net gains of $1,567,804,795 or 6 85% in assets and $1,372,486,550 or 6·73% in deposits. On July 1, 1952, the combined assets of the mutual savings banks of the United States were $24,459,830,255 and deposits were $21,772,059,984.

On Sept 30, 1952, there were in operation 529 mutual savings banks with 245 branches.

The combined assets of all mutual savings banks on July 1, 1952, were invested as follows: U.S. government securities 39·35%, other securities 12·33%, real estate mortgage loans 42 54% and other assets 5 78%. The ratios on July 1, 1951, were: U.S. government securities 44 65%, other securities 10·92%, real estate mortgage loans 38·94% and other assets 5·49%. Insured mortgage loans, Federal Housing administration and Veterans administration combined, increased from 37% of the mortgage portfolio as of Dec. 31, 1950, to 44% as of Dec. 31, 1951. (*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. As central bank of the United Kingdom the Bank of England was mainly concerned in 1952 with developing and administering the new monetary policy adopted by the British government after the general election of Oct. 1951. As a continued counter to inflationary pressures the bank's rate for re-discounting bills (the bank rate) was raised from 2½% to 4% in March. This assisted the general upward movement in interest rates that had been started by the first increase in the bank rate in Nov. 1951 and thereby checked public borrowing from the banking system for less essential purposes. With the same object in view, the bank worked throughout the year to restrict,

BANK OF ENGLAND RETURNS

	Oct. 25, 1950 (£ million)	Oct 31, 1951 (£ million)	Oct 29, 1952 (£ million)
Issue Department			
Notes in circulation	1,273	1,352	1,444
Fiduciary issue	1,350	1,400	1,500
Banking Department			
Public deposits	13	14	14
Treasury special account	266	7	22
Bankers' deposits	315	304	272
Other deposits	89	93	67
Government securities	556	332	299
Other securities	67	55	35
Reserve of notes and coin	80	50	58

through open market operations and the use of the bank rate machinery, the amount of cash at the disposal of the banking system for forming a basis for credit expansion. Towards the end of the year the bank arranged on behalf of the government an issue of new government stock in exchange for cash or for holdings of two government issues nearing their final maturity dates. This was to keep the banking system's supply of liquid assets so low that it would be impossible for the banks substantially to expand credit. The steep decline in the loans figures of the commercial banks during the year was regarded as demonstrating the success of the bank's activities.

New exchange control techniques introduced in 1951 were further developed in 1952, but there were no new departures in policy of major importance. A scheme for exploiting the U.K.s technical position in the European Payments union to secure arbitrage profits for Britain was launched by the bank in August, but the heavy response quickly exhausted the margin available for such transactions, creating a danger of the loss of gold and dollars The arrangements were therefore suspended after less than a week's run

The need for additional currency to cover an expansion in the public's basic requirements resulted in a substantial rise in the fiduciary issue to new record levels.

(C. H. G. T.)

BANK OF FRANCE. The continued deterioration in the French economic position both internally and externally made 1952 another very difficult year for the Bank of France. Implementing the government's policy of utilizing monetary controls to help to counter inflationary pressures, the bank maintained the bank rate throughout the year at the higher levels established at the end of 1951. The severe restrictions on new credit by the commercial banks imposed in the second half of 1951 were also continued. These and other government anti-inflation measures succeeded, towards the end of 1952, in checking the rise in the price level but the continuance of the wages-prices spiral through the early months produced a further big expansion in the public's currency requirements, and during October the bank's notes circulation was above Fr. 2,000,000 million for the first time on record.

The commercial banking system's efforts to meet the increase in demand for credit caused by inflationary trends within the limits of official policies led to a sharp increase in its borrowings from the Bank of France. The government also increased its borrowings from the bank for financing the budget deficit during the year. But against this there was a sharp contraction in loans to the exchange stabilization fund because the latter's franc holdings were reinforced from sales of foreign currency made to cover the payments deficit. The near-exhaustion of the fund's gold resources led it to negotiate a loan from the bank's stocks. However, as the bank obtained a substantial sum of gold from the return of metal looted by the Germans during the war, its reserve had suffered no net diminution up to late 1952.

In the bank's annual report for 1951 (published 1952), and in a letter written to the premier when the government applied for a Fr. 25,000 million advance, the bank's governor, M. Baumgartner, criticized government policies, arguing in particular that the defence of the franc would be difficult unless the government and individuals tried to live within their incomes. (C. H. G. T.)

BANK OF FRANCE

	Sept 28, 1950 (Fr. million)	Sept 27, 1951 (Fr million)	Sept. 29, 1952 (Fr million)
Assets			
Gold	182,875	191,447	194,943
Private discounts, loans	415,837	695,159	883,567
Advances to state	717,042	776,942	702,182
Liabilities			
Notes	1,467,425	1,779,360	1,962,270
Government deposits	94	60	83
Other deposits	156,931	168,272	130,294

BAPTIST CHURCH. Membership throughout the world continued to increase and in 1952 there were more than 17·5 million Baptists, excluding members in the U.S.S.R. and its satellite lands about whom reliable information was difficult to obtain. Of this total, over 15 million were in the United States, where the most substantial increases were taking place There was also a notable growth in South America, where there were nearly 150,000 Baptists in 1952. The president of the Baptist World alliance, the Rev F. Townley Lord, visited the South American republics during the year. A Baptist World Youth congress was to be held in Rio de Janeiro in July 1953. The general secretary of the World alliance, A. T. Ohrn, visited Australia, New Zealand, Burma and India.

The European Baptist federation held a successful conference in Copenhagen in July, attended by delegates from most parts of north, central and western Europe. The new European Baptist seminary at Ruschlikon, Zurich, established by the Southern Baptist Convention of America, extended its buildings and activities The executive of the Baptist World alliance also met in Denmark in the summer. The Baptists of the Northern Convention of America, Great Britain, Canada, New Zealand, Denmark and Burma were represented at the World Faith and Order conference at Lund, Sweden In north India and Ceylon Baptists shared in church union discussions. The Baptists of the Southern convention remained outside the World Council of Churches and the oecumenical movement in general

All the British and U.S. Baptist missionaries had now left China, but missionary activity was increased and extended in South America, and in Japan and other Asiatic lands. The death in June of J. B. McLaurin, secretary of the Canadian Baptist Foreign Mission board, was a loss to Baptists throughout the world. He was succeeded by H. S. Hillyer.

In Great Britain a number of churches were established in new towns and housing estates, but, particularly in London —and as in the case of other denominations—the delay in rebuilding bombed churches caused anxiety. The historic church of St. Mary's, Norwich (founded 1669) was, however, able to replace the buildings destroyed in World War II.

During 1952 there appeared the second part of the monumental Baptist bibliography which was being prepared for the Colgate trustees by Edward C. Starr, librarian of the Crozer Theological seminary, United States. (E A. PE.)

BARBADOS. British colony, the most easterly of the Caribbean islands. Area: 166 sq.mi. Pop.: (1946 census) 192,841; (1952 est.) 215,169. Language: English. Religion: Christian (*c.* 70% Anglican). Capital and chief port, Bridgetown (pop. 1949, 13,700). Administration: governor; executive council, 2 *ex-officio* members and nominated members; executive committee (which introduces all money votes and initiates all government measures), the whole executive council *ex-officio*, 1 member of the legislative council and 4 from the House of Assembly; legislative council, 15 appointed members; House of Assembly, 24 elected members. Governor, Sir Alfred Savage.

History. At the general election of Dec. 1951 the Labour party won 16 out of the 24 seats in the House of Assembly.

A further levy on profits in the sugar industry to augment the contribution to a fund for the welfare of workers was legally established. Improvements in the terms of service of many senior civil servants in the colony also came into effect; and a commission was appointed to consider the conditions affecting the service of those in the lower grades and to make recommendations. Other legislation set up a

revenue equalization fund to guard against any possible future deterioration in the budgetary position; and two further acts gave additional assistance to the fishing industry and made third-party insurance compulsory for motorists. A bill which, if adopted, would make fundamental changes in the system of local government in Barbados came up for consideration. A comprehensive fiscal survey made by Professor C. G. Beasley, economic adviser to the comptroller for development and welfare, was studied in relation to the colony's proposed five-year development plan, which was passed by the legislative assembly at the end of the year The expansion and modernization of facilities at Seawell airport represented an important step in the development of the tourist industry. This airport now conformed fully to the standards of the International Civil Aviation organization.

Education. Schools (1951): public elementary 124, pupils (Aug 1952) 30,973; government-aided secondary 11, pupils 2,838 Expenditure (1952-53): $2,048,765 Higher education at Codrington coll (affiliated to Durham univ) and Teacher Training coll., Erdiston.

Finance and Trade. Budget (1952-53 est.) revenue $12,390,194, expenditure $12,049,294 Foreign trade (1951) imports $51,918,327, exports (incl re-exports) $35,464,166 Principal exports sugar, fancy molasses, rum Sugar crop (1952), 167,876 tons Monetary unit British Caribbean dollar, $4 80 = £1 (P. H.-M.)

BARLEY: *see* GRAIN CROPS.

BASEBALL. During 1952 Charles Dillon (Casey) Stengel piloted the New York Yankees to their fourth straight world championship Only Joe McCarthy before him had performed this feat

As the 1952 season opened three clubs had new managers, but before its conclusion there were six other managerial changes. Rogers Hornsby, heralded as the greatest right-handed hitter to play the game and one of the most outspoken men in baseball, began the season as the new manager of the St. Louis Browns. Before two months had elapsed Hornsby was dismissed but later succeeded Luke Sewell as pilot of the Cincinnati Reds.

The Detroit Tigers were involved in two of the largest player trades of recent years. In a nine-man deal with the Boston Red Sox they released infielders George Kell and Johnny Lipon, outfielder Walter (Hoot) Evers and pitcher Paul (Dizzy) Trout. In exchange they received infielders Walter Dropo, Johnny Pesky and Fred Hatfield, outfielder Don Lenhardt and pitcher Bill Wight. The two principals of an eight-man waiver transaction with the St. Louis Browns were right-handed pitcher Ned Garver, who had won 20 games for the Browns in 1951, and Detroit out-fielder Vic Wertz. Despite these deals and a mid-season change of manager, Detroit finished the season at the bottom of the American league for the first time in the history of the club.

Final League Standings. American league: New York Yankees, Cleveland Indians, Chicago White Sox, Philadelphia Athletics, Washington Senators, Boston Red Sox, St. Louis Browns, Detroit Tigers. National league: Brooklyn Dodgers, New York Giants, St. Louis Cardinals, Philadelphia Phillies, Chicago Cubs, Cincinnati Reds, Boston Braves, Pittsburgh Pirates.

Individual Performances. Stan Musial of the St. Louis Cardinals won the 1952 batting title with an average of ·336 (unofficial). This was the sixth crown for Musial and put him within reach of the record mark of eight set by Honus Wagner. Hank Sauer of the Chicago Cubs, voted most valuable player of the National league, and Ralph Kiner of the Pittsburgh Pirates tied for the National league home run title with 37 (unofficial) each. Sauer also carried off the runs-batted-in honours with 121 (unofficial). Larry Doby, Cleveland Indians, was the American league top home run producer with 32 (unofficial), while his team-mate, Al Rosen, won the runs-batted-in contest with 105 (unofficial).

All Star Game. The National league, with home runs by Hank Sauer (Chicago Cubs) and Jackie Robinson (Brooklyn Dodgers), defeated the American league 3-2 before 32,785 spectators in Shibe park, Philadelphia. For the losers Bobby Shantz (Philadelphia Athletics) gave a remarkable performance by striking out the three men to whom he pitched

World Series. The New York Yankees, American league pennant winners, beat the Brooklyn Dodgers, National league champions, by four games to three. It was a hard-fought, see-saw series which featured superb pitching by Allie Reynolds and Vic Raschi of the Yankees, Joe Black and Elwin (Preacher) Roe of the Dodgers. Leading hitters in the series included Edwin (Duke) Snider of Brooklyn and 39-yr.-old Johnny Mize of New York, who clouted seven home runs between them. Attendance for the series totalled 340,906, and receipts were $1,622,753 01.

Attendance. Major league attendance declined from 16,103,822 in 1951 to 14,645,618 (unofficial) in 1952.

(J. BE.)

BASUTOLAND: *see* BRITISH SOUTH AFRICAN TERRITORIES.

BATISTA, FULGENCIO, Cuban army officer and political leader (b. Banes, Cuba, Jan. 16, 1901), was the son of a market-gardener. He had little formal schooling and as a youth worked as a mechanic and tailor's apprentice. He joined the Cuban army in 1921 but remained a private until he began to take part in the various uprisings of 1931-33 against the dictatorship of Gerardo Machado. With Machado's final downfall in 1933, Batista, then a sergeant, rose to a position of national power almost overnight The new revolutionary government appointed him army chief of staff, and in this position Batista became the virtual dictator of Cuba for the next seven years. In Dec. 1939 he announced that he would be a candidate in the presidential election the following year His opponent, Ramón Grau San Martín, was easily defeated and Batista was inaugurated on Oct. 10, 1940. During World War II he co-operated with the United States and other western powers, declaring war on Japan, Dec 9, 1941, and on Germany and Italy three days later. In June 1944 his candidate to succeed him, Carlos Saladrigas y Zayas, was defeated by Grau, and Batista went into political retirement In a surprise coup staged March 10, 1952, Batista regained absolute power in Cuba by overthrowing the government of Carlos Prío Socarrás, whom he accused of corruption and dictatorial tendencies. Batista proclaimed himself chief of state and prime minister, suspended the 1940 constitution and cancelled the presidential elections which had been scheduled for June 1. He was made provisional president on April 4 and proceeded thereafter to strengthen his political grip on the country.

BA U, Burmese statesman and lawyer (b Bassein [?], Burma, May 26, 1887), was educated at the American Baptist Mission school, Bassein, at the Government Collegiate school, Rangoon, at Rangoon college and at Trinity hall, Cambridge. He was called to the English bar in 1913 and in the same year was enrolled as an advocate of the Chief court of Lower Burma. In 1922 he became the first full-time public prosecutor of Rangoon. After a period as a district and sessions judge at Pyapon (1923-30), he was appointed to the bench of the High court, Rangoon, and continued to hold office in that court until 1948; he was noted for his efforts to safeguard the interests of his fellow countrymen during the Japanese occupation. He took a prominent part in the drafting of the constitution of the independent Union of Burma and when the republic was proclaimed on Jan. 4, 1948, he became its first chief justice. At a joint

session of the Burmese parliament on March 12, 1952, Ba U was elected to succeed Sao Shwe Thaik, first president of the union, in that office and it was announced that in future he would not use the British title of knighthood conferred upon him in 1946.

BECHUANALAND: *see* BRITISH SOUTH AFRICAN TERRITORIES.

BEEKEEPING. After a mild winter the spring of 1952 was not encouraging; nonetheless bee colonies built up well and were ready to take advantage of any honey flow that came along. In most parts of Britain, however, bees lived precariously until the season for the main honey flows arrived; the " June gap " was more pronounced than usual and they had to wait. At the end of the season, when the clovers and other flora made their appeal, weather conditions were disappointing. More or less continuous wind and threatening clouds made foraging hazardous and bees became wary of risking long distances. At the close of the season yields in a few districts, from clover, lime, and the like, were reported to be fairly good, but in most places " takes " were very moderate Heathermen looked to the ling to make up for failure in other fields. Some were rewarded with a fair harvest, but for most the surplus was negligible. Before the end of the year commercial and semi-commercial beekeepers found the demand for British honey increasing; but they feared they might not be able to continue to supply their customers, as their stocks were rapidly diminishing. The British Bee-keepers' association recommended a minimum retail price, per 1 lb. jar, of 3*s*. for honey from general sources and of 4*s*. for that from heather. In some places considerably higher prices were readily obtained.

Swarming did not create a serious problem. This was probably due to the absence of protracted high temperatures and the coldness of the nights. Queen-rearing presented more than usual difficulty. Due to low temperature, poor visibility and unkind winds, many good virgin queens failed to mate.

The incidence of disease was not so marked as in recent years; because of the increasing use of the Frow treatment and of wintergreen oil, there were fewer cases of acarine infestation. Foul Brood of both varieties was not so prevalent as in other seasons.

On the educational side, summer schools, demonstrations in the apiaries and lectures by experts, were gaining in popularity. Shows were numerous and successful, and the quality of exhibits revealed that the show bench had not failed its purpose. (W. H. R)

BEER: *see* BREWING AND BEER.

BEERBOHM, SIR MAX, English satirist and caricaturist (b. London, Aug. 24, 1872), half-brother to Sir Herbert Beerbohm-Tree the actor, first mocked fashion and foible from the pages of the quarterly *Yellow Book* (1894-97). But the Max legend—heightened by the seeming remoteness of his exile in Rapallo, Italy, from 1910—started almost from the moment of his boyhood " bitter complaint against the dulness of the school paper ", addressed, over the soubriquet " Diogenes ", to the Charterhouse *Carthusian*. In 1896 he impudently called his first collected essays *The Works of Max Beerbohm*, and wrote: " Already I feel myself to be a trifle outmoded ". To Oscar Wilde he appeared to enjoy " the gift of perpetual old age ". And when its subject was only 49 Bohun Lynch's *Max Beerbohm in Perspective* appeared. Beerbohm succeeded George Bernard Shaw as drama critic of the *Saturday Review* in 1898, and it was in the next quarter-century that his civilized, urbane and elegant satire was most often seen in print: later successful essay-collections were *More* (1899), *And Even Now* (1920) and *Yet Again* (1923); his only longish novel and most popular work, *Zuleika Dobson* (1911), delicately satirized love and honour in undergraduate Oxford; and in 1912 brilliant parodies of his contemporaries—Wells, Chesterton and Conrad among them—were wreathed into *A Christmas Garland*. In the stories of *Seven Men* (1919) fantasy and a thread of ghostliness mingled with a more savage satire; and *The Dreadful Dragon of Hay Hill* (1931) was a humorous tale of the 1920s.

Max wrote that he had used his talents " discreetly, never straining them; and the result is that I've made a charming little reputation ". In his water colour caricatures—deceptively slight in colour and drawing—he was less sparing of these talents, and often more ruthless in their exercise: he treated Kipling to " a bloomin' day aht, on the blasted 'eath, along with Britannia, 'is gurl "; even royal dignity was assailed in the depiction of the " Rare, rather Awful Visits of Albert Edward, Prince of Wales, to Windsor "; and Max remarked at the foot of a particularly slashing sketch of 1902: " We understand that His Majesty is so well pleased with the new stamps and coins that he has decided to abandon neckwear ". A number of his drawings are in the Tate gallery, London, including the 23 items of the " Pre-Raphaelite Brotherhood " series and " Sir William Orpen " and " The New English Art Club ", the two last acquired in 1952. His 80th birthday year was marked by an exhibition of his drawings at the Leicester galleries, London.

Beerbohm abandoned Rapallo for London only during the inhospitable period of the Abyssinian war of 1934-36 and for the duration of World War II. *Mainly on the Air* (1946) was the result of the charmingly nostalgic talks broadcast during these periods. His " small gifts " were recognized by Oxford and Edinburgh universities with doctorates; by his old college, Merton, Oxford, with an honorary fellowship (1942), and by his country with knighthood (1939).

See A E Gallatin and L M Oliver, *Max Beerbohm a Bibliography* (London, 1952)

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 administered with Congo. Total area: about 925,540 sq mi. Total pop. (1951 est.): 15,307,500. Areas, populations, capital towns, status and governors of the separate territories are given in the table.

History. On Jan. 1, 1952, Léo Pétillon succeeded Eugène Jungers as governor-general. To emphasize that economic activity of the Congo and of the trust territories Ruanda and Urundi was intended for their benefit, the Belgian government created independent banks for the issue of bank notes. The 10-year plan for the development of natural resources was ratified by the Belgian parliament on May 27, and the minister of the colonies was authorized to affect an extra amount of B.Fr. 20 million in 1952 for its fulfilment. Hydro-electric undertakings were pursued in the Katanga province and the linking of the Katanga and Northern Rhodesian power stations was prepared. Work was also going ahead at the military base at Kamina in the Lualaba district for the defence of the uranium fields and the training of Belgian air force, airborne units and commandos. The defence of the mouth of the River Congo in the Atlantic ocean was organized at Banana where a jetty for disembarkation and barracks were built. The monthly average of Belgian exports to its overseas territories, during the first half-year of 1952, amounted to B.Fr. 578·5 million, as against B.Fr. 450 million during the corresponding period in 1951; the monthly

BELGIAN COLONIAL EMPIRE

Country	Area (sq.mi.)	Population (1951 est.)	Capital	Status	Governor
Belgian Congo	905,000	11,332,000 (excl. 66,078 Europeans)	Leopoldville	Colony	Léo Pétillon, governor-general
Ruanda Urundi	20,540	3,905,000 (excl. 4,461 Europeans)	Usumbura*	Sultanates, Trust territories	Claeys-Bouuaert, governor

* Principal town of Ruanda, Kigali; principal town of Urundi, Kitega.

average for Belgian imports from its overseas territories was B.Fr.822·1 million in 1952 and B.Fr.836 million in 1951. (M.Ss.)

Agriculture. Principal products (Congo and Ruanda-Urundi, 1950, metric tons): palm oil (exports) 132,039; palm kernels (exports) 85,772; maize 336,634; timber (exports) 105,233; gum copal (exports, 1951) 14,227; cotton (1951) 45,700; coffee (1951) 35,393.

Mineral Production. Congo and Ruanda-Urundi, 1951, metric tons): copper (metal) 191,959; tin (metal) 16,947; cobalt 5,715; gold ('000 fine oz.) 350; silver 118; manganese ore (1950) 16,990; tungsten (1950) 93; cadmium (kg., 1950) 29; zinc (concentrates, 1950) 129,869; coal (1950) 159,967; diamonds (carats, 1950) 10,147,571.

Finance (million Congolese francs). *Congo.* Budget: (1951 est.) revenue 5,125·5, expenditure 4,963·5; (1952 est.) revenue 6,473·2, expenditure 6,259·1. *Ruanda-Urundi.* Budget (1951 est.): revenue 321·3, expenditure 363·9. Monetary unit: Congolese franc, nominally an independent currency, actually at par with the Belgian franc and in Sept. 1949 equally devalued by 12·34% in relation to the U.S. dollar.

Foreign Trade (Congo and Ruanda-Urundi, million Congolese francs, 1951; 1950 in brackets): imports 15,419·6 (10,962·4); exports 19,876·9 (13,378·4).

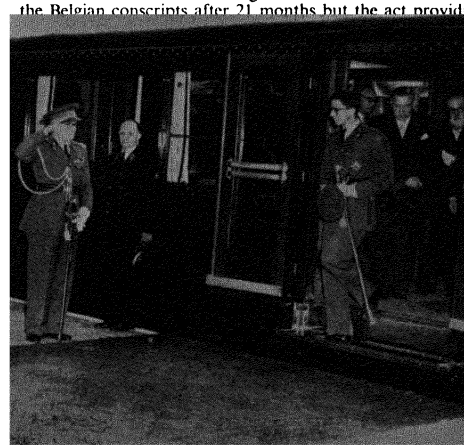
Transport and Communications (Congo and Ruanda-Urundi). Roads (1950): 71,420 mi. Railways (1950): 2,896 mi. Waterways (1949): 7,480 mi. Licensed motor vehicles (Congo only, Dec. 1951): cars 13,540; commercial vehicles 16,960.

BELGIUM. Kingdom of western Europe bounded S.W. by France, N. by the Netherlands and E. by Germany and Luxembourg. Area: 11,781 sq.mi. Pop.: (1947 census) 8,512,195; (1951 est.) 8,678,000. Language (1930): Flemish (Dutch) 42·92%; French 37·56%, German 0·85%, Flemish and French 12·92%, German and French 0·83%. Religion: mainly Roman Catholic. Chief towns (pop., 1948 est.; first figure including suburbs, second figure *commune* only): Brussels (cap., 1,296,687; 185,112); Antwerp (chief port, 794,280; 266,636); Liège (573,176; 156,664); Charleroi (445,229; 26,262); Ghent (442,792; 266,797); Namur (215,069; 31,637); Bruges (200,850; 52,984). Ruler, King Baudouin I; prime ministers in 1952; Joseph Pholien and (from Jan. 15) Jean Van Houtte (*q.v.*).

History. King Baudouin, who on July 17, 1951, became the fifth king of the Belgians after his father's abdication, made the first *joyeuse entrée* of his reign on May 24, 1952, by visiting Antwerp. Afterwards he made his *entrée* at Liège, Ghent and Namur and it was decided that the tradition of visiting the principal town of each province should be continued the next year. The *joyeuse entrée* means recognition of the freedom of the citizen by the highest dignitary and enables the expression of the people's loyalty. Everywhere there was an enthusiastic reception although the division of public opinion, which was acute when King Leopold returned, was still smouldering. It flared up in February when confusion took place between the palace services and the prime minister's office on the announcement that the king, who since his accession to the throne had paid no official visits abroad, had delegated his brother Prince Albert to attend the funeral of King George VI. In the House of Representatives the opposition declared that the young king was not receiving adequate advice and the government was defeated on the vote on a motion of regrets.

Political. In Jan. 1952 Joseph Pholien, the prime minister, was compelled by his own party, the Christian Social party, to resign and Jean Van Houtte became his successor. The Christian Social party, which retained a majority of 4 in the House and of 7 in the Senate, felt that some ministers who had been dismissed because of their lukewarm attitude in defending King Leopold during the 1950 royal crisis might return to office to consolidate the party's unity. Changes in the economic policy were also urged. Only one former minister was reinstated, Jean Duvieusart, who became minister of economic affairs. In August, Albert Coppé, minister of reconstruction, resigned to become vice-president of the high authority of the European Coal and Steel community (*q.v.*) and was not replaced. In September, Pholien, who had been kept in the cabinet as minister of justice, was forced to resign on account of violent protests against the reprieve of a Belgian collaborator who was sentenced to death for cruelty in a concentration camp. His successor, Leonce Lagae, was soon obliged to resign because of illness and on Dec. 13 Viscount Charles du Bus de Warnaffe became minister of justice. In October, in the local elections, the Christian Social government party suffered substantial losses in the cities and industrial centres. The opposition insisted on dissolution of parliament, but the government was of the opinion that no comparison was possible between local and general elections and decided to remain in office.

The government faced another storm in July, when disorders occurred in several Walloon battalions and the Socialist trade unions organized strikes to protest against the two-year period of military service. When in August the other member countries of the European Defence community, at the Paris conference, declined to agree on a uniform term of service, the government decided to release the Belgian conscripts after 21 months but the act providing



King Baudouin stepping from the first train to travel on the north-south railway in Brussels, which he opened on Oct. 5.

for a two-year period was not altered and Paul van Zeeland, the minister of foreign affairs, stated that the government remained convinced of the necessity of a general 24 months' service for the organization of an adequate Atlantic defence.

Provisions of the North Atlantic treaty, the Schuman plan, the European Defence community and the proceedings at the consultative assembly of the Council of Europe at Strasbourg raised the problem of a revision of the definition of national sovereignty in the constitution. The government appointed a commission of members of parliament and experts in international affairs to study the question. Two

Walloon Socialists introduced in the House a bill for a reorganization of Belgium on a federal basis. The committee of the House of Representatives, during the preliminary examination, rejected the proposal but felt that it nevertheless ought to be discussed in public meeting; but the opinion gained ground that revision of the constitution was needed for securing the political, language and economic interests of Walloons and Flemings in a united Belgium.

International. The charter of the United Nations, the Brussels treaty and the North Atlantic treaty further governed Belgium's foreign policy. The determination to promote international co-operation was reaffirmed when parliament ratified the treaty on the Schuman plan. On European co-operation the government and most of the political leaders were anxious to secure British partnership. The so-called "small Europe" (France, Germany, Italy, the Netherlands, Luxembourg and Belgium) was cautiously approached. As was pointed out by Paul Struye, the chairman of the Senate, Belgium, in its relations with the great powers always felt that understanding with Great Britain was an essential element of equilibrium. Completion of the economic union between the Netherlands, Belgium and Luxembourg was delayed by the prolonged ministerial crisis in the Netherlands following general elections there. Meanwhile objections had been raised in Belgian industrial circles to abnormal competition on the Belgian market resulting from the Netherlands policy of subsidies and differences in wages Talks took place between industrialists of the countries and a conference of ministers met on Oct. 9.

Economic and Financial. The index of industrial production (1936-38=100) stood at 143 4 in Jan. 1952, as compared with 138 2 in Jan. 1951 and 122 in Jan. 1950. Activity decreased in several industries, and in February cotton-weaving mills began to work part-time. Van Houtte stated that there were 50,000 permanent unemployed because of the general economic situation, and 25,000 because of structural factors. He announced measures to promote new industries in the affected areas and to prospect the American markets. Difficulties resulting from the Belgian creditor position with the European Payments union were removed in June at the meeting of the council of ministers in Paris, when Belgium agreed to buy arms from Great Britain and France and was promised substantial U.S. "off-shore" purchases. (M. Ss.)

Education. Schools (1950) elementary, infant 4,072, pupils 297,089; primary 8,732, pupils 769,968, primary, adult 282, pupils 4,054, secondary, state, lower grade 278, pupils 50,318, secondary, state, higher grade 120, pupils 57,095, Catholic 449, pupils 67,093 Teachers' training colleges infant 39, students 2,205, elementary 81, students 9,442, secondary 39, students 1,906 Universities (1950-51) 4, students 18,985

Agriculture and Fisheries. Main crops ('000 metric tons, 1950, 1951 in brackets) wheat 547 (512); barley 261 (270); oats 503 (438), rye 238 (204), potatoes 2,309 (2,016), sugar (raw value) 445 (267), linseed 13 (20), rapeseed 3 (5). Livestock ('000 head, 1951) cattle 2,127 sheep 124; pigs 1,427, horses 242, goats 55, poultry 15,000. Dairy production (1950, 1951 in brackets). butter ('000 metric tons) 72 (72), milk (million litres) 3,452 Meat production ('000 metric tons, 1950, 1951 in brackets) 304 (302) Fisheries total catch ('000 metric tons, 1950, 1951 in brackets) 60 4 (56 6)

Industry. Industrial establishments (Jan 1948) 248,128, persons employed 1,000,010 Fuel and power (1951, 1952, six months, in brackets) coal ('000 metric tons) 29,664 (15,518), manufactured gas (million cu m) 1,728 (917), electricity (million kwh) 9,492 (4,750) Raw materials ('000 metric tons, 1951; 1952, six months, in brackets) pig iron 4,848 (2,494), steel ingots and castings 5,004 (2,580); copper (smelter) 142 (71 9), lead 70 (39), zinc 200 (96), tin 8 6, aluminium 1 4 Manufactured goods ('000 metric tons 1951, 1952, six months, in brackets) cement 4,392 (1,993), woven cotton fabrics 79 (31), cotton yarn 106 (41); wool yarn 33 (12), rayon filament yarn 12 4 (3 6), paper and cardboard 325 9 (127 8).

Finance and Banking (million francs) Budget (1952 est , 1953 est in brackets) revenue 81,400 (80,400), expenditure 97,200 (98,200). National debt (Aug 1950, Aug 1951 in brackets) 248,735 (246,970) Currency circulation (June 1951; June 1952 in brackets) 92,200 (100,600)

Gold and foreign exchange (million U.S. $, Aug 1951; Aug. 1952 in brackets). 935 (1,104). Bank deposits (June 1951; June 1952 in brackets). 64,700 (70,100). Monetary unit: Belgian franc, with an exchange rate (Aug. 1952) of B Fr 139·39 to the pound and B Fr 50 38 to the U S. dollar.

Foreign Trade (Belgo-Luxembourg economic union, million francs, 1951; 1952, six months, in brackets) imports 127,200 (61,794); exports 132,564 (65,064). Main souces of imports (1951)· U.S 16%; Netherlands 11%, France 10%, U K 8%. Main destinations of exports: Netherlands 18%, U K. 10%, France 9%, U S. 6%. Main imports. machinery and vehicles 12%; raw wool and cotton 11%, grains 6%, coal, petroleum and products 8%. Main exports· iron, steel and manufactures 21%, thread and fabric 13%, non-ferrous metals and manufactures 10%, machinery and vehicles 9%.

Transport and Communications. Roads (1950)· 6,754 mi Licensed motor vehicles (Dec. 1951) cars 294,797, commercial 151,480 Railways (1951) 3,130 mi , passenger-mi. 7,300 million; goods, ton-mi. 8,000 million. Shipping merchant vessels of 100 gross tons and over (July 1951) 203, total tonnage 493,432. Navigable waterways· 969 mi. Air transport (1951). passenger-mi. 192 million; cargo, ton-mi. 12,085,178. Telephones (1951) 687,012. Wireless receiving sets (1950) 1,548,205

See Vicomte Terlinden, *Impérialisme et Equilibre* (Brussels, 1952); Pierre Wigny, *Droit constitutionnel* (Brussels, 1952)

BENELUX: *see* BELGIUM; NETHERLANDS, LUXEMBOURG.

BEN-ZVI, ISAAC, Israeli statesman (b. Poltava, Russia, Dec. 6, 1884), studied science at Kiev university. He visited Palestine in 1904, and three years later left Russia to settle there. In 1908 he left Jaffa for Jerusalem after helping to found the world movement for Labour Zionism, later known as Mapai. From 1910 to 1914 he edited *Achdut Weekly*. After reading law at Constantinople with David Ben-Gurion, he returned to Palestine. Banished by the Turkish authorities he went to the United States with Ben-Gurion, also exiled. They joined the British army and returned to Palestine as privates in the 40th battalion, Royal Fusiliers, the Jewish unit of the British army which, under General (later Field Marshal Viscount) Allenby, took part in the liberation of Palestine from the Turks. From 1920 to 1929 he was chairman of the Histradut, the federation of labour. He was a member of the presidium of the Vaad Leumi, the National Council of Palestine Jews, from its inception, and its president from 1941 to 1948. In 1949 he became director of the Research Institute of Oriental Communities. A member of Mapai, he became a member of the provisional state council and signed the declaration of independence of Israel on May 14, 1948, he was elected to the Knesset on Jan. 25, 1949, and July 30, 1951. Following the death of Chaim Weizmann, Ben-Zvi was nominated as Mapai candidate for the presidency and on Dec. 8 he was elected on the third ballot with 62 votes to 40 for Rabbi Mordecai Nurok. He was invested as the second president of Israel in Jerusalem on Dec. 10. He was the author of *Eretz Israel in Past and Present* (with Ben-Gurion, 1918), *The Book of the Samaritans* (1935), *The Moslem World and the Arab World* (1937) and *Poale Zion in the Second Aliyah* (1950). He was created M.B.E. by the British government, and in 1937 represented Palestine Jewry at the coronation of King George VI. He married Rachel Yanait, and they had two sons—one of whom was killed in the Arab war, 1948.

BEQUESTS: *see* DONATIONS AND BEQUESTS.

BERLIN. Capital of the German Reich from 1871 to 1945, Berlin was still by 1952 the largest city of Germany. Area: 344 sq.mi. Pop.: (1939 census) 4,321,500; (1950 est.) 3,336,475. From June 6, 1945, Berlin was administered by an inter-Allied government authority consisting of the commandants of the four sectors of Berlin. After June 24, 1948, when the Soviet commandant proclaimed the dissolution of the authority, Berlin was in fact divided into two opposing administrations. By Dec. 31, 1952, the three western sectors

(area, 185·4 sq.mi.; pop., 1950 census, 2,146,952) were under the authority of the three following Allied commandants: Great Britain, Major-General C. F. C. Coleman; United States, Brig.-General Lemuel Mathewson; France, General Pierre Carolet. In the Soviet sector (area, 155·8 sq. mi., pop., 1950 est., 1,189,523) the civil administrator was Serghey S. Dienghin. There were also two rival German city governments and two lord mayors. Professor Ernst Reuter was *Oberbürgermeister* appointed by an elected city assembly; Fritz Ebert was *Oberbürgermeister* of the Soviet sector appointed by a meeting summoned by the Sozialistische (Communist) Einheitspartei.

History. A peaceful end to the separation of west and east Berlin seemed as far off as the reunification of Germany, and probably was, since both developments depended upon Allied-Soviet agreement. The Soviet authorities still refrained from overt steps leading to official incorporation of the whole city within their domination; but obstruction and economic pressure were used to the utmost to weaken democratic west Berlin.

Interference with traffic on the international *Autobahn* from west Berlin to western Germany continued intermittently, and was aimed at undermining west Berlin's economic existence. The U.S. and British military patrols were prevented from using this *Autobahn*, leaving the three Allied commandants unable to do much more than protest. One of the few stands taken by the western allies against Soviet actions was when British troops (June 3-10) prevented free access to the Soviet radio station in the British sector.

Isolation of west Berlin, both from the eastern Soviet sector and from the German Democratic Republic, was carried still further. Many west Berliners lost small holdings or allotments across the border of the Democratic Republic; those of them who worked in the Communist-controlled areas were dismissed from their jobs unless they agreed to transfer their domiciles to these areas; and from June 3 both west Berliners and western Germans required special permits to enter either the Soviet sector or the Democratic Republic.

There were many kidnappings of Germans in west Berlin by agents under Soviet control, but world attention was attracted to the case of Dr. Walter Linse, a member of the Free Jurists organization (July 8). As this occurred in the U.S. sector, both John J. McCloy, the high commissioner,



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and his successor Walter J. Donnelly protested to General Vasily Chuykov, chairman of the Soviet Control commission, but without success.

West Berlin's importance as a bulwark of democracy behind the "iron curtain" was indicated by official visits



British soldiers patrolling outside the Russian broadcasting station in the British sector of Berlin, when it was "sealed off" temporarily.

from both the British foreign secretary and the U.S. secretary of state. Anthony Eden (May 29), while there, opened the English garden, and Dean Acheson laid the foundation stone of the U.S. memorial library. Both stressed the guarantees of the western powers to defend west Berlin.

Politically, west Berlin continued to be governed by the coalition which resulted from the 1951 elections. But since the S.P.D. (Social Democratic party), though the largest single party, failed to win an overall majority, disagreements among the parties became more marked. The political crisis which threatened in the spring was overcome mainly because solidarity in face of Communist pressure was essential in such a situation. Reuter was re-elected lord mayor, after a special vote of confidence (April 3).

Economically, west Berlin still faced tremendous difficulties which largely arose from its situation. Lack of a normal hinterland, and the hesitation of private capital from the German Federal Republic or abroad to invest there, were serious hindrances to normal development. West Berlin, its leaders stressed, wanted orders not subventions, investments not doles. Unemployed numbered 280,000 (July), but there were still thousands more unregistered. Among the latter were, in particular, refugees from the Democratic Republic who fled because of the new suppressive measures being introduced there. Refugees who had crossed over during 1952 numbered about 117,000. They first went to various temporary camps in west Berlin where they were "screened", and the majority were then sent to western Germany. Between February and August, 10,638 youths

under 24 years of age escaped to west Berlin to avoid compulsory service in the *Volkspolizei* or the Labour service of the Democratic Republic.

From time to time there were minor clashes on the sector borders between the west Berlin police and members of the Communist Youth organization (F.D.J.), but no gigantic rallies in east Berlin similar to those of previous years which threatened to lead to full-scale attempts at upsetting democracy in the western sectors.

In east Berlin, where there had been no communal elections since Oct. 1946, the general political picture remained unchanged. Since practically no distinction was drawn there between executive and legislature, the *Magistrat* in that sector was assumed to be able to read and interpret the needs of the population and therefore issued decrees and orders which bore the stamp of laws.

Relations between the east Berlin *Magistrat* and the government of the Democratic Republic were very close, But as yet the eastern sector and the republic were not officially united. Just as the western occupying powers still had not recognized west Berlin as the 12th *Land* in the German Federal Republic, so the Soviet occupation authorities had not given east Berlin the status of a province in the German Democratic Republic.

In both west and east Berlin, a great deal of restoration work was going on. In the western sectors, the Kurfurstendamm was largely rebuilt, and parks and open spaces laid out. In the eastern, the wide Stalin Allee (formerly, Frankfurter Allee) was now the shop window of Communist achievements for the Germans. Large blocks of flats, in process of erection, were scheduled for occupation by the end of the year. (J. E. Wl.)

BERMUDA. British colony, *c.* 300 small islands 580 mi. east of Cape Hatteras, North Carolina. Area: 21 sq.mi. Pop. (1950 census): 37,403. Language: English. Religion: Christian. Chief towns: Hamilton (cap., *c.* 3,500); St. George's (*c.* 1,300). Administration: governor; executive council, 4 *ex-officio* and 3 unofficial members; legislative council, 3 *ex-officio* and 6 unofficial members; House of Assembly, 36 elected members. Governor, Lieut.-General Sir Alexander Hood.

History. A Bermudan delegation visited London in May 1952 to discuss the disposal of the Royal Naval dockyard, closed in March 1951, in Bermuda. No decision was announced. Among suggestions made was the opening of the dockyard area to light industries to counterbalance the existing dependence of the colony upon the tourist trade. Steps taken by the government with a similar object in view were the purchase of a motor fishing boat to carry out a five-year programme of commercial fishery research and the hiring of two Danish motor fishing vessels to investigate the possibility of organizing deep-sea fisheries.

In the autumn a festival of British music and drama was held; it was hoped that this would become an annual event.

An indication of the prosperity of the colony was to be seen in its dollar earnings. A debt at the end of World War II to the sterling dollar pool of $4,358,000 had increased to $20,412,000 by the end of 1949; but by mid-1952 this debt had been converted into a surplus of over $1 million.

Education. Schools (1951) infant 1 (maintained); primary 19 (1 aided, 18 maint.), secondary 4 (3 independent, 1 aided); vocational 1 (for girls; aided)· tri-departmental (pre-primary, primary, secondary) 5 (1 indep., 4 aided), bi-departmental (primary, secondary) 1 (aided). Pupils enrolled· primary 6,700, secondary 716, vocational 216.

Finance and Trade. Budget (1951)· revenue £2,368,262; expenditure £2,076,797. Foreign trade (1951): imports £10,628,280; exports £49,000; re-exports £1,312,707 Principal exports: lilies and lily bulbs Tourists (1951) 92,066, estimated receipts from tourist industry £8,204,000. Monetary unit: Bermuda pound, at par with sterling (J. A. Hu.)

BETTING AND GAMBLING. In consonance with the steady reduction in personal expenditure on luxuries and non-essentials experienced in recent years, 1952 saw a further falling off in the total volume of betting and gambling. It was not that the betting public had declined in numbers, since, in fact, there was an increase in the number of unit bets made, but this was more than counteracted by the smaller value of the individual bet. One marked exception to this trend was, however, betting on football pools, which, despite the heavy impost of 30% levied by way of pool betting duty, showed an increase, both as regards the number of betters and the volume of the pools.

As regards betting on horse-racing, on which no impost was levied, the takings of the totalizator showed a fractional decrease and there was a falling-off in the volume of betting with bookmakers, with the result that betting on horse-racing generally showed a decline over the year. Greyhound-racing continued to feel the impact of the pool betting duty of 10% imposed on totalizator takings, and of the licence excise duty of, on average, some 5% levied on bookmakers' takings, the joint effect of which resulted in the cessation of totalizator operation on a number of tracks and in a substantial diversion of stake money to the bookmakers. In total, the volume of on-course betting on greyhound-racing was roughly maintained at the 1951 figure, with a substantial increase in off-course betting.

Whereas the figures of betting with the totalizator (both horse and greyhound), with bookmakers on greyhound tracks, and on football pools, could be given with some exactitude, the volume of business effected with bookmakers on horse-racing remained a matter of some surmise. Thus the Royal Commission on Betting, Lotteries and Gaming, 1949-51, estimated the turnover at from £195 million to £220 million, whereas the churches' Committee on Gambling placed it as high as £373 million. If the mean of these estimates is taken, and an addition of £25 million made for the illicit business carried on by street bookmakers, a total of £315 million is arrived at. This figure being accepted, the total turnover for all classes of betting and gambling in 1952 was about £540 million; viz., horse-racing £341 million; greyhound-racing £132 million; football pools £62 million; and other forms of gambling £5 million, which, if regard is taken of the fall in the purchasing power of the pound, represents a considerable drop from the 1951 figure. The personal expenditure on betting and gambling represented less than 1% (or about 2*d.* in every £) of the total cost of all items of personal expenditure.

The revenue derived directly by the Exchequer from betting dues was about £28 million. Indirectly, there was the revenue accruing from postal services, income tax paid by promoters and by the 77,000 whole-time and part-time employees of the betting industry, and from entertainment tax, in all aggregating some £14 million. Thus, directly and indirectly, the state received a total of over £42 million in revenue from betting and gambling in 1952.

In France during the same period £44·25 million were betted with the totalizator, of which £19·75 million were betted on course and £24·5 million at cash betting offices; in total, an increase of 29% on 1951. (J. R. Ch.)

United States. Statistics would indicate that there was more gambling in the United States in 1952 than in previous years. Informed opinion, however, held that actually there was far less. There were the usual large bets on the U.S. presidential election and, it may be assumed, on congressional, state and local elections. The betting on the presidential election, however, was far less than in 1948, when big gamblers lost heavily by betting as much as 20 to 1 on Thomas E. Dewey. In 1952 they did not trust the advance surveys and while the early odds on Dwight D. Eisenhower were 8 to 5 (which

accorded with the several surveys), they dropped steadily.

The Associated Press's annual survey of horse race betting through pari-mutuel machines (legal) showed $1,939,162,662 bet during 1952, 19% more than in 1951. Attendance at race tracks was 27,261,601, which was 12% more than in 1951. Far fewer bookmakers were operating, the smaller ones having proved unwilling to expose themselves by registering and paying a $50 U.S. tax (which went into effect Nov. 1, 1951), but fearful of operating without paying it. This fact was the basis for the estimate of decreased gambling.

Nevada, the only state that licenses nearly every form of gambling, showed approximately a 10% increase over 1951. Las Vegas, Nevada, continued to develop as a combined pleasure resort and gambling centre, the rapidity and scale of its development being comparable to that of Monte Carlo in the 1870s. But Miami, Florida, which had previously been the most popular resort for gamblers, saw far less gambling of all sorts, chiefly because of police pressure on bookmakers and gambling rooms. (A. H. MD.)

BEVAN, ANEURIN, British politician (b. Tredegar, Monmouthshire, Nov. 15, 1897). For his early career see *Britannica Book of the Year 1952.* During 1952 Bevan continued in his role of vigorous government critic while being on occasion at odds with his own party leaders. On Jan. 31, in a debate in the House of Commons, he attacked the government's economic policy as being unrealistic and criticized Treasury control When the new national health service bill containing proposed economies of £20 million was formally introduced on Feb 1 he issued a statement denouncing the bill and claiming " if this is carried into law it means that the free health service is dead." On Feb 3 he issued an official denial of a newspaper report that he was conferring with his chief supporters on plans to overthrow Clement Attlee and Herbert Morrison from their leadership of the Labour party. On Feb. 26 he expressed the fear that, to the U.S , the war in Korea was " not a United Nations operation to discipline an act of aggression but an intervention by the United Nations in a long-distance attack on Communism " and that such an attitude, if endorsed by Great Britain, would mean the end of independent British foreign policy. Signs of discord within the Labour party, perceptible in 1951, became obvious on March 5 when Bevan and 56 other Labour members abstained from voting on an opposition motion of censure on the government's defence policy. At a meeting in Jarrow on March 16 Bevan alleged that the U.S. was arming Chiang Kai-shek to enable him to resume the civil war in China, and at Dalry, Ayrshire, on June 14, he said that a truce could be secured in Korea immediately if the U.N. informed Communist China that they recognized the Chinese revolution as an accomplished fact. In the elections to the national executive of the Labour party at the end of September Bevan again headed the poll (with an increased vote) and his supporters gained two more seats, now holding 6 out of the 7 constituency seats. On Oct. 29 the Bevan group announced that it would disband in accordance with the Labour party resolution of Oct. 23 calling for the abandonment of all unofficial groups within the party, but that individually its members would work for the rescission of the resolution. On Oct. 18, Bevan was given the freedom of Wallsend-on-Tyne.

BHAVE, VINOBHA, Indian land reformer and religious leader (b. ? 1895), ran away from home in his 'teens and eventually joined Mahatma Gandhi's *ashram,* or religious retreat, at Sabarmati, Ahemedabad. He became a close friend of the Mahatma, who chose him as the first man deliberately to seek arrest in the 1940 civil disobedience campaign: altogether he was imprisoned six times. After Gandhi's assassination in 1948, Vinobha Bhave—now a qualified Hindu *acharya* or preceptor—left the *ashram* to spread his master's teaching.

By 1950 the Telengana area of Hyderabad had become one of the worst trouble spots of India: 8 million peasants under a highly oppressive system of *zamindari* or landlordism were easy game for the Communists; the police and army were thrown in against the resultant wave of terror. Acharya Vinobha's answer was different: in April 1951, careless of his own safety, he went to Telengana literally to persuade the landlords to give away their excess of fields to the landless. " Regard me as your additional son," he said, " and give me my share for the poor." His informal and unofficial roadside courts also mended family feuds and domestic quarrels and wage disputes. Within a few days the reward of his sincerity, humility and fearlessness was 15,000 ac. for redistribution—on the basis of one acre of dry land and one acre of wet land to each family of five. A 1,800-mi. tour on foot through impoverished areas of north and central India followed: after eight weeks 22,000 more acres had been added to Vinobha's bounty—and the donors were not always wealthy zamindars. He announced a goal for this *Bhumi Dan* (land-gift) campaign of 50 million acres—one-fifth of India's cultivable area. During 1952 it was reported that he personally reapportioned land at the rate of about 300 ac a day.

Jawaharlal Nehru, impressed by Bhave's methods and success, invited him to consult with the National Planning commission in Delhi, the frail-looking " second Gandhi " walked 785 mi. to the capital and was received by President Rajendra Prasad, who promised a gift from his own estate. Although Bhave's equipment for the campaign developed with its success—local committees were set up and a caravan-borne secretariat and filing system now went with him—his methods and habits did not change: the 3 A.M. start, the 15-mi trek and the 5 P M. prayer-meeting—with readings from the scriptures of the main religions—remained the framework of the daily life of " the god who gives away land."

BHUTAN. Indian-protected state on the borders of Tibet. Area: *c.* 18,000 sq.mi. Pop. (1947 est.): 300,000, chiefly Bothias. Language: dialect of Tibetan. Religion· mainly Buddhist. Capital, Punakha. Ruler, Maharaja Jigme Dorji Wangchuk

History. A new ruler was installed on Oct. 27 in this world's least-visited and most inaccessible state. The new maharaja succeeded his father Jigme Wangchuk who died on March 30. The accession ceremony took place with much pageantry at Paro on Oct. 27, in the western part of the country, in the presence of B. Kapur, the Indian political agent at Gangtok, Sikkim. To reach Paro from Gangtok involves a nine-day trek on foot and by pony. In the treaty of Aug. 8, 1949, signed at Darjeeling, Bhutan agreed to follow Indian advice in foreign affairs, India agreed to increase the annual subsidy from Rs. 200,000 to Rs. 500,000 and returned to Bhutan 32 sq.mi. of territory known as Dewangari.

BILLIARDS AND SNOOKER. The world's professional billiards championship was not played in 1952. The world's amateur billiards championship was held in Calcutta, India, in Nov.-Dec. 1952 and was won by Leslie Driffield (England), with Robert Marshall (Australia) who had held the title since 1936, as runner-up. The English amateur billiards championship was won by Leslie Driffield (Leeds), with Herbert Beetham as runner-up.

The world's professional snooker championship was won by Fred Davis (Llandudno) who beat W. Donaldson (Scotland). The English amateur snooker event was won by Charles Downey (London), with J. Allen (Blackpool), runner-up.

(R. Ho.)

BIOCHEMISTRY. Important chemical investigations were reported in 1952 in two areas of popular interest—viruses and cancer. Both problems are different aspects of a fundamental problem in biology, *i.e.*, how the cellular processes are controlled to produce a specific molecular structure.

Viruses Most of the revealing discoveries on viruses had come from work done with a specific group which attack bacterial cells. These viruses, or bacteriophages, had been isolated in a relatively pure state and found to consist of roughly equal portions of nucleic acid (the desoxyribose type) and protein. There are three notable facts about the composition and structure of these viruses: (1) electron microscopy revealed that some particles have a tadpole or spermlike shape; (2) it was found that the tail and the external coating of the head of these particles are composed of protein, while the nucleic acid is apparently localized within the head; (3) a detailed investigation was made of the composition of the nucleic acid of certain of the *Escherichia coli* bacteriophages. Although the nucleic acid possesses most of the properties of ordinary desoxyribonucleic acids, it was found to lack a nitrogenous base, cytosine, which is found as a component of every other known desoxyribonucleic acid including that of the host bacteria, but to contain instead a nitrogenous base identified as 5-(hydroxymethyl)-cytosine. This compound is absent in uninfected *E. coli* and it was suggested that its formation is a vital step in rearranging the synthetic pathways of the host cell for the production of virus

Although no metabolic activity of any sort had been found in highly purified and concentrated bacteriophage preparations, these particles when added to a suspension of susceptible bacteria in a suitable medium cause the destruction of the host cell and the liberation of several hundred new virus particles. Several important biochemical facts were established. (1) It was shown that little or no specific materials are contributed by the host cell to the new virus. (2) Apparently the virus particle is disrupted as it penetrates into the bacterium. The technical simplicity of the bacteriophage system made it possible to prepare isotopically labelled virus. This was used to trace the events occurring during the reproductive process. Measurements of the distribution of the isotope in the progeny virus showed that the infecting virus particle does not survive the reproductive process intact. It was also shown that the portion of the virus particle which does get into the cell is no longer capable of infecting new bacteria. (3) The material originally contained in the parental virus is not specifically contributed to the viral offspring. The parental material which is found in the progeny appears to be largely the result of the non-specific incorporation of fragments of the parent virus into the new virus. It was found, for instance, that neither ultra-violet light nor X-ray irradiation of the labelled parent virus affected the contribution of parent material to the progeny, even though these types of irradiations destroy the genetic portion of the bacteriophage. This must mean that the material passed from parent to offspring does not play an essential role in the reproductive process.

It was expected that information obtained in the bacterial virus system would be applicable to the animal viruses and might lead to a rational approach to the treatment of human virus diseases.

Cancer. Considerable progress was made along three different but fundamental biochemical approaches to the cancer problem More than 20 yr. earlier, it had been discovered that certain polycyclic hydrocarbons could cause cancers in animal tissues. Current work suggested that these carcinogenic compounds undergo additional reactions with cell constituents. One of the early reactions of the hydrocarbon molecule when in contact with the tissue is hydroxylation. Quantitative evidence was also obtained on the length of time that these carcinogenic compounds remain in certain tissues which eventually develop cancers.

Interesting results were obtained on the effect of hormones on cancer development. It was reported that long-continued administration of pituitary growth hormone to rats resulted in the production of a wide variety of neoplasms, particularly in the endocrine organs. Similar treatment of hypophysectomized female rats did not produce cancer. Apparently the presence of the pituitary gland and its secretions are necessary in the production of the neoplasms resulting from the administration of growth hormone. These findings established for the first time relationship between regulation of growth and neoplastic changes. Although the primary metabolic deviation of neoplastic tissue from normality remained obscure, efforts had been concentrated on finding an agent which would block the growth of a tumour by competing with a metabolite in an essential cell process. It was found that certain mouse tumours are inhibited by the compound 8-azoguanine but the mechanism of this inhibition remained obscure. Some promising leads resulted from the finding that certain compounds having two or more reactive groups are capable of reacting within the cell with a constituent essential for the process of cell division. Unfortunately, as therapeutic agents these compounds direct their action against dividing cells in general rather than against tumour cells in particular.

The relationship between viruses and cancers received considerable attention It had been known for some time that mammary carcinoma in mice is caused by a filterable agent which is transmitted from one generation to another through the milk of nursing females. Recently small spherical particles having a diameter varying from 20 to 200 mμ were visualized with the aid of an electron microscope, in samples of milk obtained from nursing mice known to carry the mammary carcinoma agent. Similar spherical particles were also found in tumour extracts or in cells cultured from mouse mammary carcinomas Injection of purified preparations of such particles had caused mammary carcinomas in susceptible mice.

An important recent discovery was the presence of particles in human milk. Although the true nature of these particles remained obscure, their presence was roughly correlated with a history of cancer in the donor's family. It might well be that at least some of these particles represent various pathogenic agents including a hypothetical tumour agent.

Carbohydrates A novel mode of hormone action on enzymes was revealed by the studies on glycogenolytic agents, *i.e.*, hormones which cause the breakdown of glycogen to glucose. It was found that the rate-limiting step in the enzymatic conversion of glycogen to glucose was that caused by the action of the enzyme phosphorylase. This enzyme catalyzes the formation of glucose-1-phosphate from glycogen. Epinephrine (adrenalin) and similar compounds were found to possess the power of increasing the activity of this enzyme. *In vitro* measurements demonstrated that this agent preserved phosphorylase activity, and could restore this activity when it had fallen to low levels in the tissue. An increase in the concentration of active phosphorylase in liver by glycogenolytic agents was also demonstrated *in vivo*. These experiments indicated that the amount of active phosphorylase in liver is balanced by inactivation and resynthesis of the active form. This balance is under hormonal control since minute amounts of epinephrine can cause a large increase in active phosphorylase in liver slices. (L. M. K.)

BIOLOGY: *see* BACTERIOLOGY; BIOCHEMISTRY; BOTANICAL GARDENS, BOTANY; ENDOCRINOLOGY; ENTOMOLOGY; GENETICS; MARINE BIOLOGY; ORNITHOLOGY; PALAEONTOLOGY; PHYSIOLOGY; ZOOLOGY.

BIRDS: *see* ORNITHOLOGY.

BIRTH STATISTICS: *see* VITAL STATISTICS.

BISMARCK ARCHIPELAGO: *see* TRUST TERRITORIES.

BLOCH, FELIX, U.S. physicist and Nobel prize winner (b. Zurich, Switzerland, Oct 23, 1905). He studied at the Federal Technological institute at Zurich from 1924 to 1927, then took his Ph.D. at the University of Leipzig in 1928. In 1930 he was appointed a fellow of the Lorentz foundation in the Netherlands, and the following year a fellow of the Oersted foundation in Copenhagen, where he worked with Niels Bohr. In 1933 he served with the Rockefeller foundation in Rome Meanwhile (1932) he had taught theoretical physics at Leipzig. In 1934 he was invited to Stanford university in California, where he was appointed associate professor of physics; he was made a full professor two years later During World War II Bloch was engaged in military research at several institutions. Bloch and Edward M. Purcell (*q.v.*), working independently of each other, developed the "nuclear induction" method of measuring the magnetic fields in atomic nuclei. This technique was responsible for vastly increased accuracy in measurements vital to the study of nuclear phenomena. For their discovery, Bloch and Purcell were jointly awarded the 1952 Nobel prize for physics, announced in Stockholm on Nov 6, 1952

BLOOD, DISEASES OF THE. During 1952 a quickening of interest developed in the disorder known as idiopathic thrombocytopenic purpura (I.T.P.) In this condition excessive bleeding occurs from mucous membranes (nose, gums, vagina, etc) and a variable degree of purpura; *i.e*, purplish spots of the skin and little blood spots called petechiae. The condition of purpura had been known for centuries; only recently had some order been established in the rather chaotic jumble of conditions in which purpura occurs. Some cases are the result of such well-defined causes as leukemia and other severe disturbances of the blood-producing centre, *i.e*, the bone marrow. Others are of unknown nature and are accompanied by a lack of production of platelets from their precursors in the marrow, the megakaryocytes. This type is idiopathic. Recent studies had indicated that some cases are acute and self-limited whereas others are chronic. The acute cases often develop in the wake of an acute infection, or an exanthematous disease of childhood such as chicken pox or after certain drugs (sedormid, quinidine, chloromycetin). Almost always they have a relatively short course of a few months or less and become completely well. In contrast with the chronic cases, the operation of splenectomy (removal of the spleen) is not usually either advisable or necessary. The chronic cases go on year after year, with ups and downs, and at times have crises of active bleeding. Splenectomy in the chronic cases, although usually curative, may sometimes have no effect.

R S. Evans postulated that I T P. had a similar mechanism to that of acquired haemolytic anaemia, in that he believed that the patient with the disease had developed an antibody attacking his own platelets. W M Harrington went a step further. He actually injected blood from a patient with I T.P. into normal persons and demonstrated a severe drop in platelets in some. This indicated the presence of a substance (possibly an antibody) in the blood of certain patients with I.T.P. The reverse experiment (*i.e*, the injection of large quantities of normal platelets into the blood of patients with I.T.P.) indicated a rapid destruction of the introduced platelets, thus indicating similar conclusions. What the humoural substance is and where it acts had eluded observation although a platelet antibody had actually been demonstrated in some cases. Previous studies pointed to the more or less mysterious organ the spleen as the site either of increased platelet destruction or of a substance which inhibited platelet formation by the bone marrow megakarocytes. The evidence for platelet destruction by the spleen had become less and less valid but there still remained the possibility that some sort of "bad humour" might reside in the abnormal spleen of some cases. The dramatic results of removal of the spleen had emphasized this possibility

In 1952 leukemia remained the foremost problem in haematology. Numerous chemicals (nitrogen mustard, urethane, aminopterin, triethylene melamine, etc.) had been introduced during the past few years for treatment. They were found to have transitory effects in some cases, and rather prolonged effects in others During 1952 triethylene-melamine (TEM), a nitrogen mustard-like drug which could be given by mouth, proved of distinct benefit. It was found particularly useful in chronic lymphocytic leukemia where small doses given weekly or at greater intervals could often maintain patients in a completely normal state for long periods of time. This drug was also useful in certain cases of Hodgkin's disease and chronic granulocytic leukemia but was of little if any value in acute leukemia. No case of leukemia had been cured by a chemical, however potent, although remissions certainly had occurred and indicated that the relentless trend of this dread disease could be reversed.

The fundamental problem in leukemia is not so much the matter of treatment but causation. If the cause were only known, then preventive measures could perhaps be tried out. Some cases of leukemia develop after long continued X-ray exposure—as in radiologists. Others appear to have developed after one single exposure of a high dosage of X-rays (gamma-rays) as at Nagasaki and Hiroshima, Japan. Heredity may be a factor in some cases, but the factor of heredity appears to be of far less importance than other causes One of the postulated ones in virus infection Fowl leukemia is definitely caused by a virus. Ludwik Gross was able to transmit leukemia in a previously nonleukemic strain of mice by inoculating leukemic material early in life. He concluded that mouse leukemia was caused by "vertical transmission", *i e*, from one generation to the next by a virus which could pass through the placenta and could then lie dormant for months in the infected host. Finally, leukemia might develop several months or a year after inoculation, *i.e*., when the mice were "middle-aged" Gross postulated that a similar situation was possible in humans, thus accounting for certain cases of which an apparently hereditary transmission was present.

Two new disorders of the blood clotting factors were emphasized in 1952, one having to do with lysis of the clot (fibrinolysis), the other with a disease resembling haemophilia but arising from the deficiency of a plasma thromboplastin component (P T C) When a clot is formed, it is then gradually dissolved (lysed). This process is called fibrinolysis and is the result of the activation of an inert proenzyme in the blood to the active fibrinolysin. H J Tagnon showed that certain cases of generalized cancer of the prostate gland, presenting themselves as a bleeding disorder, were the result of an excess of this fibrinolytic factor which destroyed other constituents of the coagulation system and resulted in severe haemorrhage Recognition of this disorder was of great importance, not only because it helped to diagnose certain obscure bleeding disorders in men of the older age group, but because of the opportunities for treatment presented by the use of stilbesterol and castration. With regard to P.T.C. deficiency, P M. Aggeler and associates showed that a patient with a disorder superficially

resembling haemophilia actually lacked a plasma constituent which was present in haemophilia. This could be corrected by appropriate amounts of thromboplastic extract. The differentiation of these rare bleeding disorders was of considerable importance from the standpoints of prognosis (outlook) and the development of definitive and special therapeutic methods for specific disorders. (W. Dk.)

BOLIVIA. Land-locked republic in central South America and one of the highest inhabited areas of the world. Area: 416,040 sq.mi. Pop. (1950 census): 3,019,031. Estimated racial distribution: Indian 52%; *mestizo* 28%; white 13%; Negro 0·2%; unspecified 6·8%. Language: Spanish, but the Indians speak Quechua and Aymará. Religion: predominantly Roman Catholic. Chief towns: (pop., 1950 census): La Paz, the actual seat of government (321,063); Sucre, the legal capital (40,128); Cochabamba (80,795); Oruro (62,975). Presidents in 1952: General Hugo Ballivián (until April 11); Hernan Siles Suazo (April 11-16); Victor Paz Estenssoro (*q.v.*).

History. Throughout 1952 political instability continued to be a major Bolivian problem. President Ballivián promised in February that constitutional order would be achieved during the year, but his own government was overthrown two months later after a three-day revolt in which the number of persons killed was estimated to be between 800 and 1,500. The rebellion brought to the presidency on April 16 Paz Estenssoro, leader of the outlawed Movimento Nacionalista Revolucionario (M.N.R.), which had been in power in 1943-46, and had followed a pro-Axis policy in World War II. The M.N.R. is a party " of the masses, yet it is completely anti-Communist ", the new president declared upon assuming office. " Our plans are not anti-capitalist; we have never said we desire to nationalize the mines, but we are pledged to exploit the riches of the country for the benefit of the people." The Paz Estenssoro régime was recognized by the United States on June 2.

Stern measures were taken against domestic opponents of the new government. In April, armed bands prevented the further publication of the country's largest newspaper, *La Razón*, which had represented tin interests and which President Paz Estenssoro branded as an " enemy of the Bolivian people ". During the same month, 16 opposition political leaders were arrested, and ex-President Ballivián went into exile in Chile. The Paz Estenssoro régime declared that it was pro-Labour in orientation, and a new Central Organization of Bolivian Workers was established to lend political support to the government. Evidence of strong labour dissidence was nevertheless recorded on April 22 when 870 miners and other workers struck at Corocoro in protest against the revolution. The régime announced on July 21 that congressional elections would be held in Jan. 1953. The entire nine-man supreme court was removed from office on Aug. 27, when it was replaced with pro-M.N.R. judges. The following day a new group of opposition leaders was imprisoned, charged with responsibility for a " terroristic plot designed to eliminate the chief government leaders ".

In an agreement signed on Sept. 29, the United States undertook to buy from 6,000 to 7,000 long tons of tin from the Bolivian government at a price of $1·175 per pound, f.o.b. Peruvian and Chilean ports. Despite Paz Estenssoro's initial declaration that the tin mines would not be nationalized, steps were taken in that direction in the months after his assumption of office. On May 14 a nine-man commission was appointed to study the feasibility of nationalization, and the Bolivian Mining corporation was established as a government agency on Oct. 3. Four days later, this corporation assumed control of the mine properties of the Patiño, Aramayo and Hochschild groups, the largest tin interests in the country. This step was taken for the declared purpose of preventing sabotage, and on Oct. 31, Paz Estenssoro signed the decree taking over the three companies' properties.

On Nov. 22 the president reorganized his cabinet, retaining only six ministers of the previous cabinet appointed by Siles Suazo at the time of the April revolution. (G. I. B.)

Education. Schools (1950): rural 1,500, pupils 110,000; elementary 1,595, pupils 147,060; secondary (state and private) 104, pupils 18,029. There were also several teachers' colleges, vocational schools and five universities

Agriculture. Main crops (1950-51, metric tons). wheat 16,000, barley 37,000, maize 110,000; rice 15,500; potatoes 270,000 Livestock (1948) cattle 3,499,000; sheep 4,195,000; goats 1,910,000; pigs 1,465,000 The principal exploited forest products were rubber and cinchona bark.

Industry. Mineral production (exports only, 1951) tin 33,153 long tons, zinc 33,659 short tons, lead 33,105 short tons, antimony 13,025 short tons; copper 5,342 short tons, silver 7,156,590 fine oz , mercury 700 short tons, crude petroleum 523,412 bbl

Finance (million bolivianos) Budget (1951 actual; 1952 est., in brackets) revenue 3,058 8 (5,000), expenditure 4,725 1 (5,100). Public debt (Aug 31, 1951) 12,233, about half foreign Currency circulation (July 31, 1952) 3,772. Gold reserves (July 1952) U.S $ 22 8 million Monetary unit *boliviano* with an official exchange value of 168 to the pound sterling and 60 to the U.S. dollar

Foreign Trade. Exports in 1951 were *c* U S $150 9 million (1950 $94 million), imports $78·9 million (1950· $55·8 million) Main destinations of exports (1950) U S 52%, U K. 41% Main sources of imports U S 39%, Peru 12%, U K 6% Chief exports. tin 64%, lead 9%, silver 5%

Transport and Communications. Railways (1946): 1,546 mi Several new lines were in various stages of construction in 1952, incl two from Argentina and Brazil, respectively, to Santa Cruz in the eastern lowlands. Highways (1949): 15,420 mi. of which 4,008 mi improved Motor vehicles (1950) cars 3,727, lorries 8,391, buses 467 Radio receiving sets (1950) *c* 75,000

BONAIRE: *see* NETHERLANDS OVERSEAS TERRITORIES.

BOOK COLLECTING AND BOOK SALES.

In 1952 book sales were on the whole of a mediocre character One or two interesting sales took place but the dearth of fine libraries for disposal was becoming more evident each year It was not surprising, therefore, that the high prices obtained since World War II for nearly all collected books of any quality showed a further increase.

Among the few interesting sales held in London was that of the library of English literature formed by Richard Jennings, which was sold in London at the end of April. This small but select library had for many years been renowned for the condition of its books and the name of its owner had become a descriptive criterion for any book in exceptionally fine state. The library was remarkable for its first editions in their original bindings which were in as near to their original issued state as could feasibly be expected.

Another library, formed by E. J. Bullrich, which was of a different character but of wide range, was sold in London in March. Most of the books had been bought during the 1930s and they made considerable profit. Among the more notable were the Buxheim psalter, a south German 13th-century illuminated manuscript which sold for £1,350 (in 1932 it sold for £74). Bullrich possessed 90 incunables and two sold for £500 each: St. Augustine, *De Civitate Dei*, Rome, 1468 (£105 in 1931), and Roderigo, *Spiegel des Menschlichen Lebens*, Augsburg, 1479 (£260, as recently as 1947). Among his French bindings was a fine example of the Fanfare style on a copy of Du Tillet, *Recueil des Roys de France* (1580), which sold for £340 (£40 in 1932). Other French books included Mallarmé's *L'Après-midi d'un faune* (1876) which fetched £230.

The sales of the Harmsworth Americana had become an annual event and the 12th-15th portions were sold during the year. The selling of this enormous library had now occupied 51 days and the total so far amounted to £202,946.

Among the miscellaneous sales a few books of importance

appeared, including two first editions of famous 19th-century novels. A copy of *Jane Eyre* (1847) was sold for £240 and Herman Melville's *The Whale* (London, 1851) was sold for £210: it was subsequently published in America as *Moby Dick* in 1851. Another book which showed a marked rise in price was a first edition (first issue) of Isaac Newton's *Principia* (1687) which brought £195. An important medical book, Vesalius, *De Humani Corporis Fabrica* (1543), was sold for the high price of £365. Prices of flower and bird books were maintained during the year and a complete set of Curtis's *Botanical Magazine*, a work which seldom comes into the market in complete state, realized £670. In November an illuminated manuscript *Book of Hours* of exceptional quality, of the school of Bruges, was sold for £3,000.

Some important literary manuscripts and autograph letters were sold during the year. Lively interest was shown in this field of collecting because U S. libraries were eager to acquire groups of literary manuscripts or correspondence for use as source material for these and other university studies. The William Bell Scott papers were sold in March. They included a remarkable series of 74 letters from D. G. Rossetti to Scott, largely unpublished and referring frequently to the Rossetti circle. These sold for £420 Rossetti's own copy of his privately printed poems, heavily revised throughout in his handwriting, brought £360, and the manuscript of his lovely poem *The River's Record*, included among some letters and poems, seemed reasonable at £50. In the same sale was sold for £470 a most important literary letter from Shelley addressed to James Hogg in 1821, in which he said " Have you seen a poem I wrote on the death of Keats, a young writer of bad taste, but wonderful powers and promise. It is called *Adonais*." In 1948 it was sold for £360. A contemporary transcript of Doone's *Poems* (*c.* 1620) fetched £380, and a manuscript of Thomas Gray was sold for £580. A series of 110 letters from R. B. Sheridan to John Grubb, mainly relating to Drury Lane theatre, was sold for £420. The extraordinary correspondence between G. B. Shaw and Mrs. Patrick Campbell, comprising 134 letters, made its appearance in the sale room and was bought for £1,100. One of at least five holograph versions of Burns's famous song *Auld Lang Syne* (incomplete) was sold on the same day as the Shaw letters for £1,500.

In 1952 three remarkable private sales took place. The famous collection of 19th-century fiction formed by Michael Sadleir was acquired by the University of California at Los Angeles. Another important sale was that of Major J. Abbey's remarkable collection of illustrated books of scenery of Great Britain and Ireland which passed into the possession of a U.S. library. The major sale, however, was that of the Rosenbach Shakespeare collection which was sold to Martin Bodmer of Geneva. The collection included a set of the folios, each of them a magnificent copy, a first edition of *Lucrece* (1594) and 14 quartos (six firsts) of the plays printed before the publication of the first folio of 1623. There were also long runs of 17th- and 18th-century editions of the separate plays. Dr. Rosenbach had collected them together over a long period and it was unlikely that such a collection would appear again. Its sale might be regarded as a fitting epilogue to the achievement of Dr. Rosenbach of Philadelphia, the greatest bookseller of the century, who died in July. (*See* OBITUARIES.)

The Waverley committee's *Report* on the export of works of art, books, etc., was published in Oct. 1952. It was a realistic document and should it be adopted it would lessen a number of controls then in force, thereby assisting the market in valuable books. It claimed, however, that the state must retain the right to prevent the export of objects of the highest importance and it recommended that larger grants should be made to the national museums and galleries. (C. D. M.)

BOOK PUBLISHING. Both in respect of turnover and numbers of titles published, 1952 was a record year for book publishing in Great Britain, for trade turnover was the highest ever, exceeding £42 million, while the numbers of titles published were no less than 18,741 (including 5,428 reprints and new editions). Comparison with prewar averages (£10 million turnover and 16,000 titles published) indicates the modern development of book publishing. Exports of British books increased both in value (more than £14 million) and as a percentage of total turnover (over 33%).

Early in 1952 book publishers experienced great difficulty in obtaining adequate supplies of paper and other materials and the prices of paper, boards, cloth, etc., rose steeply. Later supplies became freer and prices fell. Unfortunately, the resulting reduction in production costs was more than balanced by increased printing and binding costs. On the whole, therefore, published prices rose, the average published price in the period July to Dec. 1951 being 13*s.* 2*d.* whereas that in the period Jan. to June 1952 was 13*s.* 8*d.* In this connection the chairman of a well-known publishing house pointed out that his firm made less profit on a 14*s.* novel in 1952 than it did on a 10*s.* 6*d.* novel in 1951.

The rise in published prices, together with the generally unfavourable economic situation in the early part of 1952, led to a fall in demand for fiction and general literature, though demand improved later in the year. In these circumstances publishers endeavoured to produce more reprints at comparatively low published prices.

Statistical information about the British book publishing trade was improved by the publication in Sept. 1952 of the results of a statistical enquiry by the Home Market Research committee of the Publishers' association into the structure of the book publishing trade. This threw light on publishers' channels of distribution and on the value of business done in various kinds of books. Additional information on national expenditure on books was also given in *National Income and Expenditure, 1946-1951* (H.M.S.O., London, Aug. 1952) and in a *Statistical Report on Book Production, 1937-1950*, issued by the United Nations Educational, Scientific and Cultural organization.

In the field of copyright the U.N.E.S.C.O. Universal Copyright convention was signed by 43 countries, including the United States. Should the United States ratify this convention an important step forward in the protection of British books in the U.S. would be achieved. The Board of Trade Copyright committee published in Oct. 1952 its report (Cmd.8662, H.M.S.O., London), containing a number of important recommendations for the improvement of the copyright law in the United Kingdom.

Other legislation of value to authors and publishers reaching the statute book in 1952 was the Defamation Amendment act which, it was hoped, would lessen the dangers arising from alleged libel and from unintentional libel. Authors were less successful when seeking tax concessions under the Income Tax act, 1952, though a modest concession was granted under Section 24 in respect of lump sum payments for copyrights. Sir Compton Mackenzie, however, lost his appeal against the decision of the tax commissioners that outright sales of copyright were subject to tax.

A discouraging factor was the lack of prosperity among the smaller publishing firms despite the publishing distinction that some of these firms showed. These firms seemed never able, unaided, to turn the corner and there was now little sign of an infusion of good new blood into the publishing trade such as occurred in the years following World War I. A more hopeful development was a realization by the established publishing houses that their markets were capable of considerable expansion if new methods were developed.

In the new year honours a knighthood was conferred on

Allen Lane (*q.v.*) as a well-deserved recognition of his services to the community through Penguin books. During the year the deaths occurred of Sir Humphrey S. Milford, former publisher to the University of Oxford, and Alan Bott of the Book society, Reprint society and Pan books. (F. D. S.)

United States. During the first nine months of 1952, the number of new books and new editions published in the United States rose to a total of 8,566 as compared with 8,020 for the same period in 1951 (11,255 for the whole of 1951). All indications pointed to record book production for 1952. Fiction continued about the same as in 1951 while children's books (the next largest category) rose steadily. The total of technical books went up sharply. From January to the end of September, the only category to show a noticeable decrease was books on music.

In Sept. 1952, the best-seller list for fiction was headed by *The Silver Chalice* by Thomas B. Costain. *The Caine Mutiny*, by Herman Wouk (1951's best-seller) was second Ernest Hemingway's *The Old Man and the Sea*, published on Sept 8, promptly appeared on the list in third position while John Steinbeck's *East of Eden*, published on Sept. 19, was fifth. *The Houses in Between*, by Howard Spring, was fourth.

A Man Called Peter by Catherine Marshall topped the list of non-fiction best sellers for the first nine months of 1952. Rachel Carson's *The Sea Around Us*, which was eighth on the 1951 list, was second in Sept. 1952. (A. J. Rr.)

BORNEO: *see* British Borneo, Indonesia

BOTANICAL GARDENS. At the Royal Botanic gardens, Kew, the new Australian house, begun in the autumn of 1950, was opened on March 15, 1952. Accounts of three families, namely the Ranunculaceae, Oleaceae and Marantaceae, constituting the first three instalments of the new *Flora of Tropical East Africa* were published, with the preface

The most urgent research problem of the scientific staff of the Royal Horticultural society's gardens at Wisley was to find the cause and method of control of the bud blast mosaic of rhododendrons, especially in the home counties where it was causing serious damage. Work continued on the raising of antirrhinums resistant to the antirrhinum rust disease (*Puccinia antirrhini*). Several rust-resisting strains with different flower colours were released to the public.

At Cambridge the size of the botanical gardens was doubled so that it covered 40 ac. This was achieved by taking in an adjacent area of allotments. The planting of this new area was begun in the autumn. Some of the main features would be a long south-facing wall for growing tender plants; a number of beds for demonstrating experimental taxonomy, including a series of hybrids, polyploids, ectotypes, etc.; and an area devoted to different types of ecological habitats for plants growing in their natural surroundings. There was also a plan for a succession of small gardens illustrating the development of garden-making from Roman times to the present day, but this had not yet been decided upon. (F. J. L.)

BOTANY. The presidential address to the botanical section of the British Association at Belfast by Professor Meirion Thomas was entitled "The Anatomy of Metabolism in Higher Plants: Total Metabolism, Metabolic Processes and Partial Reactions". His theme was the analysis of total metabolism into component fractional processes still retaining their characteristic pattern, an analysis that had not proceeded very far. Progress could be claimed, however, in the study of the ultimate fragments of these processes. From a final synthesis of partial reactions the pattern of a metabolic process would emerge. He discussed in detail three aspects of carbohydrate catabolism in higher plants: (1) carbon dioxide fixation as a key-reaction in crassulacean acid metabolism; (2) anaerobic respiration; (3) partial reactions in the respiratory consumption of carbohydrates.

At the 13th International Horticultural congress papers of botanical interest were read on uptake of nutrients, anatomical structure in relation to rootstock behaviour, the importance of molybdenum, intra-specific genetic diversity in nature, heterosis and adaptability, environmental factors and growth-regulating mechanism, foliage analyses, photoperiodicity, plant hormones, a new apparatus for measuring stomatal apertures, and longevity and variation of seeds. The nomenclature committee considered the question of avoidance of name-changes of widely cultivated plants and agreed unanimously to recommend the next International Botanical congress to adopt the proposal for *nomina specifica rejicienda*.

In addition to the discoveries of *Koenigia islandica* and *Diapensia lapponica* in Scotland in 1951, a further species, *Artemisia norvegica*, was added to the British flora in 1952

At the Kew herbarium intensive work on the *Flora of Tropical East Africa* continued.

W. G. Burton found that stored potato tubers evolve volatile substances that suppress sprouting. These may include ethylene and *n*-amyl alcohol, to which sprouting formerly ascribed to CO_2 may be due. E. D Brain showed that geotropic responses in seedlings of *Lupinus polyphyllus* declined during the winter months. G E. Briggs and C. P. Whittingham studied the rate of photosynthesis in *Chlorella* and interpreted their results in terms of the production of a photosynthetic depressant which is removed by some photochemical process other than photosynthesis at low concentrations of CO_2. They found no evidence that bicarbonate ions are utilized by *Chlorella*. Dorothy F. Forward described the respiration of barley seedlings in relation to oxygen supply and analysed it in terms of three component effects when seedlings were transferred from air to other O_2 mixtures. The correlation of oxidation, fermentation and carbon expenditure with O_2 supply was found to be consistent with the Blackman scheme of respiratory and carbohydrate metabolism.

R. Good mapped the distribution of the *Asclepiadaceae* and found that the proportion of narrowly distributed or endemic genera was very high. O. V. S Heath confirmed that the guard cells in the stomata of *Allium cepa* L. contain neither chloroplasts nor any visible quantity of starch so that stomatal response to changes of light intensity cannot be due to a starch⇆sugar mechanism. P. N. Mehra found that diluted colchicine solutions caused the production of monstrous sperms in *Dryopteris* and *Goniopteris* C. Mortlock described the bud morphology of *Ranunculus fluitans* Lam., stages in development of the hydathode and its structure when mature. The blocking up of the mature hydathode and its possible significance were discussed. P. Nutman found that excision of nodules and root-tips from red clover leads to an increase in the number of nodules probably due to the removal of the source of an inhibitor

E. G. and Olga Pringsheim produced strains of *Euglena* without chromatophores and eye-spots. Once lost these do not reappear but nutrition and vigour of reproduction are not impaired. D. C. Spanner discussed suction potential or suction pressure as applied to plant cells, with especial reference to water-secreting mechanisms. He gave some of the less commonly considered mechanisms and tried to evaluate their effectiveness in producing increments of turgor pressure. Pearl Stokes found that growth of embryos within the seed of *Heracleum sphondylium* proceeds more rapidly at low temperatures than at room temperature. At 2° C. growth is exponential and in 9 weeks size is increased 4 times and dry weight 25 times. At 15° C. there is a progressive

falling-off in rate of growth and growth ceases when both size and dry weight have been only doubled. F. C. Steward, S. M. Caplin and F. K. Millar described a technique for comparing the metabolism of rapidly growing and non-growing tissues. B. H. Thewlis found definite evidence of the formation of ethyl alcohol in *Arum* spadices, barley seedlings, apples and carrots kept in nitrogen. This was isolated as ethyl 3 : 5-dinitro-benzoate. D. H. Valentine described experiments on hybridization between *Primula elatior* (L.) Hill and *P. veris* L.

J. H. Vaughan investigated the stem apex of *Syringa vulgaris* L. M. Weintraub studied leaf-movements in *Mimosa pudica* L. and suggested that the loss of turgidity in the cells of the motor tissue, against an osmotic gradient, is brought about by an active contraction of a number of small vacuoles. P. M. W. Wilson grafted scions of *Physalis alkekengi* on stocks of *Hyoscyamus niger*, *H. muticus* and *Scopolia anomala* and in all cases alkaloids were received by the scions. Reciprocal grafts were alkaloid-free, showing the role played by the root in the synthesis of this group of alkaloids. G. R. Wykes found that the constituent sugars and their relative proportions in nectar from any one species tends to remain constant and that the proportions are characteristic for certain families.

H. Darpoux and A. Faivre-Amiot carried out experiments to test the curative effects of various fungicidal solutions and crude culture liquids sprayed on apple-seedling stocks infected with scab. Liquids from *Aspergillus niger* reduced the lesions to 21% of the control; *Penicillium claviforme* gave a 37% reduction, and *Trichothecum roseum* gave a 61% reduction. Investigations of great economic significance were carried out at the Division of Industrial Biochemistry, Manchester university, on potential fat-producing moulds. Forty strains of 10 species were cultured on 5 different media. The maximum fat content (in gm per 100 gm. dried felt) was 39·7% for *Aspergillus flavipes* on Czapek-Dox medium and 34·6% for *Fusarium lini* on a glucose-mineral salts medium with added corn-steep liquor. P. H. Gregory and S. Waller gave an account of *Cryptostroma corticale* and sooty bark disease of sycamore. The causal organism of this relatively recent disease was found to be identical with a species found on maple in North America, where it is comparatively harmless. Much work on treatment of woods by preservatives was reported during the year. C. Greaves dealt with various treatments of Douglas fir and hemlock sleepers including air-seasoning or heating in the preservative for 6 hr. for seasoned timbers and no limit for green ones, incising and impregnation at controlled temperature and pressure. L. Roger in *Phytopathologie des Pays Chauds* described much significant recent work reported in literature difficult of access and included original work on rice and Hevea rubber.

A fine floristic work published by A. Pilát in Czech contains 274 pages of excellent photographs. R. Singer gave a critical survey of the taxonomic position of the Agaricales and Boletales with descriptions and many keys. Parts 9 and 10 of the *Annotated Bibliography of Medical Mycology* were published and fulfilled an essential need for research workers in this field.

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BOWLS. In 1952, 2,246 clubs were affiliated to the England Bowling association. There were 54,320 entries from 34 counties for the national championships held at Paddington B.C., Aug. 18-26: E. P. Baker (Poole Park, Dorset) won the singles, beating A. R. Allen (Oxford City and County) 21-20 in a classic final; B. J. Morgan and F. Horn (Devon) won the pairs; Reading club, the triples, and Prospect Park, Reading, the rinks.

The international tournament for the *News of the World* trophy, played at Clontarf club, Dublin, on July 16-18, was won by Scotland on points advantage

The National Welsh B.A. singles was won by Harry Pearson (Sketty, Swansea); the pairs by J. M. Evans and Cliff Evans (Ocean Staff, Treorchy); and the rinks by West End, Merthyr. The Scottish B.A. singles was won by James C. Irving (Lockerbie); the pairs by J. Mackay and A. Watson (Maitland, Edinburgh), and the rinks by Udston (Lanarkshire). The Irish B.A. singles was won by F. L. Henry (Derry); the pairs by R. M. Watson and T. L. Henry (Derry); and the rinks by Leinster. Miss M. Colley (Devon) won the English Women's B.A. championship. Middlesex won the Middleton cup, beating Surrey in the final by 12 points (121-109) The London and Southern Counties B.A. gold badge was won by E. J. Haynes (Century) and the Lonsdale tournament by T. G. Eburne (Cambridge Park).

(J. W. FR.)

BOXING. For the earnest student of boxing there was little excitement during 1952. The prevailing ascendancy of the "fighter" was exemplified by the victory of Rocky Marciano, 28-year-old Italian-American, who won the world heavyweight championship by defeating the coloured veteran holder, Joe Walcott, in 13 rounds at Philadelphia on Sept. 23, after being outboxed in almost every previous round. Marciano had relied upon great physical strength and toughness, and heavy punching power to wear down his opponents, and as a champion he compared unfavourably with most of his predecessors. Worthwhile contenders being scarce, however, it seemed that Marciano might hold the title for some time.

The British and European boxing control authorities proposed the formation of a committee, to consist of E. Rabret, J. Onslow Fane, and Abe Green and Robert Christenberry, representing Europe, Great Britain and the United States respectively, to act as a world championship commission. If this committee came into being, the British authorities would urge the abolition of the "return contest" clause, on which most U.S. world champions insisted when signing for a title fight. The British Boxing Board of Control gave an uncompromising refusal to requests for the televising of championships until further experience of its effects had been obtained. Only for small promotions, which did not clash with other tournaments, was the ban removed.

There was disappointment at the failure of Randolph Turpin to secure either a third contest with Ray Robinson for the world middleweight title, or a meeting with Joey Maxim, the world cruiserweight champion At the end of the year Robinson retired from boxing leaving the title vacant and Turpin the no. 1 contender. On Dec. 17 the 36-year-old coloured American, Archie Moore, won the world cruiserweight title by outpointing the holder, Joey Maxim.

The largest crowd of the year in the United States was attracted to a light-heavyweight championship between Maxim, Cleveland, Ohio, defending champion, and Ray



1. Bolognesi, Italy (left), in his light-weight match with I. Juhasz, Hungary, in the Olympic Games. Bolognesi won the title.

Robinson, New York, holder of the world middleweight title. This bout took place at the Yankee stadium, New York City, on June 25, in a heatwave that registered 104° at the ringside, and ended with Maxim credited with a knockout victory when Robinson, victim of heat prostration, could not respond to the bell starting the 14th round. The result was a surprise since at the time the bout ended Robinson had victory well in hand.

Jimmy Carter, New York, lost his world lightweight title to Lauro Salas, Mexico, at Los Angeles, May 14, but regained it on Oct. 15 in Chicago.

Johnny Williams, the Rugby heavyweight, won the British and Empire titles by outpointing Jack Gardner who, despite his great physical assets, proved a disappointing champion. After losing his cruiserweight title to Turpin, Don Cockell decided to box as a heavyweight in future.

The British welterweight and lightweight titles both changed hands within 24 hours. Wally Thom, the welterweight champion, was decisively beaten by Cliff Curvis, the Welsh "southpaw", and then young Frank Johnson (Manchester) brilliantly outpointed Tommy McGovan, the lightweight champion. Curvis subsequently lost his empire title when he was beaten on points by Gerald Dreyer the South African, on Dec. 8.

In one of the most interesting contests of the year Ray Famechon (France), the European featherweight champion, outboxed the phenomenal Roy Ankara (Gold Coast) over 15 rounds at Nottingham. A most promising youngster in the featherweight division was Sammy McCarthy (Stepney) who beat the champion, Ronnie Clayton, in a non-title bout and also outpointed Freddie King, the leading challenger for the title.

There was little activity in the bantamweight division, but in the flyweight class the champion, Terry Allen (London), was defeated on points by the veteran Teddy Gardner (West Hartlepool). Later Gardner was decisively beaten when defending his Empire title against an almost unknown young Zulu boxer, Jake Tuli, and immediately announced his retirement.

British amateur boxing continued at a low ebb. Great Britain failed to get one competitor into the finals of the Olympic Games at Helsinki, where the U.S. emerged with no less than five champions. (*See* also OLYMPIC GAMES.)

(W. B. DY.; X.)

BOY SCOUTS: *see* YOUTH ORGANIZATIONS.

BRAZIL. 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: 3,288,042 sq.mi. Pop.: (1940 census) 41,236,315; (1950 census prel.) 52,645,479. 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 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 110,750 Jews. Capital, coterminous with the federal district: Rio de Janeiro (pop., 1950 census) 2,413,152. Other chief towns (pop., 1950 census): São Paulo (2,227,512); Recife (534,468); Salvador or Bahia (424,142); Porto Alegre (401,213); Belo Horizonte (360,313); Fortaleza (280,084); Belém (260,608); Niterói (190,147); Curitiba (183,863). President of the republic, Getulio Dornellas Vargas.

History. During 1952 the Brazilians went ahead with their various ambitious projects for developing the country's natural resources, improving transport facilities, augmenting the production of hydro-electric power, and improving the health of the rural populations; but there was a widespread feeling that President Vargas was acting with insufficient vigour. This was his second year in office, but he still failed to fulfil the expectations aroused during his electoral campaign. The workers who in 1951 acclaimed Vargas as a social reformer, were disappointed to find that their problems were aggravated: higher wages were granted to many during 1952, but the cost of living continued to rise; speculation was undiminished; and even the economic projects mentioned above proceeded no faster than before the return of the "Father of the Poor" to the presidency in Jan. 1951. Furthermore, Brazil's reserves of foreign currency declined during the year and a slump occurred in the export of almost every commodity except coffee. Great Britain considered the price of Brazilian products too high, and it was expected that British purchases of cotton would amount to only about half the usual quantity. It became necessary to obtain a loan of $37·5 million from the International Monetary fund to finance the purchase of wheat from the United States and Canada because of the failure of the Argentine wheat crop.

Nevertheless, Horacio Lafer, minister of finance, stated that the situation was not so grave as it appeared to be. Lafer introduced many measures designed to halt inflation and to ease the foreign exchange crisis. For example, in May it was arranged that banks in future would only grant credits to finance "essential" enterprises, such as the production of food and raw materials. Severe restrictions were placed on the importing of "non-essential" goods; and new markets and sources of supplies were sought in Germany and other European countries, and in Japan. Several European firms announced their intention of opening factories in Brazil for the manufacture of such articles as bicycles, chemicals and cement, and for the assembling of automobiles. In September, after considerable delay, the Chamber of Deputies passed a bill setting up a government-controlled Brazilian Petroleum corporation (Petrobrás) with a monopoly for the exploration, exploitation, refining and distribution of the country's oil. Foreigners were excluded from the corporation on the insistence of the Brazilian nationalists, who had long been campaigning to that end.

In December it was estimated that Brazil's debt to the U.S. totalled about $450 million, while about £50 million was owed to Great Britain. An enthusiastic west German export drive likewise met with serious payments difficulties.

In September the Banco do Brasil's debt to the German central bank was believed to amount to $70 million. To by-pass the payments deadlock, it was recommended in Brazil that international barter transactions should again be authorized.

Considerable anxiety was caused by the revelation that a group of senior officers in the army were Communists or Communist sympathizers. This scare was probably exaggerated; but the aristocratic officer caste certainly shared the Communists' dislike of the part played by foreign capital in the development of Brazil. A number of Communists were placed on trial in Rio de Janeiro on charges of subversive activities.

While Argentine-U.S. relations deteriorated during 1952, a visit by the U.S. secretary of state, Dean Acheson, to Rio de Janeiro in July produced many demonstrations of friendship.

Brazil was visited later in the year by an R.A.F. goodwill mission and by the British foreign under secretary, the Marquess of Reading.

A grandiose urbanization plan for Rio de Janeiro was again discussed heatedly both in the capital and outside. It was proposed to relieve the traffic congestion in Rio by the construction of an underground railway, the levelling of San Antonio hill in the centre of the city and the opening of broad avenues. This project was opposed by the businessmen of Rio, who would be called upon to finance it, and by the provincial legislatures of Minas Gerais and Goiás, who argued that a new national capital should be built in the interior of the country, as Rio was quite unsuitably situated for modern requirements.

In August an old Etonian, Sebastian Snow, arrived at the mouth of the Amazon and claimed to have discovered the source of that great river at Lake Ninococha in the Andes. He had travelled part of the 3,500 mi. downstream on rafts of balsa logs. (G. P.)

Education. Schools (1948) primary 66,641, pupils 4,745,914, secondary 1,344, pupils 297,508, technical 3,970, pupils 216,954 Institutions of higher education 339, pupils 28,440 Universities state 8, Catholic 2. Illiteracy (1947) c 57%

Agriculture. Main crops ('000 metric tons, 1950; 1951 in brackets) coffee 960 (1,159), cacao beans 136 (141), sugar, raw value 1,701 (1,903); tobacco 106; cotton, lint 336 (336), cassava 13,135, maize 6,300, rice, paddy 3,085 (2,770), wheat 519 (495), cottonseed 831 (585), linseed 35 (28), oranges, tangerines and clementines 1,252 (1,100), grapes 234; groundnuts 132 (150) Livestock ('000 head, Sept. 1949) horses 6,918; cattle 50,089, sheep 13,390; pigs 22,979, asses 1,529, mules 3,094.

Industry. Industrial establishments (1948) 75,422. Persons employed in manufacturing industries (1948). 1,031,000. Fuel and power. coal ('000 metric tons, 1951; 1952, six months, in brackets) 1,939 (955); gas consumption, Rio de Janeiro and São Paulo (million cu m) 232; electricity consumption, Rio de Janeiro and São Paulo (million kwh) 2,990 (1,528); crude oil ('000 metric tons) 90 2 (45 8). Raw materials ('000 metric tons, 1951; 1952, six months, in brackets) iron ore exports 1,320 (643); pig iron 759 (349); crude steel 827 8 (415), rubber 21·1 (14·9); gold ('000 fine oz) 180 Manufactured goods ('000 metric tons, 1951; 1952, six months, in brackets). cement 1,398 (743).

Finance and Banking (million cruzeiros) Budget· (1951-52 actual) revenue 23,233, expenditure 23,224. Currency circulation (Feb. 1951, July 1952 in brackets). 25,660 (28,460) Gold and foreign exchange (million U.S. dollars, June 1951; June 1952 in brackets) 619 (477). Bank deposits (Dec. 1950; Dec. 1951 in brackets). 175·000 (104 491). Monetary unit: *cruzeiro*, with an exchange rate of Cr. $52·4 to the pound sterling and Cr. $18·72 to the U.S. dollar.

Foreign Trade (million cruzeiros, 1951, 1952, six months, in brackets). Imports 37,198 (22,500); exports 32,514 (12,900). Main sources of imports (1951): U.S. 42%; U.K 8%; Argentina 6%, Germany 6% Main destinations of exports· U.S. 49%; U.K 10%; Germany 5%, France 1%. Main imports (1951): machinery and vehicles 19·2%; petroleum and products 10%; wheat and flour 6 5%; iron, steel and manufactures 6·1%. Main exports· coffee 59·8%; raw cotton 11 7%. cacao beans 3·9%.

Transport and Communications. Roads (1951): 210,707 km. Motor vehicles licensed (Dec. 1951)· cars 262,529; commercial vehicles 226,388 Railways (1951): 36,845 km.; passengers carried 336 million, freight carried 39 million tons. Shipping (merchant vessels of 100 gross tons and over, July 1951) 358; gross tonnage 772,109 Air transport (1951· km. flown 94 5 million; passengers 2,345,000, cargo tons 45,344; mail carried kl. 1,204,000 Telephones (1951) 7,950 Wireless licences (1950): 1,600,000.

See J. A. Camacho, *Brazil: An Interim Assessment* (London, 1952)

BREAD AND BAKERY PRODUCTS. During 1952 there were no outstanding events in milling and baking In Great Britain the extraction rate of flour remained unchanged at 81% but, with the incorporation of the normal amount of whiter imported flour, bread for the public was, to all intents and purposes, made from 80% flour. In other words from 100 parts of wheat 80 parts of flour were obtained as opposed to about 72 parts in prewar days which, of course, had resulted in the flour being whiter.

Some minor relaxation of controls in bread manufacture took place, wrapped and sliced bread being quite commonplace. The character of bread is, of course, largely dependent on the nature of the wheats used but again there was little change during the year. Manitoban and English wheat represented the bulk of the wheats used. In prewar days no less than 40 countries sent wheat to Great Britain but by 1952 the number was five.

Treatment of flour with minute amounts of chemicals continued, and enabled the best possible bread to be made from the wheat available. Extensive scientific researches into flour and bread continued with the object of improving the quality of bread, its keeping qualities and its nutritive value.

Improvements in milling technique continued, particularly in conveying stocks in the mill by more hygienic pneumatic methods, as opposed to the older mechanical elevators. Increased attention was paid to the question of hygiene and the elimination of impurities.

In the training of bakers attention was being given to the underlying sciences involved so that greater economies could be effected and efficiency improved. In spite of many difficulties the quality of bread remained at a high standard and a compromise was reached between colour and nutritive value although it might still be advisable to make alterations in the future. Enrichment of bread with added vitamins, still largely practised in U.S. and other countries did not spread to any extent in Great Britain. (*See* also WHEAT.) (D. W. K.-J.)

BREWING AND BEER. Beer output during the year remained roughly at the level of 1950 and 1951, in which years some 25,087,236 and 25,163,508 bulk barrels respectively were consumed. Output therefore continued to be slightly above the pre-World War II figure of 24,674,992. The check to the postwar fall from 30,408,634 in 1948 would have been more pronounced if effects of the rise in the cost of living in October had not coincided with wretched weather in November and an increase in temporary unemployment.

For the industry merely to maintain output at or slightly above the prewar level is perhaps less than a half-success. The adult population continued to grow in size so that the consumption *per capita* was falling. In comparing postwar with prewar output, however, the absence of many servicemen from Great Britain had to be remembered. At no time, except during war, has so large a proportion of the nation's manhood been abroad. Even taking this factor into account, brewers thought that the beer duty called for revision, if many beer drinkers were not to be deprived by taxation of the national beverage and if the revenue from the duty was not to suffer.

The duty, at £16 1*s.* on the standard barrel and at about 8½*d.* on a pint of average strength, was left unchanged by the budget. The average gravity, which the brewing industry undertook to increase by three degrees (roughly 10%) during the year ensuing upon the 1950 budget, was maintained and even slightly increased during 1952.

BEER OUTPUT UNITED KINGDOM
Bulk Barrels

	1950	1951	1952
Jan	1,831,769	1,580,319	1,747,425
Feb	1,422,448	1,655,853	1,534,814
March	2,271,208	2,017,491	2,040,677
April	1,669,991	1,941,750	1,984,873
May	2,381,846	2,301,423	2,365,411
June	2,474,120	2,243,568	2,151,155
July	2,459,683	2,561,058	2,832,498
Aug	2,513,156	2,468,996	2,220,551
Sept	2,010,390	1,971,217	2,062,625
Oct	2,000,630	2,151,195	1,986,728
Nov	2,054,385	2,072,917	1,949,225
Dec	2,073,882	2,121,449	
			22,875,982
Total	25,163,508	25,087,236	(11 months)

The main raw material of beer, malting barley, was the subject of a gentleman's agreement between brewers and farmers about the 1952 and 1953 crops. Both sides were anxious for agreement, as the free market in 1951 had resulted in soaring prices for that year's crop and subsequently in the sowing of barley for 1952 beyond the limit at which the grain could be dealt with at the maltings. It was agreed that a price range of 120*s*. to 155*s*. should be established for 1952 and 126*s*. to 161*s* for 1953, the increase being the result of the government's intention to raise the statutory minimum price for barley by 6*s*. in 1953

The Brewing Industry Research foundation, established at a capital cost of about £250,000 and at an annual charge of £90,000 and financed entirely by the industry, came into full operation in September. It was under the direction of Sir Ian Heilbron and its headquarters, at Lyttel hall, Nutfield, Surrey, were admirably equipped to promote investigations into questions of fermentation and brewing within the various sciences, analytical, organic and physical chemistry, together with biochemistry, microbiology, bacteriology and ancillary subjects. From the outset the emphasis was on the need for scientific understanding of the fundamental factors involved and with this in mind the laboratories were probably unsurpassed throughout the world in the completeness of the facilities offered.

During the debates on the Licensed Premises in New Towns bill, whereby licensed premises in new towns were freed from state management, the industry became the victim of a series of attacks which it hotly contested as inaccurate. It was accused of failing to fulfil its undertaking to the chancellor of the exchequer before the budget of 1950 to raise the average gravity by three degrees. In regard to this attack, it was stated that the undertaking applied only to the 1950-51 budget year and that brewers had not only implemented their promise to the full but had also, of their own free will, continued to brew beers at a higher strength. (*See* also HOPS) (X.)

BRIDGES. In Great Britain the Neath by-pass viaducts were completed in 1952, and the reinforced concrete piers of the main bridge over the River Neath were nearing completion. This bridge would consist of a main span of 300 ft., the height above high water level being 90 ft. The viaducts were plate girder spans carrying 22-ft.-wide dual roadways with cantilever footpaths and cycle tracks on both sides.

Of several pre-stressed bridges completed or under construction in 1952 the most interesting was the new Northam bridge over the River Itchen near Southampton. This was the largest pre-stressed concrete bridge in the United Kingdom, and consisted of five spans, three of 105 ft. and two of 85 ft., carrying two 22-ft. dual carriageways and two 8-ft. footpaths. The decking was of pre-cast pre-tensioned beams, continuity being achieved over the five spans through pre-tensioned slabs laid over the piers between the beams. After erection the whole assembly was post-tensioned transversely.

Another bridge under construction at Six Hills, Stevenage, Hertfordshire, was of the portal type with a central span of 85 ft. and end spans of 35 ft. It was also of pre-stressed reinforced concrete, the central 60 ft. of the main opening being of pre-cast pre-tensioned units and the remainder of post-tensioned *in-situ* reinforced concrete. A third pre-cast concrete road bridge at Margate had a span of 62 ft. 4 in.

The three-span continuous pre-stressed 284-ft. concrete foot bridge on the South Bank site, London, was tested to destruction during the course of the year; probably the first time that such a test had been carried out on a structure of this kind. The bridge was designed for a live load of 100 lb. per sq.ft. Load was applied to one of the 76-ft. end spans. The bridge showed good recovery after the application of 150 and 200% overloads, but a certain amount of creep occurred when the former load was left on overnight. The continuity effect apparently did not extend beyond the second pier. The bridge finally collapsed under 250 lb. per sq ft. Failure occurred in the middle of the loaded span and over the second support. No failure of the steel occurred but there was little bond between the wires and concrete since the grout had clearly not penetrated from the ends of the cables.

Belgium. Construction continued with the Brussels-Ostend motor road, which had been carried across the Ghent-Courtrai road on a 112-ft -span pre-stressed concrete bridge.

France. A pre-stressed concrete cantilever bridge was constructed at Vaux-sur-Seine consisting of two cellular double cantilever girders 4 ft. 3 in. deep at the piers and 2 ft. deep at mid-span.

German Federal Republic. Perhaps the most interesting of the new German bridges was the one carrying the autobahn over the Werra near Hedemünden. This plate-girder bridge, continuous over five spans, had a total length of 416 m. and a deck width of 12 m. The plate girders were 8 m. deep, and two types of construction were used. In part of the bridge the 25-cm.-thick reinforced concrete slab of the carriageway was used as a structural member; elsewhere a 12-mm. thick plate with a hard-cast asphalt surface formed the carriageway and was used as the top flange of the main and transverse girders; 2,500 tons of steel were required for this method of construction, as compared with 3,900 tons for a more orthodox design carried out in 1937.

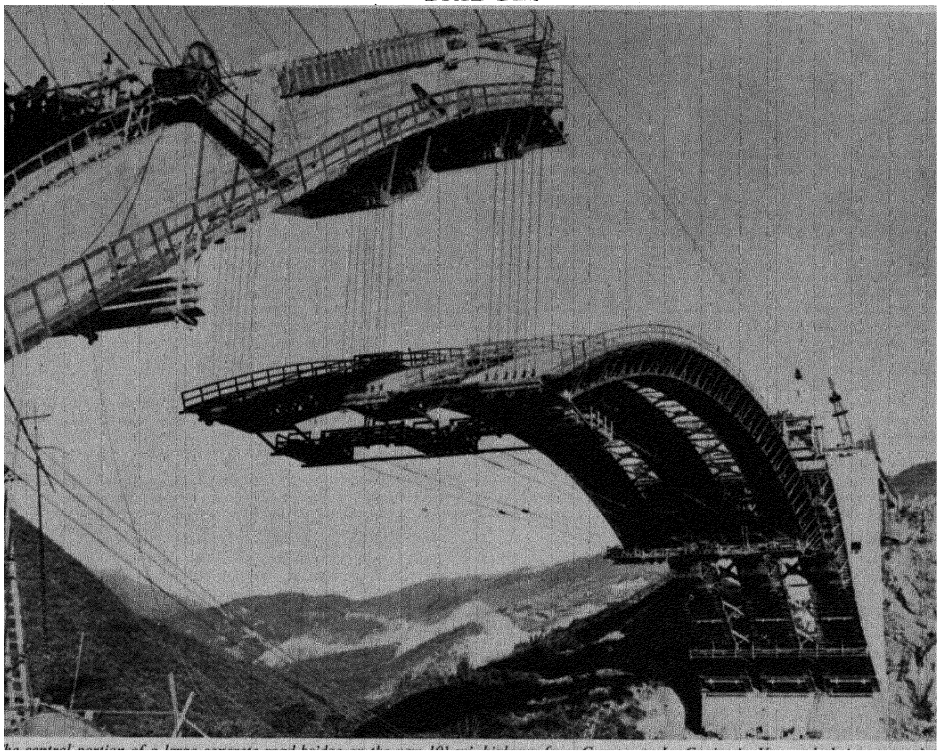
A welded bridge across the Elbe near Lauenburg had several unusual features: the central two spans of 209 m. were formed by closed box girders 12·5 m. wide and 10 m. high carrying the deck of the bridge; in the approach spans plate girders with hollow box flanges were used; the total weight of steel was 3,600 tons.

The reinforced concrete deck of the Herdecke bridge over the River Ruhr was also designed to act as part of the structure as in the Werra bridge. It was pre-stressed by cables and by adjusting the bridge bearings.

A pre-stressed concrete two-hinge spandrel arch bridge of 26·4 m. span was built across the Eider at Kiel-Schulensee, and an outstanding railway bridge, the Ederstrom bridge of six spans, was also constructed of pre-stressed concrete.

Italy. In addition to a number of bridges to replace those destroyed during the war several new ones were built, including the Sesto-Calende bridge over the River Tessin. This was a double-deck truss type continuous over three spans of 270, 327 and 270 ft., the depth of the trusses being 47 ft.

Netherlands. The Kloveniersburgval bridge in Amsterdam was rebuilt to carry a load of 20 tons instead of the 5½ tons to which it had been limited. The original drawbridge was of steel girders but in the 55 years of their life they had become so badly rusted that they were unsafe. Renewal in steel sufficiently strong to support the required 20 tons would have



The central portion of a large concrete road bridge on the new 10½ mi. highway from Caracas to La Guaira in Venezuela being swung into position in June. The bridge is one of the largest ever built with a pre-stressed concrete span.

meant renewal of the superstructure also. The use of light alloys for the load-bearing members of the drawbridge made it possible to leave the superstructure, which was in good condition, unaltered.

The Spaanse bridge in Rotterdam, having a width of 11·20 m., was built with nine pre-stressed concrete approach spans, each of 15·36 m., two reinforced concrete fixed spans of 8·72 m., a steel lever drawbridge of 10·50 m. and two more reinforced concrete fixed spans of 8·22 m.

Norway. The Department of Public Roads had only one important bridge under construction. This was the steel-arch Salhus bridge of 184 m. span. The sidespans, consisting of continuous girders, which were completed during the year, gave the bridge a total length of 690 m. Two concrete arch bridges on country roads were finished: that at Rossesund had a main span of 76 m. and 11 side spans of 15 m. giving a total length of 246·5 m.; the other, at Hovag, had a span of 45 m. and a total length of 89·5 m. In both cases the bridges were designed to carry axle loads of 10 tons with roadways 5·5 m. wide.

Sweden. A bridge over the River Lule was under construction. The concrete caissons were cast on shore, launched into the river (in which process they were turned over) and then sunk on to piles. Concrete was then cast under pressure in the caissons.

New Zealand. The contract for the new Auckland harbour bridge was secured by Dorman, Long and company and the Cleveland Bridge company working in conjunction.

(J. F. B.)

Canada. A contract was awarded in 1952 to build a suspension bridge with a 1,447-ft. main span across Halifax harbour in Nova Scotia with a vertical clearance of 165 ft. at a cost of $8 million. Completion was scheduled for 1954. In 1952 Canadian army engineers commenced the construction of a 1,600-ft. $2·5 million bridge in the Donjek valley of the Yukon Territory, less than 300 mi. from the Arctic circle to replace wooden bridges that were washed out. The new bridge was to have eight steel and concrete spans.

United States. On Dec. 1, 1951, the Golden Gate suspension bridge at San Francisco, California, the longest bridge in the world, was subjected to a 72-m.p.h. wind that caused the bridge to vibrate vertically through a maximum range of 85 in. with some damage to the bridge structure.

Plans were completed in 1952 for a new crossing over the Hudson river at Kingston, New York. The total length of the bridge was to be 7,700 ft. and the estimated cost was $20 million. The two channels of the river were to be bridged by duplicate units of 500-800-500-ft. continuous deck spans.

Construction was started in 1952 on a 14-mi. stretch of highway and bridge across Tampa bay, Florida, from St. Petersburg to Manatee county. The estimated cost was $20 million. A 100-ft. lift span and a high-level cantilever bridge would provide for navigation. A 15-mi. bridge was started in 1952 over lower Tampa bay in Florida. It was to have three miles of trestle with factory-prestressed concrete deck. The two channels were to be crossed by a 90-ft. twin-leaf bascule and a 1,584-ft. cantilever bridge. The estimated cost was $15 million.

A bottleneck on the road between New York city and Long Beach was removed with the completion of a $6 million 153-ft. double-leaf bascule in 1952. The total width was 78 ft. The new bridge was built adjacent to the old bridge which was then demolished.

In Jacksonville, Florida, two bridges were started over the St. Johns river. The Gilmore street bridge, 3,600 ft. long, estimated at $5·3 million was to include a double-leaf bascule span. The Arlington bridge was to be 7,375 ft. long and was estimated to cost $11·3 million. It would include a cantilever with 406-810-406-ft. spans.

A concrete viaduct of novel design, forming part of a traffic interchange for the George Washington bridge, was completed in 1952. It consisted of continuous hollow concrete box girders on a single row of long slender round columns. There were ten 66-ft. spans, all on a curve of 200-ft. radius.

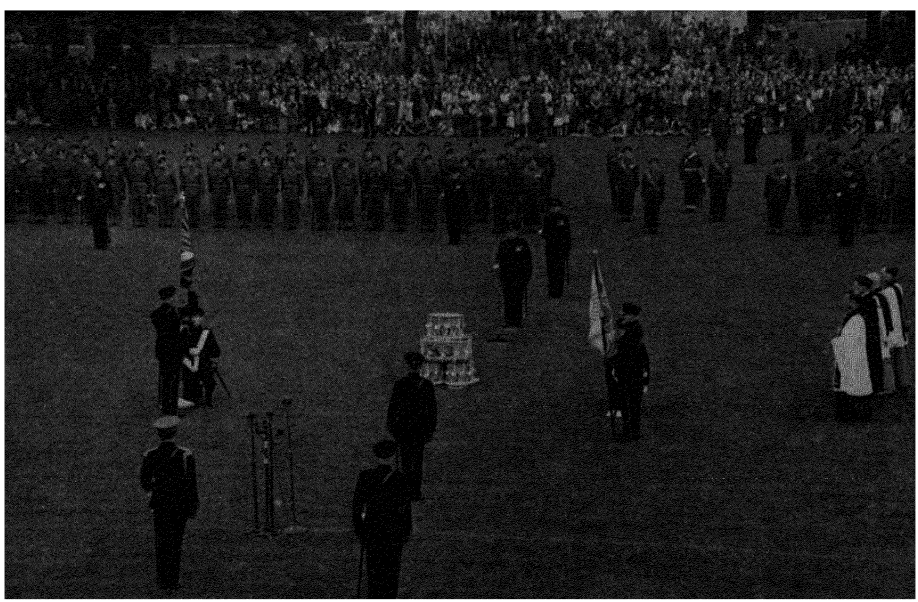
Brazil. Construction was started in the state of Rio Grande do Sul in 1952 on an 856-ft. reinforced-concrete arch bridge with a main span of 610 ft. and a rise of 92 ft. at an estimated cost of $750,000. This would be the third largest reinforced concrete arch in the world. (D. B. S.)

BRITISH ARMY. The twin handicaps burdening the army in times of peace—too little money and too few men—in 1952 still presented their familiar succession of difficulties. But by Dec. 31 the army could look back with satisfaction on 12 months of solid achievement and could look forward with sober confidence. It had answered all calls, in Korea, Malaya, the middle east, western Germany and at home, and had proved to itself and to the world that it would be equal to the tasks of the future.

Pay and terms of service in the regular army were good enough to attract suitable recruits in numbers sufficient to maintain a highly trained professional force of 250,000 men. The period of national service remained at two years. In both branches of the active army there was a marked falling off in complaints and a definite improvement in the quality of the intake. The young soldier was physically superior to his predecessor and showed himself more readily interested in the increasingly elaborate skills of his trade.

Adventurous experiment with new methods and measured observation of every relevant factor, which had been pursued systematically throughout the postwar years, had brought results which made possible a reduction in the time spent on initial training and the use of the weeks so saved in making the recruit both more quickly and more thoroughly an effective member of his combat unit. The manoeuvres of the year drove home with increased urgency the importance of integrating the activities of the different arms and the three services. The army played its part in the joint exercises undertaken with other members of the western alliance. Large numbers of all ranks had practice in exact and swift co-operation and in the intelligent employment of new weapons and machines. The decision was taken to adopt the new U.S. rifle instead of the new British model. In 1952 there was notable advance towards the new scientific army as an embodied reality.

On June 30 the overall strength of the active army was 453,100: about half regulars and half national servicemen. The strength of the Territorial army at the same date was 156,311 and that of the home guard (reconstituted in the spring) 15,300. More than half the active army was stationed at home, over 200,000 men being available to concentrate promptly for the defence of the United Kingdom. The main forces overseas were in: (1) western Germany, the 6th, 7th and 11th Armoured divisions and the 2nd Infantry division; (2) Austria, one brigade; (3) Trieste, one brigade; (4) the middle east, 50,000 men in the Suez canal zone, the 1st and



The 1st battalion of the Gloucestershire Regiment parading before the Duke of Gloucester, colonel-in-chief of the regiment, at Gloucester, April 26. The Duke is presenting new colours to the battalion, which had just returned from service in Korea.

3rd Infantry divisions and the 16th Parachute (Independent) brigade; (5) Malaya, where two East African battalions (the King's African Rifles) and one Fiji battalion replaced the 3rd Commando brigade (Royal Marines), who went to the Suez canal zone to relieve the 39th Infantry brigade (composed of the Buffs, the Devonshire regiment and the Inniskilling Fusiliers) for home duty in the autumn; and (6) Korea.

Korea tested the Commonwealth forces in new ways and again they emerged with credit, enhancing the reputation of the British soldier for adaptability, steadiness and discipline. While the armistice negotiations dragged on mass movements and set battles were suspended, but the labour of strengthening the forward positions and improving lines of communication continued and frequent local actions to guard against the possible resumption of large-scale warfare cost many casualties. British infantry were also called upon to help to restore authority in the Communist prisoner-of-war camps on Koje island. Physical hardships were mitigated by experience and the regular arrival of suitable stores and supplies, although Korea remained for Europeans a country whose desolate hills and extreme climate they were glad to leave. Replacement of units did not materially alter the strength of the Commonwealth division (*see* KOREAN WAR). Two welcome lessons emphasized by the events of the year, despite the pause in major operations, were the efficiency of the new British field training and the all-round superiority of the Centurion tank.

In Malaya General Sir Gerald Templer, having under his supreme command 17,000 U.K. troops, 10,500 Gurkhas and four battalions of the Malayan regiment, vigorously continued the tireless "police" operations by small parties of army, police and emergency defence forces against scattered bands over an immense area. Despite occasional revivals of Communist activity, seriously disturbed districts were reduced to narrower limits but the year ended with all available troops still continuously employed on exhausting and often highly dangerous duties. From May 1, 1948, the beginning of the emergency, until June 1, 1952, army casualties were: U.K. officers killed 35, wounded 44; other ranks killed 141, wounded 238; Gurkhas, officers killed 9, wounded 6; other ranks killed 100, wounded 171; coloured troops, officer killed 1; other ranks, killed 61, wounded 65.

In November General Sir John Harding became chief of the imperial general staff in succession to Field Marshal Sir William Slim (*q.v.*). General Harding was succeeded as commander-in-chief of the British army of the Rhine (B.A.O.R.) by Lieut.-General Sir Richard Gale who had been director-general of military training. (*See* also ARMIES OF THE WORLD.) (H. W. LE P.)

See *The Private Papers of Douglas Haig 1914-1919*, edited by Robert Blake (London, 1952).

BRITISH BORNEO. Colonies of North Borneo (incl. Labuan) and Sarawak, and protected state of Brunei. Language: various indigenous; Chinese; Malay (the *lingua franca*). Religion: Moslem (Shafei sect, etc.); various pagan; many Chinese Christians. *North Borneo.* Area: 29,387 sq.mi. Pop. (1951 census): 334,141, incl. 74,374 Chinese. Cap.: Jesselton (pop. *c.* 5,000). Administration: governor; executive council, 3 *ex-officio*, 2 official and 4 nominated members; legislative council, 3 *ex-officio*, 9 official and 10 nominated members. Governor: Sir Ralph Hone. *Sarawak.* Area: 47,071 sq.mi. Pop.: (1947 census) 546,385, incl. 145,158 Chinese; (1951 est.) 570,000. Cap.: Kuching (pop. *c.* 38,000). Administration: governor; supreme council; Council Negri. Governor (and high commissioner for Brunei): Sir Anthony Abell. *Brunei.* Area: 2,226 sq.mi. Pop.: (1947 census) 40,657; (1950 est.) 46,000. Cap.: Brunei or Darul Salam (pop. 1947, 10,620). Administration: sultan-in-council; general admin., other than of matters affecting Moslem religion, conducted by British resident. Ruler: Sultan Omar Ali Saifudin.



Omar Ali Saifudin, Sultan of Brunei, who arrived on his first visit to Britain in May.

History. In North Borneo 1952 began with a favourable trade balance of over $40 million but the subsequent fall in the price of rubber and other raw materials made it improbable that this record figure could be reached again at the end of 1952. Development, however, was being pressed forward with encouraging results and included prospecting for bauxite and oil. The outstanding political events of the year were the opening of the new combined supreme court for North Borneo, Sarawak and Brunei (previously there had been two separate judiciaries—one for North Borneo, another for Sarawak and Brunei) and the inauguration of a more modern system of local government by the setting up of a (nominated) local government authority in Kota Belud. In Sarawak on June 25 a new oil mining lease was negotiated between the government and Sarawak Oilfields, Ltd., under which the area held under lease would, within 15 years, be reduced to 25% of the colony (the old lease covered all of it); the minimum royalty, based on a percentage of production, was revised to £10,000 a year, and the company became for the

first time liable to income tax. Communist trouble broke out near Kuching on Aug. 7 with robbery and murder by a small gang of armed Chinese which probably came from, and certainly escaped over, the Indonesian border. The governor declared a state of emergency and several known Communists were arrested. The non-Chinese communities immediately offered to help but the prompt measures taken were effective. The territories were visited by the Duchess of Kent and her son, the duke, in October. (K. G. B.)

Education (1951) North Borneo: primary schools 217, pupils 20,674; secondary 17, pupils 650, 1 vocational school. Sarawak: government schools 45, pupils 3,641, local authority schools 74, pupils 2,868; mission schools 69, pupils 7,988, Chinese schools 216, pupils 26,365 Brunei primary school attendance 4,661

Finance and Foreign Trade. Monetary unit Malayan dollar ($1 = 2s 4d sterling).

Budget (1952 est.)	North Borneo	Sarawak	Brunei
	(in millions of dollars)		
Revenue	21 1	39 5	69 3
Expenditure	15 6	31·3	17 9
Imports (1951)	70 2	383 7	50 4
Exports (1951)	113 7	508 3	271 8

Principal production figures (1951) North Borneo, rubber (exports) 21,698 tons, rice 24,000 tons, copra 12,456 tons, Sarawak (exports), crude oil 3,206,152 tons, refined petroleum 1,741,446 tons, rubber 42,521 tons, timber 54,528 tons; Brunei, crude oil 37,133,500 bbl., rubber 5,161,694 lb

BRITISH COUNCIL. At the end of 1952 the British Council was represented in 35 foreign countries; in Australia, New Zealand, India, Pakistan and Ceylon, and in 20 British colonies. The council supplied material and services to the United States, Canada, South Africa and other countries in which it was not directly represented. In the United Kingdom it provided services for people from overseas through 19 offices and centres and 5 student residences.

Funds voted by parliament for the financial year 1952-53, after allowing for estimated receipts of £383,272, totalled £2,527,100, made up of £1,682,000 for work in foreign countries, £329,000 for work in the self-governing countries of the Commonwealth, £418,000 for work in the colonies and £98,100 for services for colonial students.

The annual report of the council, issued in October, recorded that during the year to March 31, courses of study in English language, literature and British institutions were provided for 18,500 fee-paying adult pupils in the council's centres in 11 countries, and for 34,000 more by the societies with which the council was connected in Latin-America. Courses for teachers of English were also held. Examinations were conducted overseas on behalf of British universities and professional bodies. Through its book-review scheme the council obtained 10,247 reviews of British books in overseas publications and broadcasts. It published 31 brochures in the *British Life and Thought* and other series and the periodicals *Britain Today*, *English Language Teaching*, *British Medical Bulletin* and *British Agricultural Bulletin*. It assisted foreign publishers over translations of notable British books. The council arranged lecture tours by 100 British experts in 48 countries, 88 tours of books, fine arts and other exhibitions and 12 theatre and music tours. It sent 1,276 prints of educational and documentary films to 60 countries. Exchanges of scientific and learned journals between the United Kingdom and other countries reached a total of 3,446.

The council dealt with 3,709 visitors to the United Kingdom, including holders of United Nations and Colombo Plan fellowships, those attending short courses, groups making study tours and individual experts. The great majority of these visits were financed from overseas sources. The council awarded 243 post-graduate scholarships and 163 short-term bursaries to overseas students and through the council 14 countries awarded scholarships to British students. Under schemes of university interchange 75 university teachers and research workers visited British universities and 31 British university teachers visited overseas universities. Services to colonial and other overseas students included meeting 2,600 on arrival, accommodating 830 in British Council residences and finding other accommodation for 1,844, social and cultural activities in British Council centres for 5,504 and vacation and week-end courses and day study visits for 7,504. (R. F. Am.)

BRITISH EAST AFRICA: *see* British Somaliland; East Africa High Commission; Kenya; Tanganyika; Uganda; Zanzibar.

BRITISH EMPIRE: *see* Commonwealth of Nations.

BRITISH GUIANA. British colony on the northeast of South America between Venezuela, Brazil and Surinam. Area: *c.* 83,000 sq.mi. Pop.: (1946 census) 375,701, incl. 16,322 Amerindians, 143,385 Negroes and 163,434 East Indians; (1951 est.) 431,000. Language: English; various East Indian languages. Religion: Christian (60%); Hindu (30%); Moslem (8%). Principal towns (pop., 1950 est.): Georgetown (cap., 84,794); New Amsterdam (11,812). Administration: governor; executive council, 3 *ex-officio* and 5 unofficial members, legislative council, 3 *ex-officio*, 7 nominated unofficial and 14 elected members Governor, Sir Charles Woolley.

History. Final details of the new constitution, which brought British Guiana into line with the more advanced British Caribbean colonies, were disclosed in 1952. It was expected that general elections with full adult suffrage would be held in the first half of 1953 The list of voters was prepared. The legislature voted in favour of participation in a West Indian customs union, but rejected on principle the proposals for a British West Indian federal government.

The report of a committee appointed to enquire into the cost of primary education aroused great interest. Two recommendations—that the school entry age be raised from five to six and that a double shift system be introduced to make the maximum use of available resources—met with strenuous criticism.

Both sugar and rice production increased in comparison with the previous year's. The government announced the formation of a company with authorized capital of 10 million Caribbean dollars for further development of the rice industry. Production of bauxite, gold and diamonds also rose. A large-scale water control scheme gave security to coastland farmers in a district of growing commercial importance. A preliminary mission of the International Bank for Reconstruction and Development visited the colony. A full-scale mission was expected to follow it.

Education. Schools (1951) primary 279, pupils 77,907, government secondary 2 (other secondary schools are run by the churches or privately), technical schools 2. Government training college *c* 40 students Expenditure on elementary education $2,274,875

Finance and Trade. Budget (1952 est.) revenue $25,586,402, expenditure $25,297,994, excl. colonial development funds Foreign trade (1951) imports $65,000,000; exports incl re-exports $58,560,024. Principal exports sugar, bauxite, rum, rice, diamonds, timber, balata Production: Sugar crop (1952) 217,306 tons; bauxite (1951) 2,002,744 tons. Monetary unit: British Caribbean dollar, $4 80 = £1

(P. H.-M.)

BRITISH HONDURAS. British colony in Central America bounded by Mexico and Guatemala. Area: 8,866 sq.mi. Pop.: (1946 census) 59,220, incl. 10,030 Amerindians; (1951 est.) 69,644. Language: English; Spanish and Indian dialects. Religion: mainly Roman Catholic. Chief towns (pop., 1946): Belize (cap., 21,886), Stann Creek (3,414). Administration: governor; executive council, 3 *ex-officio* and

4 appointed unofficial members, legislative council, 3 *ex-officio* and 4 nominated and 6 elected unofficial members. Governors (1952): Sir Ronald Garvey and (from Oct 20) Patrick Renison.

History. In 1952 the postwar development programme entered a further stage with a grant of another £800,000 from funds established under the Colonial Development and Welfare acts. This was mainly earmarked for agricultural development following the opening up of the country by the construction of feeder roads during the first phase of the development programme The Stann Creek district now had land communication with the capital. There was considerable citrus development in this district; citrus exports from the colony reached a value of $731,916 in 1951, an increase of over $200,000 from the previous year

The Colonial Development corporation's project for growing ramie fibre in the Western district seemed promising In the Stann Creek valley, the corporation had 1,800 ac. under bananas and regular monthly shipments were being made to the United Kingdom. The corporation livestock project proved disappointing and it was decided to abandon it. Private cattle owners in the area were considering a pilot scheme to replace the stock farm which had been established by the corporation. The corporation's Fort George hotel was completed at the end of 1952

In June the legislative council decided that the colony was not prepared to commit itself on a West Indian federation and expressed the view that public feeling in the colony was against it. In July proposals for a new constitution were passed by the legislative council and forwarded to the secretary of state for the colonies. They included universal adult suffrage and an elected majority on the legislative council.

Education. Grant-aided primary schools 92 (incl 65 controlled by Jesuit mission), pupils 9,888, secondary schools 5, pupils 1,685, one technical high school

Finance and Trade. Monetary unit British Honduras dollar ($4 = £1) Budget (1952 est.) revenue $5,028,935; expenditure $5,094,101 Foreign trade (1951) imports $12,407,332, exports $6,234,131 Principal exports timber, coconuts, chicle and grapefruit (P. H.-M.)

See Stephen L. Caiger, *British Honduras* (London, 1952)

BRITISH LEGION: *see* EX-SERVICEMEN'S ORGANIZATIONS.

BRITISH SOMALILAND. Protectorate in east Africa bounded N. by Gulf of Aden and French Somaliland, W. and S. by Ethiopia and E. by Italian Somaliland. Area: *c.* 68,000 sq.mi. Pop.: (1937 est.) 344,700, (1952 est.) 500,000-700,000; of northeastern Hamitic stock with Arab, etc., admixture. Language: Galla derivative with Arabic admixture: script is Arabic variant. Religion: Moslem (Sunni). Chief towns (pop. 1952 est.): Hargeisa (cap., 30,000), Berbera (port, 15,000 [hot season]—30,000 [cold season]). Administration by a governor. Governor, Sir Gerald Reece.

History. An investigation into irrigation possibilities in 1951 had been sufficiently encouraging to justify a Colonial Development and Welfare grant being made for a hydrological survey being planned in 1952. The establishment of local government had been started in 1951, and there were 130 local authorities, as well as district advisory councils and welfare committees, in operation in 1952. Inter-tribal raiding over the Ogaden frontier had, however, not entirely ceased. (K. G. B.)

Education. Primary schools (1951) 50, pupils 2,251, also government-aided Koranic schools

Finance and Trade. Monetary unit East African shilling (20s = £1 sterling) Budget (1952 est.) revenue £1,227,652 (incl £599,427 grant-in-aid), expenditure £1,227,652 Foreign trade (1951) imports £1,635,656; exports £894,422. Principal exports, hides, skins, gums, livestock and ghee. Livestock (million head, 1951 est.) camels 1·5—2·5, sheep and goats 5—13, cattle ·26—·5.

BRITISH SOUTH AFRICAN TERRITORIES. Basutoland (colony), Bechuanaland Protectorate and Swaziland (protectorate), generally referred to as the High Commission Territories in South Africa.

	Area (sq mi.)	*Population* (1946 census)	*Capita* (with approx pop.)
Basutoland	11,716	556,390	Maseru (3,400)
Bechuanaland	*c* 275,000	293,920	*
Swaziland	6,704	184,473	Mbabane (1,600)

* Admin. H.Q. are in special reserve at Mafeking, Cape Province, Union of South Africa

Administration: high commissioner (who is also U.K. high commissioner in the Union of South Africa) responsible to the secretary of state for commonwealth relations; resident commissioners. High commissioner, Sir John Le Rougetel. Resident commissioners: (Basutoland) E. P. Arrowsmith; (Bechuanaland) E. B. Beetham; (Swaziland) D. L. Morgan.

Basutoland. Revenue rose in 1952, thanks mainly to relaxation of the import restrictions previously imposed by the government of the Union of South Africa to improve the balance of external payments But the steady rise in prices raised the cost of administration and absorbed the additional revenue.

The aerial survey of the colony was continued, but its completion was delayed by unforeseen difficulties in the ground control triangulation which lacked reliable Basuto heliograph operators. The report was published of a unique agricultural survey by A. J. A. Douglas and R. K. Tennant of the administration, which set out to measure actual and potential production on typical holdings

Work proceeded slowly on the construction of the new mountain motor road into the heart of Basutoland, from Maseru to Marakabei and Ntatoes.

The first trade union was registered officially; this was the Basutoland Typographical Workers' union which organized men employed by the mission printing presses

Bechuanaland. It was announced in March in both houses of parliament at Westminster that the previous refusal to recognize Seretse Khama as chief of the Bamangwato was permanent and final, and that he could not return from exile until a new chief had been firmly established The Marquess of Salisbury, the secretary of state for commonwealth relations, later received in London a delegation from the tribe, but refused to alter his decision. Unrest continued in the territory and on June 1 serious disturbances broke out: police reinforcements were sent to the affected areas. In the riots three African policemen were killed and several officials and police injured Later 26 tribesmen and 10 women were put on trial for murder and public violence The banishment order against Tshekedi Khama, former regent of the tribe, was subsequently withdrawn and he returned as a private individual.

Swaziland. The drought which afflicted southern Africa reduced maize yields in the protectorate considerably. In view of the increasing consumption of maize the administration was greatly concerned at the prospect of a shortage later in the season, especially in the low-veld areas, and plans were considered to meet the situation. The banana plantations at Kubuta began production and exports increased steadily. Agricultural exports generally were some 50% more than in the previous year, despite the drought, and further increase was expected.

The presence of zinc, suspected for some time, was confirmed. It was found as zinc sulphide in association with barytes. If the latter deposit were to be mined, zinc could be extracted as a by-product. Geological mapping continued, the area mapped reaching almost 40% of the whole territory

A loan of £44,000 was raised to buy heavy road plant to meet the most pressing demands for road construction.

A new European primary school was built at the headquarters of the Usutu forests project. (J. LN.)

Education. Schools, with the numbers attending in brackets, were in 1951

	Primary	Secondary and Post-primary	European
Basutoland	889 (88,247)	10 (1,151)	7 (128)
Bechuanaland	143 (17,462)	4 (160)	10 (260)
Swaziland	207 (15,035)	13 (416)	11 (705)

A small private university from which students took external degrees of the University of South Africa was maintained by the Roman Catholic mission at Roma, Basutoland

Finance and Trade. Monetary unit. South African pound (£SA1 = £1 sterling).

	Budget est., 1952-53		Foreign trade, 1951	
	Revenue	Expenditure*	Imports	Exports
Basutoland	1,117,087	1,147,214	£2,836,059	£2,752,054
Bechuanaland	699,352	768,889	£1,674,372	£2,153,365
Swaziland	620,600	614,747	£1,878,984	£2,639,765

* Excluding Colonial Development fund expenditure estimated for the year at Basutoland £129,235, Bechuanaland £167,746 and Swaziland £142,074 Deficits to be met from accumulated surpluses

Principal exports (Basutoland) livestock, grain, wool, hides and skins, (Bechuanaland) beans, dairy produce, livestock, hides and skins, gold, (Swaziland) livestock, tobacco, asbestos (34,964 short tons in 1951), gold, groundnuts, tung oil

See G. M. Tylden, *The Rise of the Basuto* (Capetown, 1950), Hugh Ashton, *The Basuto* (London, 1952); A. Sillery, *The Bechuanaland Protectorate* (Capetown, 1952)

BRITISH WEST AFRICA: *see* GAMBIA; GOLD COAST; NIGERIA; SIERRA LEONE.

BRITISH WEST INDIES. Under this heading are treated matters of common concern to the island colonies of Jamaica, the Leeward Islands, the four Windward Island colonies (Grenada, St. Vincent, St. Lucia and Dominica), Trinidad and Tobago, and Barbados, and the mainland colonies of British Guiana and British Honduras. Total area: *c.* 100,000 sq.mi. Population (1951): *c.* 3,177,000. (*See* also articles on the individual colonies and CARIBBEAN COMMISSION.)

History. The possible establishment of a federation which should include all the scattered colonies of the British West Indies and the two mainland territories of British Guiana and British Honduras continued to be widely, and sometimes hotly, debated during 1952. The basis of the plan remained the report of the Standing Closer association committee, which was set up by the Montego Bay conference of 1947 and which drew up a draft scheme for a federal government on the Australian model.

In November, an invitation was issued by the secretary of state for the colonies to all the British Caribbean colonies to attend a conference to be held in London in March or April 1953 at which the question should be further discussed. By the end of the year, the invitation had been accepted by Jamaica, Trinidad, the Leeward Islands and the four colonies of the Windward Islands. The two mainland colonies of British Guiana and British Honduras, which had already made it plain (British Honduras less formally than British Guiana) that they did not intend to join the federation if it was formed, had declined. Barbados had not replied.

Meanwhile, in default of any federal structure, the Development and Welfare organization, with headquarters in Barbados, continued to act as a focal point for conferences and other activities of regional character. But the coming into full operation during the year of the Regional Economic Committee and the establishment of a trade commissioner service in the United Kingdom, both of which were recommended by the Montego Bay conference, were perhaps the most important concrete developments in West Indian regional co-operation.

Constitutional developments in various colonies are recorded in the individual articles. Here may be mentioned the important step forward made by British Guiana, which, with the grant of adult suffrage, took its place alongside its more politically advanced neighbours. While the basic economy of all the colonies remained agricultural, some significant developments towards greater industrialization occurred—notably in Jamaica (bauxite mining, cement manufacturing, etc.) and Trinidad. (P. H.-M.)

BROADCASTING. Major trends during 1952 were more noticeable in international than in domestic broadcasting. Jamming, and efforts to overcome it, became an accepted feature of the European scene. To the jamming of Russian and Polish broadcasts from western countries was added the jamming of transmissions in Finnish, Hungarian, Rumanian and Albanian broadcast by the British Broadcasting corporation. Broadcasts in satellite countries' languages from Rome, Athens and Canada and by the Voice of America were also heavily jammed. For the first time the satellite radio organizations themselves took an active part in the jamming campaign, though they were not as efficient as jamming stations inside the U.S.S.R. There was ample evidence from the target areas to show that although jamming was a deterrent and handicapped audibility it did not blot out the transmissions for any substantial period of time. Many thousands of refugees from eastern Europe confirmed that the western programmes were listened to, and continued Communist press and radio attacks on western broadcasts (mainly aimed at the V.O.A. and the B.B.C.) confirmed that the shafts got home.

International broadcasting on short waves continued to expand in spite of overcrowding of the wavebands. The U.S.S.R. and its satellites increased their output considerably, in particular to western and southern Europe and to Scandinavia; their group output totalled nearly 1,200 hr. a week in about 40 languages. At the same time Communist China expanded its external services, mainly to far eastern areas. Among western organizations the most notable expansion was that of Radio Free Europe, the privately sponsored U.S. station, which reached a total of 400 hr. weekly, mainly in Czech, Hungarian and Polish. The Voice of America also expanded during 1952 and brought into service the ship "Courier", a sea-going radio station which began transmissions from an anchorage in the eastern Mediterranean The B.B.C. was obliged by government economy to reduce its external services for the third year in succession. Italy's external broadcasting system continued to expand and reached the first half-dozen among some 60 territories and organizations engaged in international short-wave broadcasting. Others who expanded their services during the year were Argentina and Australia. An interesting newcomer to the field was Syria. A programme in Ukranian was added to the Canadian service.

Great Britain. In 1952 the B.B.C.'s charter was renewed for a further ten years, but only after modifications which were the subject of lively debate in the newspapers as well as in both houses of parliament. The government set out its proposals in May in a white paper, the main points of which were that the B.B.C. should remain the sole custodian of British sound broadcasting but that the way should be opened for the setting up at a later date of a competitive television service, presumably financed by commercial advertising; at the same time the broadcasting councils were to be modified to give greater regional autonomy and the number of governors was to be increased from seven to nine, of whom three would be national governors for Scotland, Wales and Northern Ireland. It was also proposed that the governors should no longer be appointed by order in council but by a committee consisting of the speaker of the House of Commons, the prime minister, the

leader of the opposition, the lord chief justice of England and the lord president of the Court of Sessions of Scotland. This last proposal was ultimately dropped, but the remaining innovations were incorporated in the new charter and licence granted from July 1.

After eight years as director-general of the B.B.C., Sir William Haley (*q.v.*) resigned on Sept. 30 to become the editor of *The Times*. For a brief interregnum B. E. Nicolls, director of home sound broadcasting, held office as acting director-general until the appointment of Lieut.-General Sir Ian Jacob, who took up his duties on Dec. 1.

Among the year's notable broadcasts, listeners were given vivid sound pictures of the lying-in-state and funeral of George VI and the proclamation of Elizabeth II. Winston Churchill's tribute at the time of the king's death was regarded as one of his finest broadcasts.

The progress of the Olympic Games at Helsinki was fully reported, and the home service started an important drama series in the autumn called " The English Theatre ", covering the previous 50 years. Works of Vaughan Williams, whose 80th birthday fell on October 12, figured prominently in the first programme on Oct. 15 of the 1952-53 season of B.B.C. symphony concerts. Professor Arnold Toynbee gave the 1952 Reith lectures, on " The World and the West "; Bertrand Russell gave a notable series of " Portraits from Memory ".

The Light programme started a series of specially written radio plays and broadcast a number of others chosen by star performers. Edward Ward gave personal reports of what he saw in Egypt in September and of current aspects of life in Britain. Edgar Lustgarten's " Prisoner at the Bar " crime series was an exceptional solo presentation.

In the Third programme a complete cycle of " The Ring ", with *Parsifal* and *Die Meistersinger*, was broadcast from Bayreuth, and the first world performance of Richard Strauss's *Die Liebe der Danae* came from Salzburg. At least one full-length opera was broadcast each week and chief of these was the Covent Garden presentation of Alban Berg's *Wozzeck*. A full-scale study of Arnold Schoenberg included many concerts and talks. Important series of talks included those on British foreign policy, comparative law, Islam, partnership in Africa, " Research for Survival " (a series on food), Isaiah Berlin on " Freedom and its Betrayal " and George Rylands' illustrated series on " Reading Poetry Aloud ". Thomas Mann and Pablo Casals gave notable talks on " The Artist and Society ". John Lehmann's monthly literary miscellany, " New Soundings ", designed to provide an outlet for new writers, made an encouraging start. Reading from *The Faerie Queene* and several talks marked the fourth centenary of Edmund Spenser's birth.



Recipients of two of the " Daily Mail " radio awards. Left to right, Wilfred Pickles, and the stars of " Take It From Here ", Dick Bentley, Sally Rogers (deputizing for Joy Nichols) and Jimmy Edwards. They are holding their prizes, silver microphones.

To improve reception of home service programmes, a new transmitting station was opened near Barnstaple, north Devon, on March 9. The B.B.C.'s largest studio, Maida Vale No. 1, came back into service early in the year after acoustic retreatment. The results improved the quality of orchestral and choral broadcasts. The Swansea studio centre, destroyed during World War II, was reinstated and thus placed modern studio facilities at the disposal of the west Wales area. Schools Broadcasting department moved into new premises equipped with five modern studio suites, near Broadcasting house, London.

Europe. In western Europe, particularly in western Germany, there was intensive development of very high frequency broadcasting for domestic services. Nordwestdeutscher Rundfunk alone operated 22 V.H.F. stations in northwest Germany. This development was due partly to the inadequate reception afforded by medium-wave transmitters in western Germany and partly to the operation of high-powered medium-wave transmitters on neighbouring channels in eastern Germany.

In France a new station was opened at Sélestat, near Strasbourg, in September to improve reception on domestic programmes. It consisted of three medium-wave transmitters each of 100 kw. In October a new long-wave transmitter of 250 kw. was opened at Allouis. A large site was purchased in Paris, near Passy, for the new headquarters of Radiodiffusion et Télévision Françaises. The building was expected to be finished in about five years.

The third general assembly of the European Broadcasting union was held in Lugano in October. Georges Conus of Switzerland was elected president. Representatives of west German broadcasting stations, associated together for the purpose, attended as members for the first time.

Commonwealth. An amendment to the Canadian Broadcasting act, providing for fixed annual government grants for five years to the publicly owned Canadian Broadcasting corporation, made it possible to improve and extend the national service. Among technical improvements was the installation of 20 low-power relay transmitters to operate automatically with the network lines in thinly populated parts of Canada. Plans were made to extend the C.B.C. French network to serve the French-speaking population of western Canada. Previously the French network had been limited to the predominantly French-speaking province of Quebec. C.B.C. marked the tenth anniversary of the most extensive school broadcasting system in the world by a further increase in the number of schools served throughout Canada.

A conference of Commonwealth broadcasting officials was held in London during the summer. Agreement was reached on a number of contractual, copyright and legal problems and steps were taken to increase the effectiveness of Commonwealth external broadcasts by the closer co-ordination of schedules.

The South African Broadcasting corporation announced in July plans to build a new station near Bloemfontein. The station, equipped with 15 transmitters, would aim at providing better reception in smaller towns and rural areas throughout South Africa.

There were a number of important developments in the

British colonies. In east Africa plans were made to establish a new short-wave national service for Uganda as well as a medium-wave service for Kampala. In Kenya, Tanganyika and Northern Rhodesia programmes for Africans were expanded. Two new provincial networks started operation in Nigeria to supplement the output of the national transmitter at Lagos When broadcasting development was completed in this colony approximately 370,000 sq mi and a population of 25 million would be covered. In southeast Asia a plan to provide Sarawak with its own short- and medium-wave networks was adopted A similar broadcasting plan for North Borneo was approved Experimental transmissions started in September on a 10-kw medium-wave station at Nicosia in Cyprus B B.C programme and technical staff arrived in British Honduras towards the end of the year to establish new medium- and short-wave networks covering the territory. A 5-kw. short-wave transmitter was sent to the Falkland Islands.

Listening in the British colonies increased as broadcasting development took place. The total number of listeners was estimated in June at 3 million (G. WR.)

United States. There were about 105 3 million receiving sets in the United States in 1952, a gain of about 1 million since the end of 1951 The A. C Nielsen company research organization reported that the number of homes with radio receivers had reached 43,866,120, or 98% of all homes in the nation This compared with 40,970,000 reported in 1950.

Records of the Federal Communications commission showed 3,302 broadcasting stations authorized by Oct 1952 This figure, which included amplitude modulation (AM), frequency modulation (FM) and television stations, may be compared with 3,161 the year before The number of stations actually on the air in Oct 1952 was a record 3,101, as against 3,083 at the end of 1951. The number of AM stations was 2,474, of these, 2,355 were in operation. At the end of 1951 the AM total had been 2,406, of which 2,295 were operating. The FM station total went up for the first time in several years, rising from 648 to 655, of which 635 were in operation.

The important FM development, transit radio, the broadcasting of specialized programmes (usually music and news) to receivers installed on streetcars and buses, received encouragement from the U S Supreme court in May 1952 The court overruled a lower tribunal's decision that transit radio's " commercials and announcements " deprive " objecting passengers of liberty without due process of law " and, accordingly, are unconstitutional. The Supreme court decision adopted on a 7 to 1 vote said that " neither the operation of the service nor the action of the [Public Utilities] Commission permitting its operation is precluded by the Constitution."

But, although transit radio won a substantial victory in the court, its status at the F.C C remained somewhat cloudy, along with that of other special FM services which employ a " beep " signal for switching voice programming. These functional services requested the F.C.C to conduct a hearing and settle the issue on an industry-wide basis.

The year 1951 was a record one in time sales, total radio (AM-FM) revenues of networks and stations reaching a record of $450,400,000, a gain of 1 3% over 1950 totals. Net income (before federal income tax), however, dropped 15·7% to a total of $57 5 million.

Counting $235 7 million in TV revenues, total broadcast receipts amounted to $686 1 million in 1951 as against $550 4 million in 1950. This represented a gain of 24 7%. Revenues from the sale of network time were over 7 2% with a total of $122,034,000. Sales of non-network time to national and regional advertisers accounted for $119,559,000 (a gain of 0 6% over 1950), while sales to local advertisers gained 5 6%, reaching a total of $214,519,000. It was the first time that sales of non-network time to national and regional advertisers had exceeded nation-wide network time sales. The F.C.C reported that the average AM station built before World War II received almost $300,000 in total revenues in 1951 and, out of this, earned a profit of slightly more than $50,000 before federal income tax The average station built since World War II, but not counting those in operation less than two years, received almost $100,000 in revenues and earned a profit of approximately $7,500 One-half of all radio stations, the F.C.C. said, had total revenues of less than $100,000 A total of 519, or 24%, of the almost 2,200 reporting AM stations indicated that they lost in 1951. These represented the smallest proportion of AM losers since 1946, when the postwar boom in station construction got under way For the first time the proportion of AM losers was greater in cities with television stations than in non-television markets

FM station operation continued in 1951 to be generally unprofitable. The F C C. reported, for example, that of the 66 independently operated FM stations 60 experienced losses.

The development of new radio shows to compete with the attraction of television continued in 1952 There also was increased interest, among broadcasters, in lower-cost shows. Music and news remained highly attractive.

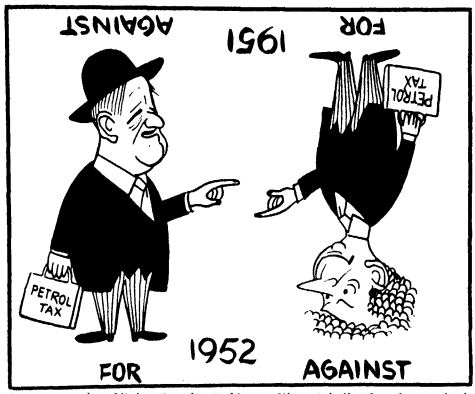
The fact that 1952 was a presidential election year left a clear imprint upon the planning of radio programmes. In addition to the politicians' heavy reliance upon radio and television as a campaign tool, radio and television won high praise for their coverage of the Republican and Democratic presidential nominating conventions in July, their reporting of the preconvention campaigns of the principal candidates and the campaigns of the nominees afterwards, and for coverage of the returns of the voting The first major revision of the fundamental law governing radio, the Communications act of 1934, was passed by congress in early July and subsequently signed into law by President Harry S Truman. Known as the McFarland bill after its sponsor, Senator E. W McFarland, the new law dealt largely with administrative operations of the F.C.C. Among the provisions directly affecting broadcasters was one prohibiting stations to charge political candidates higher rates than " the charges made for comparable use of such station for other purposes " (*See* also RADIO, SCIENTIFIC DEVELOPMENTS IN, TELEVISION.)

(R. W. CR., S. TF)

BRUNEI: *see* BRITISH BORNEO

BUDGET, NATIONAL In 1952, as defence expenditure rose, almost without exception national budget figures reached their highest level in the postwar period, even though the increases reflected to a large extent further rises in prices. In most countries the rearmament effort, although not substantial as compared with the amounts spent on World War II, found the national finances already dangerously strained. This was because the range of functions performed by the governments had substantially expanded and hence government expenditure had been consistently well above prewar levels. Almost all national budgets included greatly increased social budgets. Also, most governments were making a larger provision than before for capital investments. In order to obtain the necessary revenue, taxation was generally at a level not substantially below that applied during the war.

The superimposition of rearmament expenditure on an increasing scale on this basically strained position induced many countries to cease to rely solely on budgetary policy to control expenditure and to resuscitate at least to some extent the weapons of monetary policy in order to combat inflation by increasing interest rates, and restricting capital



A cartoon by Vicky in the "News Chronicle" (London) which appeared in May during the debates on the Finance bill.

expenditure and credit in general. This policy, which had already been practised in the year after the outbreak of war in Korea by some European countries, *e.g.*, Belgium and the German Federal Republic, was applied during 1952 by, for example, the Conservative chancellor of the exchequer in Britain. Finance ministers were unwilling, however, to introduce too severe budgets which might increase unemployment. Consequently, for example, the British chancellor thought it essential to increase certain welfare benefits and to modify the tax structure, at the same time as he reduced the food subsidies. In this case the emphasis was placed on providing a framework within which incentives for higher production could act more effectively. In Australia as well an incentive budget was introduced.

In all countries engaged on rearmament there had been difficulty in carrying through the programmes originally envisaged and, if the amounts to be spent had not actually been reduced, the programmes in several instances had been spread over an increased number of years. Most countries in 1952-53 would be spending more on defence than in the previous year but when account is taken of a higher price level, the increases in real terms cannot be considered exceptionally large. Perhaps the greatest difficulty in meeting the planned rearmament programme was being experienced in France; the war in Indochina still imposed a heavy burden and it was the "Pinay experiment" of strict government economy and measures to reduce prices, which permitted at least the strenuous attempts to realize this programme.

Despite increased defence commitments and the need to avoid further recession, however, some countries were able to plan for a surplus in 1952-53. Among these were Great Britain, New Zealand, South Africa, Pakistan, Belgium, Portugal, Denmark and Sweden. Countries expecting a deficit were Canada, India, France, the Netherlands, Spain and Italy. It was noteworthy, however, that even in those countries where the budget provided a surplus, this was not achieved through a reduction in government expenditure but through the buoyancy of the revenue. Rising prices and incomes led of course to higher tax yields, although with some time-lags; although taxation remained at a high level, on the whole tax rates were not raised further.

Great Britain. The chancellor of the exchequer, after having increased the bank rate to 2½% and introduced various measures of credit and capital control in November, brought in his budget in March and simultaneously increased the bank rate to 4%. In the budget, the food subsidies were reduced by £160 million to £250 million (which to some extent was compensated for by an increase in pensions, insurance benefits and family allowances) and the petrol tax was increased. Other measures included the imposition of an excess profits levy and a raising of the starting-point of income tax. There was also a change in the system of purchase tax by the introduction of the so-called D scheme under which clothing and textiles, for example, were free of tax so long as their wholesale price did not exceed a certain datum limit. Above this limit the excess of the price would attract the purchase tax. On the expenditure side, defence expenditure increased by £256 million. The net result of these changes was expected to be a surplus of the order of £500 million (which would virtually disappear when capital expenditure was taken into account) assuming total ordinary revenue of £4,661 million in 1952-53 as against £4,433 in 1951-52, and expenditure of £4,150 as against £4,054 in 1951-52. Results of the revenue returns for the first nine months of the fiscal year showed, however, a serious budget shortfall. It was estimated that the true shortfall, taking into account both above and below the line accounts and other factors, was of the order of £500 million, although official expectation was that revenue receipts in the last quarter would to a large extent permit the realization of the budget expectations.

Commonwealth. *Australia.* The government produced a balanced budget at a level of £A960 million as against a surplus of £A99 million in 1951 which had been used to finance public works of the states. The basic trouble of Australia was the serious loss of export income arising from the drop of wool prices and a high cost price structure built up during the years of prosperity. The budget proposed some reductions in taxation to prevent too sharp a contraction in business activity. Compared with 1951-52 there was to be an increase of expenditure of £A56 million (of which £A36 million represented defence and war allocations), and a decrease of revenue of £A42 million.

New Zealand. The finance minister was able to announce a surplus of £NZ2·75 million and again granted an income tax bonus. Among the main tax revisions, expected to cost £NZ8 million in a full year, was a reduction in surtax from 10% to 5%. Out of a total expenditure of £NZ167 million, public works received £NZ57 million, defence £NZ25 million and subsidies £NZ16 million.

Canada. The budget provided for a revenue of $4,279 million ($4,003 million in 1951-52) and an expenditure of $4,336 million ($3,647 million in 1951-52), thus expecting a deficit of $57 million. There was a slight increase in direct taxation and some cuts in taxes on luxury foods and tobacco. The 20% defence surtax was to be incorporated in the personal tax schedules. On the expenditure side, national defence, defence production and civil defence accounted for $2,106 million, as compared with an estimated $1,728 million for 1951-52.

South Africa. The government, believing that its financial position was relatively sound, was content to raise the bank rate from 3½% to 4%. In addition it aimed at a small surplus of £SA1·4 million above expenditure of £SA205·9 million by accelerating the collection of £SA12 million in income-tax areas and levying new taxes amounting to £SA11 million.

India. There was again a large budgetary deficit of Rs.760 million due to payments from the capital budget totalling Rs.800 million. Despite this, no changes in revenue duties or taxation were announced although food subsidies were reduced from Rs. 250 million in the February budget to Rs.150 million in May. Defence expenditure was again high and at Rs.1,980 million it represented 40% of total payments.

Pakistan. The budget again revealed a determined attempt to maintain disbursements within the limit set by income.

It was expected that a gross surplus of Rs. 78 4 million would be produced, although this would be reduced after making provision for agricultural and other developments. Defence accounted for Rs. 677 million, *i.e.*, 51% of total expenditure.

Europe. *France.* Various French governments found great difficulty in presenting an acceptable budget. Although first introduced in January, an amended budget for 1952 accepting the existing levels of taxation was not passed until April. The 1952 budget was over one-third larger than that for 1951. The weakness of the French position may be explained by the fact that military expenditure claimed a greatly increased proportion, about one-third of the total. The budget for 1953, presented to the National Assembly in Nov. 1952, showed further increases in expenditure to Fr. 3,842,000 million as against Fr. 3,798,000 million in 1952. It was proposed that about Fr. 3,000,000 million would be financed by taxation and other fiscal resources, Fr. 600,000 million by loans and various forms of borrowing, Fr. 175,000 million by U.S. aid, Fr. 15,000 million by a number of small factors and Fr. 54,000 million by further economies. Of the total expenditure, national defence absorbed nearly one-third. It proposed no increase in taxation. The success of government borrowing in 1952 induced the Pinay government to regard the borrowing capacity of the government as a more permanent factor in future budgeting. The fall of the Pinay government left France once more without an approved budget

Belgium. The government in recent years had budgeted for a surplus in the ordinary account, but had met most of the net extraordinary expenditure (including the bulk of defence expenditure) out of borrowed funds. In the budget for 1952 ordinary revenue was estimated at B.Fr. 70,000 million as against B.Fr. 73,400 million in 1951, and expenditure at B.Fr. 69,600 million as against B.Fr. 67,300 million in 1951. Extraordinary expenditure had increased to B.Fr. 19,900 million from B.Fr. 18,700 million in 1951. Defence expenditure at B.Fr. 20,000 million was three times as high as in 1950.

In the Netherlands, although defence expenditure rose to Gl. 1,241 million from Gl. 1,154 million in 1951, other items of expenditure, *e.g.*, net agricultural subsidy payments, were declining and consequently budgeted current expenditure at Gl. 4,407 million was below that of Gl. 4,747 million in 1951. Current revenue also declined to Gl. 4,711 million from Gl. 4,898 million.

German Federal Republic. The federal budget (the bulk of which was spent on social charges, including payments to war victims and unemployed, and on occupation costs) showed a deficit of DM. 373 million for 1951-52. The forecasts for 1952-53 showed revenue of DM. 19,500 million as against expenditure of DM. 21,800 million; *i.e.*, a deficit of DM. 2,300 million, to be reduced further by a proposed 40% allocation of the yield of the income tax to the central government instead of the existing 27%. The equalization of the war burden, approved by the Bundestag in May, and the settlement of the Federal Republic's foreign indebtedness would involve however further fiscal charges. Lastly, there was the question of the republic's contribution to European defence which would eventually increase federal expenditure

Italy. Defence expenditure rose from L. 372,000 million in 1950-51 to an estimated figure of L. 465,000 million for 1952-53. On the other hand the fiscal reform introduced in Oct. 1951, under which income tax assessment was based for the first time on returns filed by the tax payer, proved more successful than was expected. Latest budget estimates for 1952-53 still showed a deficit of L. 548,000 million (or including counterpart funds L. 428,000 million) while expenditure was budgeted for 1952-53 at a level of L. 2,132,000 million.

Scandinavia. In Denmark it was estimated that defence expenditure in 1952-53 would rise from D.Kr. 600 million to D.Kr. 900 million, appropriations for civil purposes also rose, but the tax-yield was expected to be higher as a result of the raising of the rates of the special defence tax and higher national income. It was therefore expected that the budget would balance at D.Kr. 3,460 million.

Estimates for Norway in 1952-53 showed higher levels of both revenue and expenditure; they also continued to show a surplus, although net outlay for government investment was also covered by current expenditure. The same applied to Sweden where the budget for 1952-53, in spite of an increase on defence expenditure from S.Kr 970 million in 1949-50 to S.Kr. 1,500 million in 1952-53, showed a substantial surplus. Tax revenue continued to prove buoyant and allowed the finance minister in April 1952 to adjust the tax burden a little by a reduction in the rates of income and capital taxes. Sweden's policy was characterized by reinforcement of credit restrictions combined with continued budgeting for a surplus. As an entirely novel measure a temporary 10% capital investment tax on investments from business profits had been imposed from Jan. 1, 1952, as a means of restraining private investment. (L. Rs.)

United States. In a statement dated Aug. 19, 1952, President Harry S. Truman reviewed the changes in the budget of the United States for the fiscal year ending June 30, 1953, which had taken place since its original transmission to congress the previous January. Budget expenditures for fiscal 1953 were estimated at $79,000 million which was $6,400 million below the total submitted in Jan. 1952. Budget receipts were estimated at $68,700 million, down $2,300 million from the January estimate. On the basis of these revised figures, a budget deficit of $10,300 million was expected for the fiscal year 1953—$4,100 million lower than the figure in the original budget message. In the fiscal year 1952 there was a

UNITED STATES BUDGETS, FISCAL YEARS 1951-53
(in $ million)

	Actual 1951	Actual 1952	Estimate 1953
Receipts			
Direct taxes, individuals	24,095	30,713	33,542
Direct taxes, corporations	14,388	21,467	24,800
Excise taxes	8,693	8,893	9,624
Employment taxes	3,940	4,573	4,678
Customs	624	550	550
Miscellaneous	1,629	1,803	1,750
Deduct			
Old-age and survivors insurance trust fund	3,120	3,569	3,708
Refunds (excl interest)	2,107	2,302	2,500
	48,143	62,128	68,736
Expenditure			
Military services	21,387	41,253	52,868
Veterans' services and benefits	5,339	4,821	4,479
International security and foreign relations	3,802	2,829	2,376
Social security, welfare and health	2,380	2,603	2,667
Housing, community development	602	786	657
Education and general research	115	179	263
Agriculture	650	1,042	1,804
Natural resources	2,051	2,938	3,644
Transportation; communication	1,685	2,017	1,863
Finance, commerce and industry	176	170	375
Labour	228	244	248
General government	1,209	1,323	1,253
Interest	5,714	5,940	6,431
Reserve for contingencies	—	—	100
Adjustment	705	—	—
	44,633	66,145	79,028
Surplus	3,510	—	—
Deficit	—	4,017	10,292

Detail will not necessarily add to total because of rounding

budget deficit of $4,000 million; in the previous year there had been a surplus of $3,500 million.

The revised expenditure total for fiscal 1953 represented an increase of about $13,000 million over fiscal 1952 and of about $39,000 million over fiscal 1950, the last full year before the outbreak of the Korean conflict. The revised estimate of budget receipts for 1953 was $6,600 million higher than actual receipts in 1952.

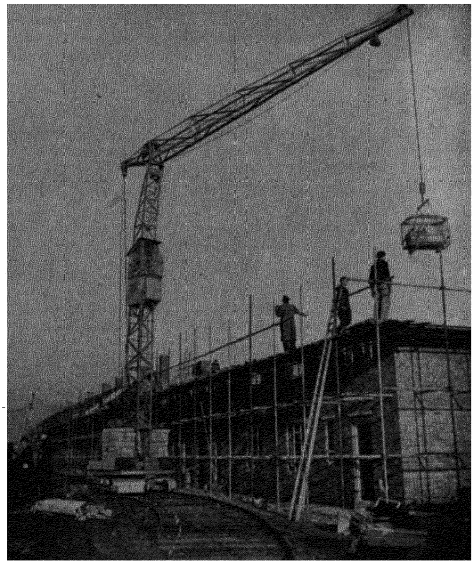
The president noted that nearly 74% of total budget expenditures in the fiscal year 1953, or $58,200 million, was earmarked for six major national security programmes—military services, international security and foreign relations, atomic energy, defence production and economic stabilization, civil defence and maritime activities.

Expenditure on military services, including foreign military assistance, was estimated at $52,900 million for the fiscal year 1953. This amount comprised two-thirds of the overall budget total. It was about $11,600 million above military outlays in fiscal 1952 and accounted for nearly all of the projected increase in the 1953 budget.

Expenditures on international security and foreign relations (excluding foreign military assistance) were estimated at $2,376 million in the fiscal year 1953 as compared with $2,829 million in fiscal 1952. Most of the reduction was for foreign economic assistance. (*See* also TAXATION; WEALTH AND INCOME, DISTRIBUTION OF.) (C. F. SZ.)

BUILDING AND CONSTRUCTION INDUSTRY. The return of a Conservative government to power towards the end of 1951 led to certain changes of policy in the building industry during 1952. There was some loosening of controls to encourage more building sponsored by private individuals as opposed to local authorities. At the same time, the shortage of certain materials, notably steel, combined with the absorption of labour by works in connection with the defence programme, resulted in a considerable slackening of progress in construction of schools and factories. A notable advance in the rate of completed dwellings was obtained, as promised by the Conservatives at the general election, but the volume of civil building as a whole declined somewhat. A good deal of interest was occasioned by the rise of self-build housing associations, groups of men having, in the main, no special knowledge of building, pooling their resources to purchase materials and setting out to build houses for themselves in their spare time. The building industry was, not unnaturally, sceptical of the scheme and concerned at the risk of wasting materials. Successful progress of a few schemes was reported but no general appraisal of their worth was possible by the end of the year.

On the side of technique, valuable progress was reported in the development of planning and construction of schools so that, in spite of the general rise in building costs, a drop of over 25% in the cost per place in new primary and secondary schools was achieved between 1945 and 1952. Various techniques using pre-cast concrete units showed considerable advancement since the early postwar period, and particular interest was shown in the application of pre-tensioning devices to cables of reinforcing wires threaded through series of pre-cast concrete units. It was felt by many that experiment along these lines offered the most promising development of constructional technique. For steelwork construction interest centred in suggestions put forward for a new basis of design known as the "collapse method". By this method, permissible loading of structures was determined not by the induced stresses calculated according to elastic theory but by taking account of the development of the plastic hinges which cause collapse of the structure by allowing a definite load-factor against the formation of these hinges. The method appeared to offer valuable opportunities for economy in the design of steel structures. New editions of *Model Byelaws* and of the *London County Council Building Byelaws* appeared in Nov. 1952 and, while both publications showed the restraint of tradition, *Model Byelaws* in particular showed signs of a new approach to the regulation of building which promised more encouragement to technical development.



A tower crane, designed to reduce building costs, in use on a housing site at Norwich in December.

In the field of organization and management, echoes of the productivity team's report of 1950 continued to be heard. The Building Apprenticeship and Training council issued a report emphasizing the need for the industry to pay more attention to the training of its future managers, and the trades unions that clamoured loudest for the nationalization of the industry were at pains to point out its deficiencies on the management side. One critic of the industry pointed out that, while building wages and materials averaged about two and a half times their 1939 value, the comparable figure for building costs was over three and a quarter times as much. there was, this critic complained, too much protection for builders who were able to pass increased costs on to building owners without any effective restraint from competition or other sources. Wages of building craftsmen and labourers continued to rise under a wage-fixing agreement based on the cost-of-living index and, although incentives payment schemes operated on all the larger sites, doubts were expressed about their effectiveness in raising production. Leading employers never ceased to urge the need to increase production and to lower building costs, and to point out that a continuance of present trends would seriously endanger not only the future of the industry but the nation's whole economy on which building was a basic charge. Towards the end of 1952, attention was directed once more to the London Builders' conference, a price-fixing organization brought into operation to counteract the effects of competitive tendering, and a special committee was appointed by independent professional bodies and public authorities to consider the activities of the conference.

With so much effort devoted to dwellings and defence it was not surprising that there was comparatively little building of architectural distinction. Interesting restoration put in hand or completed during the year included the Guildhall and Southwark cathedral in London and the Free Trade hall in Manchester, but, in new work, inspiration was to be sought in the massive structures of power stations and hydro-electric schemes. (D. A. G. R.)

United States. During the first nine months of 1952 the dollar volume of new construction in the United States, $24,242 million, was at the highest level for any comparable period on record. Private construction amounted to $16,096 million, or two-thirds of total new construction. Of this, non-farm residential accounted for one-half, non-residential building for somewhat less than one-fourth and public utilities for over one-sixth. One-third of total new construction ($8,146 million) was financed publicly during the first nine months of 1952.

Construction costs continued to move upward slowly during the first half of 1952. The Department of Commerce composite index was 4% higher both in January and in June than for the comparable months of 1951. In June the building materials wholesale price index was 2% below that of June 1951 but was 10% above the 1950 index and 16% higher than the index for June 1949

In May the National Production authority lifted bans on recreational buildings and increased permitted amounts of steel, copper and aluminium for commercial and home building. Lead, bismuth, cadmium and antimony were also decontrolled. Because of the steel strike, however, this relaxation order was rescinded in June, but was reinstated on Oct. 3, 1952, to take effect early in 1953

During the first half of 1952 building and construction provided employment for an average of 2,420,000 workers, a figure only ·5% lower than the January to June peak of the previous year. Usual seasonal variations were manifest, employment rising from 2 3 million in early months to more than 2 7 million in June 1952. In early spring construction workers were permitted wage increases of as much as 15 cents an hour by the Wage Stabilization board. Weekly earnings in June 1952 were 7% higher than in 1951.

By the end of Aug. 1952, 249 localities were approved for reservation of capital grant funds and were participating in redevelopment projects under provisions of the Housing act of 1949. A total of 96 federally aided projects in 65 communities were approved for final planning or development, as compared with 40 in 21 localities at the end of Aug. 1951.

Under the provisions of Title I, capital grants aggregating $500 million were made available to localities for the purpose of defraying up to two-thirds of the difference between cost of assembling and clearing slums and blighted areas and the fair value of the sites for approved new uses. An additional $1,000 million in loans could be used for planning, acquisition and clearance, as well as for financing land that was leased rather than sold. An act of congress approved June 3, 1952, facilitated redevelopment by making possible advance or progress payments on capital grants to local public agencies. (*See* also ARCHITECTURE; HOUSING.) (CH. RA.)

BULGARIA. People's republic in the eastern part of the Balkan peninsula, bounded N. by Rumania, W. by Yugoslavia, S. by Greece and E. by Turkey and the Black sea. Area: 42,796 sq.mi. Pop.: (1946 census) 7,022,206; (1950 est.) 7,735,000. Language (1947 est.): Bulgarian 88%, Turkish 9 8%. Religion (1947 est.): Greek Orthodox 84%, Moslem 11 5% (of whom one-sixth Pomaks, or Moslem Bulgars, remainder 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); Stalin, formerly Varna (77,792); Russe (53,420); Burgas (43,684). Chairman of the presidium of the National Assembly, General Gheorghi Damianov, prime minister, Vlko Chervenkov.

History. The year 1952 was uneventful in Bulgaria, which of all the satellite states had gone farthest along the road of stalinization, and was the most effectively concealed from the eyes of the outer world.

The number of collective farms was not apparently greatly increased. Emphasis was rather on consolidation. According to figures published by the State Planning commission in February, at the beginning of the year 53% of all peasant holdings were in collective farms, and on these collective farms 55% of the work was mechanized.

The Communist party's main instrument in the countryside remained the Agrarian union, which belonged together with the Communist party in the Fatherland front. Communist control was no less complete in the other satellite states than in Bulgaria, but it operated in a somewhat different manner In Bulgaria the Communists had found it convenient to exploit the traditional name of the Agrarian union for their purposes. This once great and popular political party was a subordinate body whose personnel and slogans were chosen by the Communists Communist agents operated in the villages not under the name of the Communist party but under that of the Agrarian union. The congress of the Agrarian union, held, Dec. 28-30, 1951, revealed clearly its real role. The leading figure in the union, Gheorghi Traikov, emphasized the union's duty to "render help to the Communist party and the Bulgarian government."

The Fatherland front had a similar but more general purpose. It was used by the Communists to attract support from wherever it could be found. Its third congress met at the end of May. At this congress its complete subordination to the Communist party was made clear in the speech delivered by Chervenkov. He stressed the front's obligation to mobilize the "broad non-party masses" behind the Communist party's leadership. The last fiction of its separate identity was abandoned when Chervenkov stated that the Front no longer had any need of a programme of its own, distinct from that of the Communist party.

There were some ministerial changes. On May 1 Vladimir Poptomov, a vice-premier, a veteran Muscovite Communist of Macedonian extraction, died. On Aug. 20 Anton Yugov ceased to be minister of heavy industry and was appointed vice-premier. On Sept. 3 the minister of foreign trade, Dimiter Ganev, and the minister of agriculture, Nikola Stoilov, were relieved of their posts. The second of these changes might be connected with difficulties in the collectivization policy. It will be recalled that the previous minister of agriculture, Titko Chernokolev, was dismissed in disgrace in June 1951.

The State Planning commission claimed in February that during 1951 industrial production had increased by 16% in comparison with 1950. Cotton fabrics had increased by 13%, coal by 8%, electric power by 27% and machinery by 32%. On April 25 the government announced that a state metallurgical plant, for ferrous metals, was to be created. It was to be called after Lenin.

On May 12 the government introduced a currency reform. Like the Rumanian reform of January and the Polish reform of Oct. 1950, it tied the revalued currency to the Soviet rouble, "the most stable currency in the world". Together with the reform came price reductions, mostly of about 15% to 30%. All rationing was abolished. One new lev was to be exchanged for 100 old in cash. Various types of savings accounts obtained privileged rates varying from 2 to 4 new for 100 old.

Labour shortage and labour turnover continued to engage the attention of the government. A Central Administration of Labour Reserves was created in March. It was to be responsible for two-year industrial schools, factory schools and a railway training school, to all of which boys aged 14-17 would be eligible. The whole organization was based on the institution of similar name that had existed since 1940 in the Soviet Union. Unlike its Soviet prototype, however, the Bulgarian institution did not yet seem to have been given power to mobilize children.

The hate campaign against Bulgaria's neighbours continued throughout the year. Various notes of protest on alleged frontier violations were addressed to Yugoslavia, Greece and Turkey.

An investigation by the Ministry of State Control into state bakeries revealed in January that 90% of the bread samples examined were below the official standard. Todor Yurdanov, assistant minister of internal trade, was severely reprimanded and several officials of the ministry were dismissed.

An article of Jan 31 in the Communist party daily *Rabotnichesko Delo* expressed official dissatisfaction with the content of Bulgarian children's books, which did not pay sufficient attention to contemporary subjects. "The brotherly friendship with the Soviet Union, vigilance and the unmasking of the repulsive Titoite traitors are themes still waiting to be incorporated in our children's literature."

On Dec 14 elections for the county, districts, city and village people's councils took place: more than 98% of the electorate participated and voted for the Fatherland Front official candidates. (*See* also EASTERN EUROPEAN ECONOMIC PLANNING) (H S-W.)

Education. Schools (1949-50) kindergarten 1,403, pupils 57,487, teachers 2,124, elementary 6,112, pupils 755,628, teachers 18,801; higher elemetnary 2,960, pupils 308,160, teachers 12,636, secondary 218, pupils 112,633, teachers 4,624, technical 101, pupils 26,800, teachers 943, institutions of higher education (1951-52) 13, students *c* 40,000, professors and lecturers 2,084 Illiteracy (1952) 6%

Agriculture. Main crops ('000 metric tons, 1934-38 average; 1948 in brackets) wheat 1,690 (1,503), maize 913 (890), barley 365 (249), rye 264 (170), oats 122 (105), potatoes 109, tobacco 31 2 (20) Sugar production, raw value 189 (46) Wine production (1938) 2,373,000 hl., (1949) 426,000 hl Livestock ('000 head, 1939, latest estimate in brackets) sheep 9,935 (1948, 8,784); cattle 1,512 (1950, 2,140), pigs 752 (1950, *c* 1,500), horses 584 (1948, 549), asses 165 (1948, 157) Wool production, greasy basis ('000 metric tons, 1934-38, 1951 in brackets) 9 6 (12 7)

Industry. Fuel and power coal (1952 est) 400,000 metric tons; lignite (1951 est) 4,500,000 metric tons, electricity (million kwh , 1950, 1953 goal in brackets) 900 (1,800) In Nov 1951 the Stalin Chemical combine began production with a planned yearly output of 70,000 metric tons of nitrogen fertilizers Textile production (million m , 1939, 1952 est) woollen fabrics 4 1 (8 1), cotton fabrics 32 (95)

Finance. Budget (million old leva, 1951 est , 1952 in brackets) revenue 271,794 (370,146); expenditure 267,922 (343,946) including 137,600 (180,800) invested in the national economy. Monetary unit *lev* (pl. *leva*) revalued on May 12, 1952, with an exchange rate of L 1 70 = Rb 1 00 (as compared with the previous exchange rate of L 71 42 = Rb. 1 00) and L 19 04 = £1

Foreign Trade. (Million U S dollars, f o b , 1938, 1950 in brackets) Imports 46 (178), exports 62 (133). Main sources of imports (1950) U S S R 67·4%; Czechoslovakia, Hungary, Poland and Rumania 24 1% Main destinations of exports U S S.R 45 1%, four other eastern European countries 30 8%

Transport and Communications. Roads (1949): 13,870 mi Licensed motor vehicles (Dec. 1950) cars 6,000, commercial 5,000 Railways (1952 est): 2,231 mi Telephones (1950 est.) 57,000 Radio receiving sets (1949) 205,000.

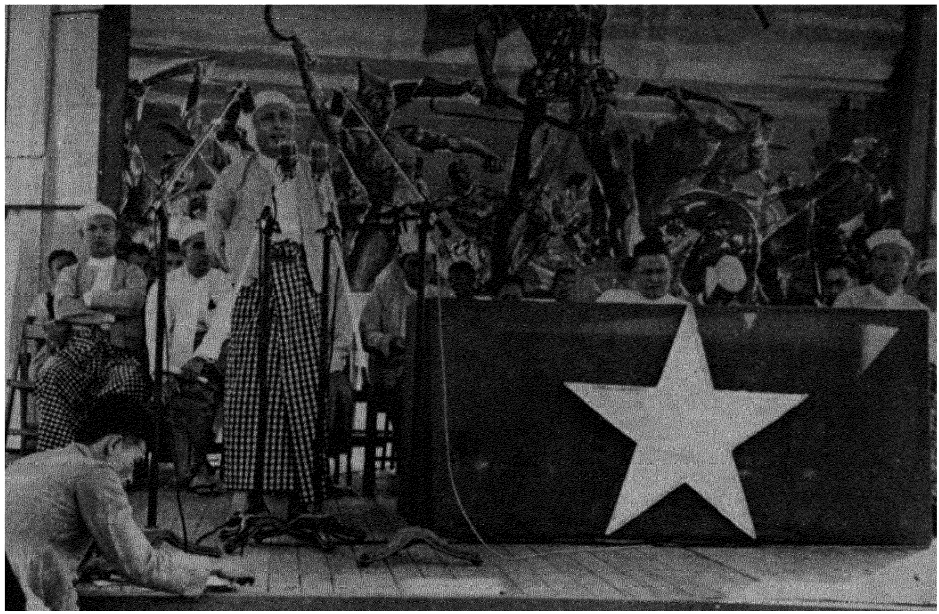
BURMA. Independent federal republic lying on the eastern side of the Bay of Bengal, between Pakistan and India on the northwest, Tibet on the north and China, Indochina and Thailand (Siam) on the east. Area: 261,600 sq.mi. Pop.: (1941 census) 16,823,798; (1951 est.) 18,674,000. Racially, the peoples of Burma are Mongoloid. About 90% are Buddhist by religion, and about 70% use the Burmese language. Largest indigenous minorities (1931): Karens 1,367,673, of whom 218,790 were Christians; Shans 1,057,406, Chin-Kachin group *c.* 750,000. Largest immigrant minorities: Indian (1931) 1,017,825 divided equally between Moslems and Hindus; Chinese (1941) *c.* 380,000. Chief towns (pop , 1941 census): Rangoon (cap. and main port, 500,800); Mandalay (163,243); Moulmein (71,181); Bassein (*c.* 50,000); Akyab (pop. 1931, 38,094). Presidents of the republic in 1952: Sao Shwe Thaik and (from March 12) Ba U (*q.v.*), prime minister, U Nu.

History. The first parliament elected under the constitution adopted in June 1947 met in March 1952, in place of the original Constituent Assembly which, owing to the disturbed condition of the country, had carried on as a provisional legislature for nearly five years It was significant of the situation that the new Chamber of Deputies was short of members from 24 constituencies where voting was still not possible. The chambers' first task was the election of a president of the Union of Burma, and on March 12 in joint session they chose Ba U, formerly chief justice; the outgoing president, Sao Shwe Thaik, was elected speaker of the Upper House. On March 14 a reshuffle of the ministry was approved by the Chamber of Deputies, U Nu remaining premier and the cabinet in general being still dominated by the Socialist party. The position of the ministry in the Chamber of Deputies was assured, as they could count on the support of about 180 members out of 233. (*See* ELECTIONS.)

The budget was presented on Aug. 18. The revenue estimates for the year 1952-53, commencing on Oct. 1, showed estimated receipts of Ky 699,434,000 (about £52·5 million) and estimated expenditure of Ky. 654,897,000, (£49 2 million), but the capital account estimates provided for receipts of Ky. 135,522,000 (£10 2 million) and expenditure of Ky. 476,396,000 (£35 8 million). Other non-revenue transactions were estimated to give a surplus of Ky. 52,600,000 (£3 9 million), so that the overall situation showed a prospective deficit of Ky. 243,800,000 (£18·3 million). The budget speech stressed the importance attached by the government to welfare and capital expenditure, but necessarily defence remained by far the largest item of expenditure, absorbing about £30 million. No important changes in taxation were proposed, and, as in previous years, no provision was made for repayment of the debts due to Great Britain and India.

A number of development plans were announced during the year. A U S firm which had been employed to examine and report on possible developments of natural resources reported early in the year, making recommendations in respect of fiscal and monetary policy, mining, industry, transportation, water resources, power supply, agriculture and forestry, and the government appointed a committee to study the report. The receipt of U.S. aid continued; in the two years after June 1950 aid to the extent of about $10 million reached Burma in the form of goods and services. The acceptance of such aid was criticized by the opposition as liable to prejudice Burma's neutral position in world affairs, but speaking in July the premier affirmed that the policy of neutrality would continue and that his government were prepared to accept aid from any quarter that would give it, provided that no political conditions were attached.

The Communist and other rebellions continued throughout the year, but the government's forces made steady, if slow, progress against the insurgents. In central Burma the Communists were subjected to steady pressure and in May their main headquarters were overrun. The effect of these operations was seen in an effort by the Communists to seek an accord with the government, but the latter would accept nothing less than complete surrender. In lower Burma the area of the Irrawaddy delta held by the Karen National



U Nu, prime minister of Burma, speaking on March 27 at the sports stadium in Rangoon during the resistance day celebrations. He attacked the policies of the Communists in Burma and praised the spirit of resistance of the Burmese peoples.

Defence organization was reduced, though because of the difficulties of the terrain the Karen rebels in the hills of eastern Burma remained almost unmolested; the Karens were able also to carry out a good deal of sabotage of communications, including the severance on several occasions of the pipe-line supplying Rangoon with water. In northern Arakan the Moslem rebels, seeking a separate Moslem state or, perhaps, accession to Pakistan, also remained in the field; this Moslem rebellion was small in dimensions, but more important military operations elsewhere prevented any major action against it.

An effort to conciliate the Karen rebels was made in the establishment by law of a Karen state, autonomous for purposes of local government, in the eastern hills of lower Burma. The territory allotted to the state comprised the Salween district, and the adjoining townships of Thandaung, Hlaingbwe, Pa-an, Kawkareik and Kya-in. A conciliatory disposition was also indicated by the government in the appointment to the cabinet, as minister for the Karen state, of Mrs. Ba Maung Chain, daughter of the well-known Karen leader, the late Sir San C.Po. Mrs. Ba Maung Chain toured the Irrawaddy delta, trying to persuade the Karens to lay down their arms, but with little success. The defect of the new Karen state was that the territory granted to it consisted mainly of unproductive hills, while the great majority of Karens lived in the fertile lowlands around Moulmein and in the Irrawaddy delta; and the value of the formation of the state as a conciliatory gesture was further reduced by the fact that the area allotted to it was already in the hands of the rebels.

A further cause of disorder was the continued presence in the Shan states of a body of Chinese Nationalist troops who sought to use Burma as a base for attacks on Yunnan. This force remained quiescent throughout the year and made no advance against Communist China, but its presence was a clear breach of Burmese sovereignty and was a considerable nuisance to the local inhabitants who were forced to supply food. Efforts by Burmese government forces to dislodge the Chinese were not successful, but, as with the Moslem rebellion in Arakan, the problem was a minor one, affecting only the fringe of the country, and therefore took a secondary place in comparison with the Karen and Communist rebellions.

Amongst minor developments during the year were the adoption, as from April 1, of the use of Burmese instead of English as the official language of courts and offices, and the adoption of a decimal system of coinage in which the rupee was replaced by the kyat, of the same value, and the kyat was divided into 100 pya instead of 16 annas. (B. R. P.)

Education. Schools (1948): primary 4,795, pupils 431,684, teachers 11,315; post-primary 142, pupils 11,648, teachers 722. Teachers' training college 1, with over 200 trainees. Universities (1950) 2, students 3,350 (incl. 780 women).

Agriculture. Main crops ('000 metric tons, 1951): rice 5,900; groundnuts 180; cottonseed 19; sesame seed 49·9; cotton, ginned (1950-51), 6; dry beans 109. Livestock ('000 head, Jan. 1950): cattle 4,488; sheep 21; goats 172; pigs 402; buffaloes 721. Fisheries: total catch est. 500,000 tons annually.

Industry. Factories (1947) 473; persons employed 46,480. Raw materials ('000 metric tons, 1951; 1952, six months, in brackets): tin concentrates ·96 (·48); natural rubber, net exports 13·2 (8·7); lead (1948) 7·5; silver (fine oz., 1948) 480,000; timber, teak (1948-49 rafting season) 68,938 logs.

Finance and Banking. Budget ('000 kyats, 1952-53 est.): ordinary revenue 699,434, ordinary expenditure 654,897; capital revenue 135,522, capital expenditure 476,396. Monetary unit: *kyat* with an exchange rate of kyats 13·33 to the pound sterling and kyats 4·778, to the U.S. dollar.

Foreign Trade. (Million kyats, 1951; 1952, six months, in brackets.) Imports 681 (409), exports 981 (374). Main sources of imports (1951): India 37%; U.K. 16%; Japan 18%; Malaya 6%. Main destinations of exports: Ceylon 24%; India 23%; Japan 13%; Indonesia 13%. Main

imports (1951). cotton piece-goods 30%, bags and sacks 7%; machinery and vehicles 6%. Main exports· rice 77%, teakwood 5%, cotton, raw 3%.

Transport and Communications. Roads (1949) 12,472 mi. Licensed motor vehicles (Dec 1950) cars 5,100, commercial 24,000 Railways (1950) 1,777 mi., passenger-mi 80 million, net freight ton-mi 93 million.

BUSINESS REVIEW. Conditions in 1952 were governed largely by a return to a more normal state after the Korean disturbance and by a new stringency caused by rearmament. The year opened with the prices of raw materials generally falling, and this movement continued fairly widely up to mid-year. By that time a number of materials—jute, manila hemp, sisal, flax, wool, lead, rubber and zinc—had returned to about the pre-Korean level. It seemed doubtful whether prices would continue to fall, indicating the approach of a slump, or whether they would level off, suggesting that the disturbance caused by the Korean war was only an interruption in a long-term improvement. Wool steadied at its level of June 1950 and staged a recovery in the autumn. Lead and rubber steadied at the pre-Korean level, and tin rather higher, but zinc declined further. Copper had a divergent trend, and tended steadily higher, a development probably connected equally with the claims of rearmament and with the uninterrupted progress of the electrical industries. This trend continued until late in the year. Zinc, lead, rubber weakened, but copper and the main fibres—jute, manila and sisal—were fairly steady.

Great Britain furnished a good example of hesitation between these extremes and of the perplexities which faced governments in consequence. When Winston Churchill's administration took office in Oct. 1951 some fairly drastic steps were taken to slow down the inflationary development. The bank rate was raised and a conversion operation reduced the liquidity (and hence the lending power) of the banks. The budget opened in March (about a month before the usual date) and was accompanied by a further substantial increase in the bank rate; but in other respects it looked as though the government thought that a dose of deficit financing might be needed as a stimulant to business.

Evidence of a slackening in business was, in fact, accumulating. The textile and associated industries provided the darkest spots; and in the event something like a slump developed in this sector of the economy. The government countered the danger by placing large orders for uniforms and these measures succeeded by autumn in reversing the decline, which did not spread to any large extent into other parts of the economy. An ambitious and costly housing programme, originally an election plank, was probably persevered with to make sure that no serious degree of deflation should develop.

Despite these measures 1952 was a less buoyant year than 1951. The level of unemployment, though low, was consistently higher, and was not entirely accounted for by the troubles of the textile industry, though after July a contra-seasonal improvement appeared. The volume of industrial production naturally followed a similar course. So far as business can be measured by final consumption, conditions were fairly satisfactory: personal expenditure was higher in value than in 1951, and even in volume the decline was very slight.

At the end of the year two conflicting factors were at work. The monetary trend was towards expansion, for government expenditure more than balanced the restrictions imposed on the banks and, despite a second funding operation, deposits lying at the banks and waiting to be spent at the end of the year were virtually equal to what they had been a year earlier. On the other hand, though exports were running at a high level, the outlook was obscure and the possibility existed that business might run down through the failure of exports to earn the means for buying necessary imports. For a variety of reasons it seemed that the capital goods industries were in the strongest position. They did relatively well throughout the year: and the claims of rearmament, of reconstruction and of the export drive seemed to agree in promising well for these industries.

These trends reflected general uncertainties. On the one hand the panic buying of mid-1950 was being corrected. The world turnover in trade seemed to be diminishing. Tramp shipping freight rates (which had reached a peak in Oct. 1951) fell, by July had reached the level of Sept. 1950 and were still falling. For the third quarter of the year the International Materials conference increased its allocation of a substantial range of materials, including copper and nickel. On the other hand industry—in the United States, Great Britain, western Germany and France for instance—was at a very high or a rising level. Moreover, the fall in world prices was in a sense artificial; partly, at least, it was brought about by the dearer money policy adopted in such important industrial countries as the U.S., Great Britain, the German Federal Republic, France, Canada and Sweden. It was significant that capital development was increasing in a number of important countries while expenditure on consumption goods was falling, or at least lagging. This was an unstable position which would clearly end either in stagnation in the capital goods industries or in greater activity in the consumption goods industries. The activity in the capital goods industries, coupled with import restrictions such as those imposed by Great Britain and Australia, suggested that a period of economic nationalism might be approaching. In the relative position of the capital and the consumption goods industries rearmament evidently played an important part. The growing development of the capital goods sector under the impact of rearmament became increasingly important.

Most governments were anxious to steer a course between inflation and deflation, between boom and unemployment. The effects of the post-Korean slump had been intensified by the dear money policies widely adopted to combat inflation and to attack the problems of rearmament, but during 1952 some countries had to revert to cheaper money. Even so consumption was relatively low.

The rather uncertain balance between slump and boom was illustrated by developments in the United States where business both improved and steadied. Conditions made such a development natural for inventories and savings were growing. It was inevitable that merchants should lower their prices in an attempt to induce people to spend and that the public should feel that they could afford to save less. After a seasonal reaction in midwinter retail trade revived and by March it was satisfactory but not buoyant. The shoe industry enjoyed a lively Easter trade; other depressed industries, notably textiles, shared the improvement. The better conditions lasted through May and June, and extended to furniture and household equipment, which latter had long been suffering from the satiety caused by over-buying after the outbreak of the Korean war.

This improvement in the consumer goods industries was assisted by the government's continued deficit financing. The deficit for 1952-53 was estimated at $14,446 million. This was the financial counterpart of the rearmament programme and, accompanied as it was by heavy taxation, it tended towards a levelling of incomes (which normally promotes spending rather than saving). During the first quarter consumer expenditure reached a record volume, as did the demand for services, including travel and recreation. The rearmament programme entailed very heavy capital expenditure, but it was stretched over a longer period than

that originally contemplated, which meant that industry was given more opportunity to plan ahead. A breakdown caused by a shortage of raw materials was also less likely to occur. A brake was also applied by the prolonged steel strike during the early summer These factors resulted in an approximate balance of the U S. economy at a very high level of activity. The rest of the world could feel that it need not fear the spread of a depression from the United States where imports continued during the first half of the year at about the average rate for 1951 U S exports were substantially higher, and to this extent the dollar problem was aggravated Business activity improved during the late autumn and the year ended on a note of optimism, sentiment being helped by the Republican victors in the presidential election. Activity was specially pronounced in the normally vulnerable capital goods industries

In Canada the position was similar to that in the United States. Inflationary and deflationary forces roughly cancelled each other, though in a rather unstable way. Farm prices declined during the first half of the year, and the seasonal peak of unemployment in March was higher than a year earlier. Industrial activity, on the other hand, continued to grow. In so far as these factors were reflected in retail business, they balanced· the volume of retail sales was approximately maintained during the first half of the year

Business conditions in the German Federal Republic were affected by factors peculiar to that country and by others associated with the working of a fairly liberal economy Under the first head came the absence of expenditure on armaments and the receipts of large supplies of coal from the United States, under the latter the existence of a considerable reserve of unemployed. The result was a flourishing but austere economy. Business in the consumer goods industries continued moderate, though in the second half of the year consumer buying tended to improve. The capital goods industries, on the other hand, continued to expand rapidly though there was a shortage of coke and the improvement in the output of coal and steel was sluggish A large export surplus made it possible to import the raw materials needed and to prevent a hold-up in industry. The credit needed for the development of capital investment was created by the sale of foreign currencies accrueing to the banks through the export surplus. A proportion of the resulting purchasing power was used to bring about a substantial increase in savings Towards the end of the year prospects deteriorated, particularly for exports of capital goods—a vital factor in the country's economy.

In Italy business conditions showed the working of economic liberalism and also deflationism in an economy much weaker than western Germany's. The chronic kernel of unemployment grew, the large proportion of those who had never been employed, and of black-coated workers, being particularly ominous. Demand for consumption goods (with the exception of food) was low, and the textile industry in particular continued to suffer from the previous year's depression. The capital goods industries did relatively well. The output of the steel mills and of electric power was satisfactory, business here being helped by the arrival of the first armaments orders from the North Atlantic Treaty organization. Exports suffered from foreign import restrictions, notably those imposed by Great Britain, France and Australia. The dubious view taken of business prospects generally was reflected in the high yield—about 10%—of leading equities The business recovery after the normal summer recession disappointed expectations.

Conditions in Australia resembled, in an exaggerated and therefore specially clear form, world conditions generally. The slump in the price of wool led to a severe reduction in the national wool cheque; this had a strong deflationary effect, which was supported by government action. During the first half of the year imports were drastically restricted. Thus some stagnation in business was inevitable, but it was noted that people did not find it necessary to draw heavily on their savings At Eastertide conditions were uneven. In Victoria demand tended to improve, though at the wholesale rather than at the retail level In New South Wales and in South Australia and Western Australia, business was fairly satisfactory, in Queensland, on the other hand, trade was dull, but the recession was not sufficiently severe to affect food sales. Moreover, the government was ready to apply inflationary correctives if necessary In New Zealand business followed a similar but less strongly deflationary line. Late in the year conditions in the Australian retail trade and secondary industries were, on the whole, fairly satisfactory

In Sweden, which resembled Australia in being a large producer of raw materials with a considerable industry and a high standard of living, conditions were similar. The difficulties caused by heavy buying of consumer goods after the Korean crisis were reinforced by a heavy fall in the value of Swedish exports During the first four months of 1952 the production of consumer goods fell by 6% on a seasonal basis, the fall being particularly pronounced for textiles and shoes and imperceptible for food Exports suffered particularly from the drop in the price of timber and of wood pulp. These difficulties were partly offset by a boom (connected with overseas rearmament) in the production of pig-iron. The engineering industry also did well and employment remained full On the whole, therefore, the economies of Australia and Sweden, both primarily producers of raw materials though with important industries, achieved reasonable stability The approximate balance between adverse and favourable factors continued in Sweden during the rest of the year

Business conditions in Argentina showed the weakness of an economy resting largely on raw materials, with little industry as a balancing factor, though in this instance the difficulties were aggravated by the government's intervention. The government's manipulation of export prices resulted in the home market being flooded with frustrated exports of wool, hides and leather, which did not find ready buyers because wages still lagged behind prices.

Further difficulties were caused by the great drought, which did not break until the Argentine winter had set in. Further, the shortage of cattle made it necessary to close many slaughterhouses early in the year, and the shortage of wheat led the government to instruct millers to add a proportion of millet meal to wheaten flour. In May it was reported that there was no wheat, oats, barley or rye for export. The wool market remained inactive. Argentine prices for fine and medium wools were about 20% above the world level and the industry accordingly failed to benefit from the improvement which eventually occurred elsewhere, for instance in Uruguay where the wool market picked up in June for the first time in 15 months. Continued good rains late in the year improved the outlook for agriculture.

Brazil profited from the fact that its one great staple product, coffee, was virtually exempt from the slump in raw materials, while the new crop promised well. The growing interest of western Germany in South America made itself felt, and it was reported that a large metallurgical plant was being established by a German group in Minas Geraes.

At the end of 1952 the outlook remained obscure The overall level of world business was lower than it had been at the beginning, but it appeared fairly steady. The level of raw material prices presented a similar aspect; having declined during the first half of the year, it tended to level off during the second half. Two conflicting factors affecting a great part,

though not the whole, of world trade remained at work. Business recovery seemed to have come to an end in western Europe as a whole, and though there was room for self-help it seemed that help from the United States would be more effective. The United States, on the other hand, seemed to be heading for new heights of activity, though this might not be long-lived. The great question was whether the progressive forces in the United States would be utilized to overcome a possible stagnation elsewhere (*See* also BANKING, INTERNATIONAL TRADE; NATIONALIZATION, PRICES, STOCKS AND SHARES; TARIFFS, TAXATION) (W. H. JN.)

BYELORUSSIA. Republic in the Union of Soviet Socialist Republics, bounded N. by Latvia, E. by Russia, S. by the Ukraine and W. by Poland and Lithuania. Area (before Sept. 17, 1939) 49,022 sq.mi., (after the treaty of Aug. 16, 1945, defining a new Soviet-Polish frontier) 80,154 sq.mi. Pop.: (Jan. 1939 census) 5,567,976, (Nov. 1939 est.) 8,810,000 incl. Byelorussians 67.2%, Poles 16%, Jews 8.4% and Russians 5.1%, (1950 est.) 9.3 million. Language: Byelorussian, akin to Russian and Polish. Religion (Nov. 1939 est.): Greek Orthodox 71%, Roman Catholic 20%, Jewish 8%. Chief towns (1939 census): Minsk (cap., 238,772); Vitebsk (167,424), Gomel (144,169), Moghilev (99,400), Brest or Brześć (1939 est., 50,700), Grodno (49,700). Chairman of the presidium of the Supreme Soviet, Vasily Ivanovich Kozlov, chairman of the council of ministers, Aleksey Efimovich Kleshchev.

History. Among directives of the fifth five-year plan for 1951-55 adopted on Oct. 10 by the 19th congress of the Communist Party of the Soviet Union (C.P.S.U.) was one stipulating the draining of the Pripet marshes on both sides of the 1939 Polish-Soviet frontier. The Pripet river basin, known also as Polesie, covers an area four times larger than Belgium of which almost two-fifths was marshland. In the province of Pinsk 70% of the area was occupied by marshes. About 16,000 sq.mi. of fertile agricultural land was to be reclaimed under the project which upon completion would increase the grain production of Polesie eightfold and the potato crop tenfold. Moreover, the project was associated with the plan to establish a Soviet-Polish east-west waterway system linking the Dnieper to the Oder by developing the existing waterways of the Pripet, the Bug, the Vistula, the Noteć and the Warta rivers.

By 1952 the repair of wartime destruction was completed and the towns of the republic were said to be much larger than before 1940. Judging from articles and pictures in the Soviet press, Minsk had been completely replanned and was now a modern city with wide thoroughfares of which Stalin boulevard seemed the most representative of Soviet neo-classic architecture. Two 11-storey buildings stood on the Railway Station square.

The Minsk Motor works known as M.A.Z. (Minsky Avtomobilny Zavod), with their blocks of flats for employees and workers, constituted a suburb in themselves. During the year these works began production of the M.A.Z.-525, a 25-ton lorry with a 300-h.p. engine and wheels 1.70 m. in diameter.

In September the 10th congress of the Byelorussian Communist party held at Minsk re-elected N. S. Patolichev, M. V. Zimyanin and T. S. Gorbunov as secretaries of the central committee. The B.C.P. had about 140,000 members including 33,000 in the western, formerly Polish, part of the republic. The B.C.P. sent 28 delegates to the 19th congress of the C.P.S.U., where Patolichev and Zimyanin were elected members of the all-union central committee and the former was chosen as a substitute member of the new presidium.

The merging of collective farms was completed in eastern Byelorussia, *i.e.*, within pre-1939 frontiers: the number of *kolkhozy* was reduced from 9,770 to 3,226 and the average area of the resulting larger *kolkhoz* was 1,200 ha.

In January the Supreme Soviet of Byelorussia approved a new national flag: a horizontal green stripe covering the bottom third of the field otherwise red; a stripe of peasant embroidery next to the mast; the star and hammer and sickle in upper lefthand corner.

On Nov. 3, on his 70th birthday, the Byelorussian poet Yakub Kolas (Konstantin Mikhailovich Mitskievich), received the Order of Lenin from the presidium of the Supreme Soviet of the U.S.S.R.

Education. Schools (1952) elementary and secondary 11,800, pupils over 1,500,000, technical 110, pupils about 50,000, institutions of higher education 35, students about 18,000.

Finance. Budget (1952 est.) balanced at 3,718,386,000 roubles, 87.9% of the expenditure was earmarked for the national economy, and social and cultural purposes. (K. M. S.)

CABINET MEMBERS. The following is a list of cabinet members of Great Britain and the other members of the Commonwealth of Nations on Dec. 31, 1952.

Post	*Name*
Great Britain	
Prime Minister and First Lord of the Treasury	*Winston Leonard Spencer Churchill
Secretary of State for Foreign Affairs	Robert Anthony Eden
Lord President of the Council	The Marquess of Salisbury
Lord Chancellor	*Lord Simonds
Secretary of State for the Home Department and Minister for Welsh Affairs	Sir David Patrick Maxwell Fyfe
Chancellor of the Exchequer	Richard Austen Butler
Chancellor of the Duchy of Lancaster	Lord Woolton
Lord Privy Seal	H. F. C. Crookshank
Minister of Defence	*Earl Alexander of Tunis
Secretary of State for Commonwealth Relations	Viscount Swinton
Secretary of State for the Colonies	Oliver Lyttelton
Secretary of State for Scotland	James Gray Stuart
Secretary of State for the Co-ordination of Transport, Fuel and Power	Lord Leathers
Minister of Labour and National Service	Sir Walter Turner Monckton
Minister of Housing and Local Government	Harold Macmillan
President of the Board of Trade	George Edward Peter Thorneycroft
Paymaster-General	Lord Cherwell
Australia	
Prime Minister	*Robert Gordon Menzies
Treasurer	Sir Arthur William Fadden
Vice-President of the Executive Council and Minister for Defence Production	Eric John Harrison
Minister for Labour and National Service and Minister for Immigration	Harold Edward Holt
Minister for Commerce and Agriculture	John McEwen
Minister for External Affairs	Richard Gardiner Casey
Minister for Defence	Philip Albert Martin McBride
Minister for Health	Sir Earle Christmas Grafton Page
Minister for Trade and Customs	Neil O'Sullivan
Minister for Shipping and Transport	George McLeay
Postmaster-General and Minister for Civil Aviation	Hubert Lawrence Anthony
Minister for the Army	Josiah Francis
Attorney-General	John Armstrong Spicer
Minister for National Development	William Henry Spooner
Minister for Repatriation	Walter Jackson Cooper
Minister for Supply	Howard Beale
Minister for the Interior and Minister for Works and Housing	Wilfred Selwyn Kent Hughes
Minister for Social Services	Athol Gordon Townley
Minister for Territories	Paul Meernaa Caedwalla Hasluck
Minister for the Navy and Minister for Air	William McMahon

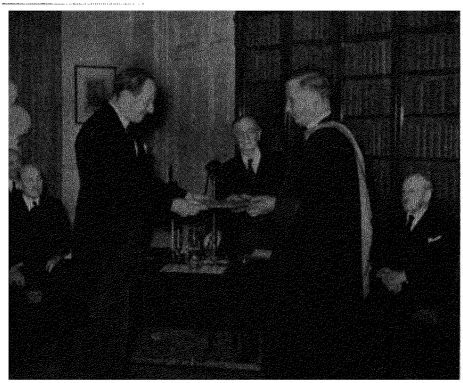
Post	*Name*
Canada	
Prime Minister and President of the Privy Council	*Louis Stephen St Laurent
Minister of Trade and Commerce and Minister of Defence Production	Clarence Decatur Howe
Minister of Agriculture	James Garfield Gardiner
Minister of Public Works	Alphonse Fournier
Minister of National Defence	Brooke Claxton
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 of Labour	Milton Fowler Gregg
Secretary of State for External Affairs	Lester Bowles Pearson
Minister of Justice and Attorney-General	Stuart Sinclair Garson
Minister of Resources and Development	Robert Henry Winters
Secretary of State of Canada	Frederick Gordon Bradley
Minister of Veterans' Affairs	Hugues Lapointe
Minister of Citizenship and Immigration	Walter Edward Harris
Minister of Mines and Technical Surveys	George Prudham
Postmaster-General	Alcide Cote
Minister of Fisheries	James Sinclair
Solicitor-General of Canada	Ralph Campney
Ceylon	
Prime Minister, Minister of Defence and External Affairs	*Dudley Shelton Senanayake
Minister of Finance	Junius Richard Jayewardene
Minister of Justice	Sir Lalitha Rajapakse
Minister of Transport and Works	Sir John Kotelawala
Minister of Home Affairs	Abeyratne Ratnayake
Minister of Agriculture and Food	Sir Oliver Goonetilleke
Minister of Land and Land Development	Dissawa P B Bulankulama
Minister of Health	E A Nugawela
Minister of Local Government	G W W. Kannangara
Minister of Labour	M C M Kaleel
Minister of Industries and Fisheries	Ganapathipillai Gangesar Ponnambalam
Minister of Posts and Information	S. Natesan
Minister of Trade and Commerce	R G Senanayake
India	
Prime Minister and Minister for External Affairs	*Jawaharlal Nehru
Minister for Education and Natural Resources and Scientific Research	Maulana Abul Kalam Azad
Minister for Communications	Jagjivan Ram
Minister for Health	*Rajkumari Amrit Kaur
Minister for Defence	Narasimha Gopalaswami Ayyangar
Minister for Finance	Chintaman Swarkanath Deshmukh
Minister for Planning, Irrigation and Power	Gulzarilal Nanda
Minister for Home Affairs and States	Kailas Nath Katju
Minister for Food and Agriculture	Rafi Ahmed Kidwai
Minister for Commerce and Industry	Tiruvallur Thattai Krishnamachari
Minister for Law and Minority Affairs	Charu Chandra Biswas
Minister for Railways and Transport	Lal Bahadur Shastri
Minister for Works, Housing and Supply	Sardar Swaran Singh
Minister for Labour	Varaha Venkata Giri
Minister for Production	Kysambally Chengalaraya Reddy
New Zealand	
Prime Minister and Minister of Finance	*Sidney George Holland
Minister of Agriculture and Marketing	Keith Jacka Holyoake
Minister of Labour, Employment, Mines and Immigration	William Sullivan
Attorney-General and Minister of Justice, External Affairs and Island Territories	Thomas Clifton Webb
Minister of Education, Broadcasting, and Scientific and Industrial Research	Ronald Macmillan Algie
Minister of Internal Affairs, Social Security, and Tourist and Health Resorts	William Alexander Bodkin
Minister of Customs, Associate Minister of Finance	Charles Moore Bowden
Postmaster-General and Minister of Telegraphs	Walter James Broadfoot
Minister of Lands, Forests and Maori Affairs	Ernest Bowyer Corbett
Minister of Works, Housing, Hydro-Electricity, Transport and Railways and Marine	William Stanley Goosman
Minister of Defence, Rehabilitation, War Pensions and Civil Aviation	Thomas Lachlan Macdonald
Minister of Supply, Industries and Commerce and Price Control	Jack Thomas Watts
Minister without Portfolio and Minister for the Welfare of Women and Children	Mrs Grace Hilda Ross
Minister of Health, Information and Publicity	John Ross Marshall
Minister without Portfolio	William Henry Fortune
Pakistan	
Prime Minister and Minister for Defence	*Khwaja Nazimuddin
Minister for Foreign Affairs and Commonwealth Relations	Mohammad Zafrullah Khan
Minister for Industries	Sardar Abdur-Rab Nishtar
Minister for Commerce, Education and Economic Affairs	Fazlur Rahman
Minister for Communications	Sardar Bahadur Khan
Minister for Finance	Mohammed Ali
Minister for Food, Agriculture and Law	Pirzada Abdus Sattar
Minister for Information and Broadcasting, and Refugees and Rehabilitation	Ishtiaq Husain Qureshi
Minister for Kashmir Affairs	Mahmud Husain
Minister for the Interior, States and Frontier Regions	Mushtaq Ahmad Gurmani
Minister for Health, Works and Labour	A. M Malik
South Africa	
Prime Minister and Minister of External Affairs	*Daniel François Malan
Minister of Finance	Nicolaas Christiaan Havenga
Minister of Lands and Irrigation	Johannes Gerhardus Strydom
Minister of Justice	Charles R Swart
Minister of Transport	Paul Olivier Sauer
Minister of Agriculture	Stephanus Petrus le Roux
Minister of Economic Affairs	Eric Hendrik Louw
Minister of the Interior	Theophilus Ebenhaezer Donges
Minister of Defence	Frans Christiaan Erasmus
Minister of Labour, Public Works and Forestry	Barend Jacobus Schoeman
Minister of Posts and Telegraphs	Jozua François Tom Naudé
Minister of Native Affairs	Hendrik Frensch Verwoerd
Minister of Education, Arts and Science and Mines	Johannes Hendrikus Viljoen
Minister of Health and Social Welfare	Karl Bremer
Southern Rhodesia	
Prime Minister and Minister of Defence	Sir Godfrey Martin Huggins
Minister of Finance, Posts and Telegraphs	Edgar Cuthbert Fremantle Whitehead
Minister of Internal Affairs and Justice	Julius MacDonald Greenfield
Minister of Mines, Transport and Education	George Arthur Davenport
Minister of Agriculture and Lands	John Moore Caldicott
Minister of Trade and Industrial Development	William Alexander Eustace Winterton
Minister of Native Affairs and Minister of Health	Patrick Bisset Fletcher

* *See* separate article. (*See* also GOVERNMENT DEPARTMENTS.)

CAMBODIA: *see* INDOCHINA.

CAMBRIDGE UNIVERSITY. At the beginning of the 1952 Lent term the university, with the whole country, mourned the death of King George VI: a service in his memory was held in the university church on Feb. 15. In accordance with long-established usage Queen Elizabeth II was proclaimed in the Senate house and in Senate-House yard, and a deputation led by the chancellor presented a loyal address to her majesty on May 21.

The Duke of Edinburgh came to Cambridge on Nov. 13 for the formal opening of the new engineering laboratory. The ceremony was preceded by the conferment upon him of the honorary degree of doctor of law, and later, after dining in Trinity college, he attended a debate at the Union society of which he was admitted an honorary member.



The Marquess of Salisbury (left) on May 20 handing a cheque in memory of J. C. Smuts, to Lord Tedder, chancellor of Cambridge.

In May the Marquess of Salisbury, secretary of state for Commonwealth relations, presented to the chancellor a sum, eventually to amount to £150,000, for the endowment of Commonwealth studies in Cambridge in memory of Field Marshal J. C. Smuts, late chancellor of the university. The endowment allowed for scholarships, travel grants, and other activities in the field of Commonwealth relations, in addition to providing the Smuts professorship of the history of the British Commonwealth. Another professorship—that of social theory—was established during the year. This chair was founded for an experimental period of three years and was to be filled by a visiting professor appointed for one year at a time. Girton college announced in October that its appeal made after its recognition in 1947 as a constituent part of the university had brought in £52,500; the money was to provide research fellowships and improve the amenities of the college.

On Oct. 1 Professor Sir Lionel Whitby, master of Downing college, was elected vice-chancellor for a second year, and in March J. M. Wordie became master of St. John's college as successor to E. A. Benians (*see* OBITUARIES). In June Corpus Christi college celebrated the 600th anniversary of its foundation.

During much of the Michaelmas term there was held in Cambridge a public local inquiry into the proposals of the planning authority set forth in the Cambridgeshire development plan. The council of the Senate and the individual colleges were much concerned to ensure that Cambridge should remain predominantly a university town, and objections were lodged to such proposals as seemed to conflict with this aim. The inspector's report on the inquiry was expected to be published early in 1953.

Little building was possible during the year, though further progress was made with the chemical laboratories on the Lensfield site; and with the completion of the northern side of its buildings, Downing college now possessed one of the finest courts in the whole university.

The number of students in residence during the academical year 1951-52 showed a small increase. The total was 7,991; of these 7,275 were men and 716 women; 784 were registered research students. (*See* also UNIVERSITIES AND COLLEGES.)

See *Cambridge University Reporter*, vols. 82 and 83. (W. W. G.)

CAMEROONS: *see* FRENCH EQUATORIAL AFRICA; NIGERIA; TRUST TERRITORIES.

CANADA. 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. (*See* table).

Language (1941): English (49·7%), French (30·3%), German (4%), Ukrainian (2·6%), Scandinavian (2·1%), Dutch (1·9%), Yiddish (1·5%), Polish (1·5%), other (6·2%). Religion (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; other 542,152. Chief towns (pop., 1951 census, metropolitan area): Ottawa (cap., 281,908); Montreal (1,395,400); Toronto (1,117,470); Vancouver (530,728); Winnipeg (354,069); Quebec (274,827); Hamilton (259,685); Edmonton (173,075); Windsor (157,672); Calgary (139,105); Halifax (133,931). Governor-generals in 1952: Viscount (later Earl) Alexander of Tunis and (from Feb. 28) Charles Vincent Massey; prime minister, Louis Stephen St. Laurent (*qq.v.*).

Province	*Capital*	*Area* (sq.mi.)	*Population* (1941 census)	*Population* (1951 census)	*Premier*	*Ministry*
Novia Scotia	Halifax	21,068	577,962	642,584	Angus L. Macdonald	Liberal
New Brunswick	Fredericton	27,985	457,401	515,697	John B. McNair	Progressive Conservative
Quebec	Quebec City	594,860	3,331,882	4,055,681	Maurice L. Duplessis	Union Nationale
Ontario	Toronto	412,582	3,787,655	4,597,542	Leslie M. Frost	Progressive Conservative
To these original provinces were added:						
Manitoba (1870)	Winnipeg	246,512	729,744	776,541	D. L. Campbell	Liberal
British Columbia (1871)	Victoria	366,255	817,861	1,165,210	Byron I. Johnson	Lib.-Progr. Cons.
Prince Edward Island (1873)	Charlottetown	2,184	95,047	98,429	J. Walter Jones	Liberal
Alberta (1905)	Edmonton	255,285	796,169	939,501	Ernest Charles Manning	Social Credit party
Saskatchewan (1905)	Regina	251,700	895,922	831,728	Thomas C. Douglas	Co-op. Commonwealth Federation
Newfoundland and Labrador (1949)	St. John's	152,734	321,819*	361,416	Joseph R. Smallwood	Liberal
There are also two territories:						
Northwest Territories (Franklin, Keewatin and Mackenzie)	—	1,304,903	12,028	16,004	—	—
Yukon	—	207,076	4,914	9,096	—	—
	Total	3,843,144†	11,506,655‡	14,009,429§		

* 1945 census. † Including 228,307 sq.mi. of fresh water. ‡ Newfoundland not included in the total. § Excluding about 137,000 Indians and 8,550 Eskimos.

History. The death of King George VI on Feb. 6 caused nation-wide sorrow for the loss of a beloved sovereign. The accession of Queen Elizabeth II was proclaimed in Canada on Feb. 6.

On Jan. 11, Winston Churchill arrived in Ottawa on a four-day visit as guest of the governor-general, Lord Alexander. He was joined by Anthony Eden, Lord Ismay and Lord Cherwell. Talks with Canadian cabinet ministers provided an opportunity for a valuable exchange of views.

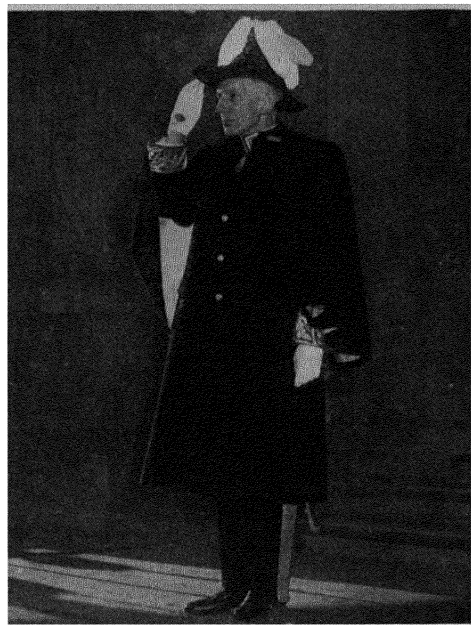
Prosperity. Although the Canadian economy was by no means devoid of problems, even the most cautious appraisal of future prospects, if based on the continued expansion and development of 1952, could hardly fail to inspire the strongest confidence. The development of natural resources proceeded apace, and attracted substantial foreign capital, mainly, but by no means all, from the United States. Following the removal of exchange control in Dec. 1951, Canadian currency quickly rose to parity with the U.S. dollar. Both base and precious metals were found in increasing quantities. The output of oil from the prairie provinces created new records, resulting in a substantial reduction of imports from the United States. Extension of hydro-electric power schemes, notably in Quebec and British Columbia, gave promise of vast industrial expansion in the next few years. The manufacturing industries established new records in gross value of production. After the failure of another attempt at Washington to overcome the U.S. opposition to co-operation in the construction of the St. Lawrence seaway, Canada decided to go ahead on its own account with the navigational part of the project, and, together with the U.S. government, filed with the International Joint commission, which has jurisdiction over the boundary waters, an application for authority for the extensive power development which forms part of the scheme. This was approved on Oct. 29.

A bumper wheat crop brought prosperity to the prairies but an outbreak of foot-and-mouth disease in February had serious repercussions on the farming community, the meat packing industry and the export trade. A partial solution to the problem caused by a U.S. embargo on all Canadian imports of livestock and farm produce was effected by a government subsidy for beef and by co-operative trading action on the part of New Zealand and the United Kingdom. In every major aspect of business activity, national income, farm and labour income, the value of retail trade and construction, Canada set new records. Industrial wages continued to rise with the cost-of-living index, so that by August they were 250% of the 1939 level. This, coupled with the opportunities of obtaining lucrative employment, attracted many emigrants from Great Britain and continental Europe.

Trade continued buoyant, with export surpluses in each of the first eight months of the year except May. The cumulative credit balance for the period was $243,100,000, as compared with the import surplus of $336,800,000 for the same period of 1951. Throughout the year, wheat was an important factor in the high export figures, in July and August replacing newsprint as Canada's largest export.

Home Affairs. The federal parliament was opened on Feb. 28. by Vincent Massey, the first Canadian to hold the appointment of governor-general. The speech from the throne outlined a modest programme of legislation, with few controversial issues. But the ensuing debates contained intermittent bursts of lively criticism, especially on the score of wasteful and extravagant administration, over-taxation, failure to curb inflation and to keep the cost-of-living down, and on the question of the implementing of the defence programme.

Some misgivings were felt among government supporters at the losses sustained in by-elections for the federal House of Commons. Provincial elections also provided very unsatisfactory results for the Liberals. On June 11, in Saskatchewan, the Co-operative Commonwealth federation (Socialist) won a decisive victory. On June 12, in British Columbia, the Social Credit party emerged for the first time as a power outside Alberta. In Quebec, on July 16, after a somewhat stormy election, the Union Nationale government of Maurice Duplessis was returned to office, but with a reduced majority. In Alberta, on Aug. 5, the Social Credit government of E. C. Manning was returned by a large majority. In New Brunswick, on Sept. 23, the Progressive Conservatives swept the Liberals from power after 17 years of Liberal supremacy.



Vincent Massey taking the salute from the Parliament buildings in Ottawa after he had been sworn in as governor-general on Feb. 28.

Defence. In a Canadian white paper issued under the title *Canada's Defence Programme*, various aspects of the defence effort were reviewed. The strength of the armed services on March 31, 1952, was 95,394. The most likely method of attack on the North American continent being by air, Canada and the United States were working together to construct a network of radar stations to warn and direct squadrons of fighters, closely integrated to form a single organization for North American air defence. The Canadian fighter defence was also being built up. A ground observer corps was being prepared. Air power would also be Canada's major contribution to N.A.T.O. The Canadian air contribution in Europe was increased during the year, and by 1954 there would be 11 or 12 squadrons of F-86 (Sabre jet) fighters; Canada was prepared to spend $22·7 million on airfields and associated facilities in Europe. The navy was being built up so that some 100 ships and many small craft would be in operation by 1954. Under the mutual aid vote Canada was training aircrew for N.A.T.O. up to 1,400 graduates a year. The land and sea contributions to the U.N. forces in Korea were being kept up.

A tripartite infantry conference, attended by leading military officials of Canada, the United Kingdom and the United States, was held in Quebec early in November.

On April 1, a new crown company, known as Atomic Energy of Canada, Ltd., took over the operation of the Chalk

river atomic energy project from the National Research Council of Canada. On Aug. 13 it was announced that Canada would provide the United Kingdom, under mutual aid, with a free gift of armament during the year, worth about $150 million. In addition, $100 million would be spent on defence equipment from U.K. factories and $70 million provided to help some U K. defence plants which had been established in Canada. (C. C.)

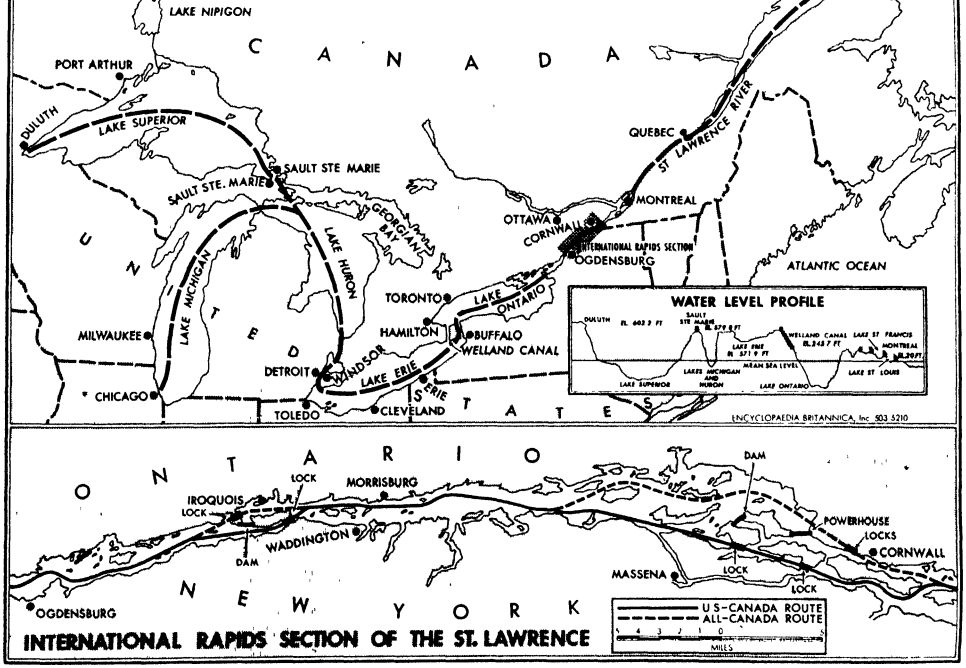
Education. Provincially controlled schools (1948-49) ordinary and technical day schools 31,148, pupils 2,230,939, teachers 82,050 Privately controlled schools (1948-49) ordinary day schools 832, pupils 104,737, teachers 6,479, business training day schools 248, pupils 20,074, teachers 934. Indian schools (1949-50) 403 (pupils 23,409) including residential 69 (pupils 9,316), day schools 334, pupils 14,093 Universities and colleges (1949) 198, students 116,176, professors and lecturers 10,430

Agriculture and Fisheries. Main crops ('000 metric tons, 1951, 1952 est in brackets) wheat 15,306 (18,375), barley 5,504 (6,415), oats 7,598 (7,313), rye 457 (622), maize 398, potatoes (1950) 2,651, sugar beets (year beginning Sept) 117, soya beans 119, linseed 234, tobacco ('000 lb) 153,792. Livestock ('000 head, year beginning Sept) cattle on farms (1951) 8,292, sheep (1952) 1,302, pigs on farms (1951) 5,419, horses on farms (1951) 1,505, poultry (1952) 42,717 Dairy production ('000 metric tons, 1951, 1952, six months, in brackets) milk 7,440, butter 116 4 (54 8), cheese 38 4 (12) Meat production ('000 metric tons, 1950, 1951 in brackets) total 869 (845), of which beef and veal 416 (373), pork 473 (456), mutton and lamb 16 7 Agricultural labour force (Aug 1952) total 1,007,000, of which paid workers 143,000 Fisheries (total catch of sea-fish, 1951, 1952, six months, in brackets) landed weight ('000 metric tons) 1,291 (602), total value ($ million) 72 7 (27 3)

Industry. Industrial establishments (1949) 35,792, persons employed (June 1952) 1,171,207 Fuel and power (1951, 1952, six months, in brackets) coal ('000 metric tons) 14,820 (7,090), lignite 1,996 (845), coke (1,959,000 tons), natural and manufactured gas (million cu m) 3,016 (1,794), electricity (million kwh) 57,396 (30,808), crude oil ('000 metric tons) 6,192 (3,332) Raw materials ('000 metric tons, 1951; 1952, six months, in brackets) iron ore (metal content 55%) 4,296 (1,580), pig iron 2,544 (1,319), steel ingots and castings 3,240 (1,737), copper, refined 223 (109 7), lead, refined 147 (80 7), zinc, refined 199 (101 7), nickel 137 (70), ('000 long tons) synthetic rubber 62 (37), gypsum 3,374 (1,428), asbestos 967 (460), lime 1,241 (583), salt 962 (473), feldspar 36, ('000 fine ounces) gold 4,328 9 (2,157 4), silver 24,245 (12,414) Manufactured goods (1951, 1952, six months, in brackets) wood pulp ('000 metric tons) 9,113 7 (4,473 1), newsprint ('000 short tons) 5,516 (2,823 9), cement ('000 metric tons) 2,676 (1,409), motor vehicles (thousands) cars 281 3 (145 8), commercial 133 5 (85 8), cotton yarn ('000 metric tons) 93 4 (34 8), woven cotton fabrics (million m) 283 (105 3), worsted yarn ('000 metric tons) 6 7 (3 1), sawn lumber (million bd ft) 6,378 (3,091) Manufactured food ('000 metric tons, 1951, 1952, six months, in brackets) wheat flour 2,040 (1,048), margarine ('000 lb) 105,151 (52,618) Index of industrial production (average 1935-37 100, 1951, June 1952 in brackets) general wholesale 243 0 (226 5), mineral production 174 0 (182 1), manufacturing 225 9 (222 1)

Finance and Banking (million Canadian dollars) Budget (1951-52 actual) revenue 4,024, expenditure 3,668, (1952-53 est) revenue 4,514, expenditure 4,505 Gross national debt (March 1950, March 1951 in brackets) 16,750 7 (16,923 3) Currency circulation (June 1951, June 1952 in brackets) 1,255 (1,307) Bank deposits (June 1951, June 1952 in brackets), 3,495 (3,563) Gold and U S dollar holdings (million U S $, June 1951, June 1952 in brackets) 1,683 (1,827) Monetary unit Canadian dollar, with an exchange rate (Oct 1952) of C$ 2 90 to the pound and C$ 1 04 to the U S dollar

Foreign Trade. (Million Canadian dollars, 1951, 1952, six months, in brackets) Imports 4,085 (1,950), exports 4,072 (2,089) Main sources of imports (1951) U S 69%, U K 10% Main destinations of domestic exports (1951) U.S 59%, U K 16% Main commodities imported (1951) machinery and vehicles 22%, iron, steel and manufactures 11%, petroleum and products 9%, coal, coke and products 4%, cotton and manufactures 4% Main domestic exports (1951) newsprint 14%, wood and manufactures 12%, wheat 11%, wood pulp 9%, nickel 3%, copper and manufactures 2% Index of volume of trade (1948 = 100, 1951) imports 123, exports 104



Transport and Communications. Railways (1950): steam 57,996·6 mi.; electric (1951) 990 mi.; passenger-km. (1951) 4,968 million; goods (1951) 93,540 million ton-km. Roads (1950) 567,155 mi.; including surfaced 169,498 mi. Licensed motor vehicles (Dec. 1951): cars 2,097,517; lorries 692,745; others 8,121. Navigable waterways (1949): 1,890 mi. including canals 509 mi. Shipping (merchant vessels of 100 gross tons and over, including vessels for inland navigation, July 1951): 1,196; total tonnage 1,764,646. Air transport (1951): passenger-mi. 472·1 million domestic, 236·9 million international; cargo (freight) ton-mi. ('000) 6,180 domestic, 2,854 international; cargo (mail) ton-mi. ('000) 4,359 domestic, 655 international. Telephones (1951): 2,911,900. Wireless licences (Sept. 1950): 2,177,000.

CANADIAN LITERATURE. *English.* The best work by a new novelist to appear in 1952 was Ernest Buckler's *The Mountain and the Valley*, about Nova Scotian farm life, followed by Basil Partridge's *The Penningtons*, an account of Canadian family life during the early years of the 20th century, and Doris Hedge's *Dumb Spirit*, a fantasy in which a dead man returns to life in the body of a cocker spaniel. E. J. Pratt presented *Towards the Last Spike*, a 1,500-line narrative poem on the building of the Canadian Pacific railway; Earle Birney presented *Trial of a City and Other Poems*, a collection of powerful verse critical of man and his works. Published plays included Maurice Corbett's *The Woman Called X* and Robertson Davies' *A Masque of Aesop*. Munro MacLennan published a curious dramatic poem in three acts, *Seven Caesars' Ransoms*.

The most significant biography of 1952 was Donald Creighton's *Sir John A. Macdonald: The Young Politician*, which covered with lively humanity the pre-confederation career of Canada's first prime minister. The most significant autobiography was C. L. Burton's *A Sense of Urgency*, the memoirs of a well-known Canadian merchant. An important historical work was Jean Bruchési's *A History of Canada*, translated from the French. *Canada: The Golden Hinge*, by Leslie Roberts was the best contemporary account of Canadian development and potentialities. Jean Burnet's *Next-Year Country* was a serious study of rural social organization. Efforts to assess Canadian literature were made by A. L. Phelps in *Canadian Winters* and Desmond Pacey in *Creative Writing in Canada*. (C. Cy.)

French. An autobiographical novel, *Les Enfances de Fanny*, by the late Louis Dantin, threw much light on the tragic life of this well-known poet and essayist, whilst *L'Ampoule d'or*, by Léo-Paul Desrosiers, was a lyrical narrative inspired by the quest for happiness in the picturesque Gaspé setting. These were the only two novels by established authors to have appeared in 1952. A newcomer, Roger Viau, explored in *Au milieu, la montagne* the effects of the economic crisis of the 1930s on a Montreal family and André Langevin was awarded the *Prix du Cercle du Livre de France* for *Evadé de la nuit*, a tragic novel about a misfit tormented by solitude.

Three young poets showed early promise. They were Fernand Dumont, whose *L'Ange du matin* was made of short pieces barren in style but rich in spiritual experience; Pierre Trottier, a young romantic who took up the cudgels in *Le combat contre Tristan;* and Sylvain Garneau, who blended irony and emotion in picturesque narratives in *Les Trouble-fêtes*.

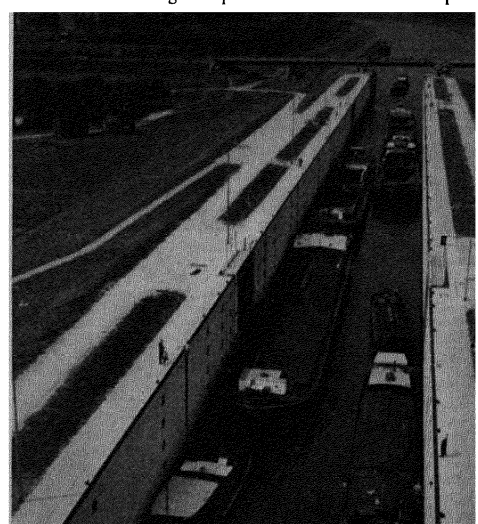
In the field of history, many works of varying importance came out, the most important being *Le Grand Marquis*, by Guy Frégault, a biography of Vaudreuil; *Réalisations françaises de Cartier à Montcalm*, by Gustave Lanctôt, dealing mainly with civil administration and militia in New France; the second volume of *Histoire du Canada français*, by Lionel Groulx, a bird's-eye view of the years 1713-63; *Le Régime militaire dans la gouvernement des Trois-Rivières*, by Marcel Trudel; and *L'Histoire du Canada par les textes*, a repertory of the most significant documents on Canadian history, compiled by Guy Frégault, Michel Brunet and Marcel Trudel.

The only play of distinction published in 1952 was *Brutus*, by Paul Toupin, a drama in three acts about the friendship of Brutus and Caesar. (*See* also Literary Prizes.)

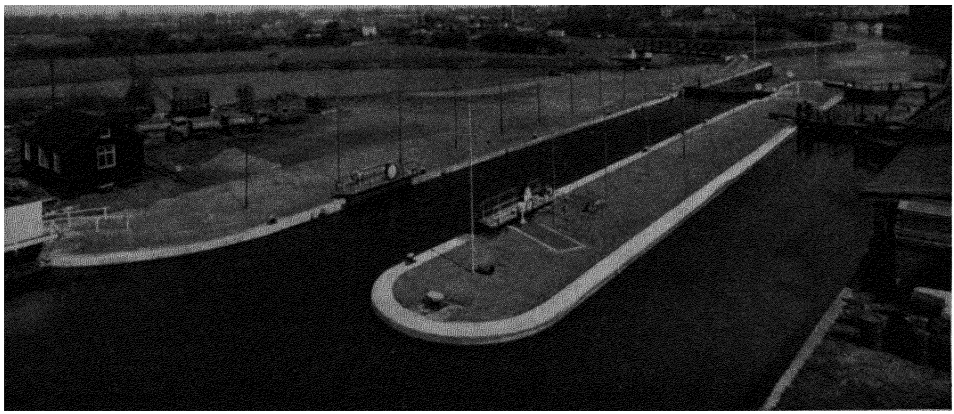
(G. Sr.)

CANALS AND INLAND WATERWAYS. The fourth annual report of the British Transport commission was published in July 1952. It recorded that during 1951 the Docks and Inland Waterways executive acquired the Monkland canal, Lanarkshire, the Bridgwater and Taunton canal, the River Tone navigation, Somerset, and the Grand Western canal. The overtaking of arrears of maintenance was continued. Where traffic prospects justified the expenditure, large-scale dredging and schemes of bank protection were undertaken. Work of this nature was continued on narrow canals in the midlands area, the Trent and Mersey canal, the Liverpool-Blackburn section of the Leeds and Liverpool canal, and the River Weaver navigation. Development of the main waterways was advanced, particularly on the River Severn, at Worcester, and at Newark Town lock on the River Trent. It was agreed to co-operate with the Trent river board in their flood relief scheme in the Nottingham area. Total traffic carried on the waterways in 1951 was 12,236,000 tons, as against 11,802,000 tons in 1950, consisting of 5,844,000 tons of coal and coke, 2,036,000 tons of liquids in bulk and 4,356,000 tons of general merchandise.

The executive co-operated with the British Electricity authority and the National Coal board in developing the water transport of coal to new power stations. Traffic in bulk oil was increased commensurately with the expanded oil storage capacity served by the waterways. The British Transport commission's own fleet represented about one-fifth of the total carrying capacity engaged on the waterways. It was decided that about 600 mi. of waterway under the executive's control was no longer required for commercial transport



The lock at Tiel, Netherlands, on the new Amsterdam-Rhine canal which was opened on May 21 by Queen Juliana.



Looking downstream at the large modern lock at Newark, which was opened on April 18. The lock would ease the movement of traffic on the Trent Navigation canal between the Humber and the Nottingham area.

though it might continue to serve other purposes, such as water supply for industrial uses, drainage or pleasure boating. In such cases, negotiations were opened with local authorities, river boards and others for the transfer of the waterways. Agreements of this nature were reached with the Nottingham corporation and the Shrewsbury corporation. The minister of transport granted a warrant of abandonment in the case of the Monkland canal subject to the continuance of maintenance for certain industrial purposes. Steps were taken towards the abandonment of the Barnsley canal. Warehouses on the waterways were generally filled to capacity and additional cargo-handling appliances were ordered. The standard of canteen facilities and other amenities was improved. In 1951 gross receipts from state-owned waterways amounted to £1,761,035 and working expenses to £1,947,487, showing a deficit of £186,452. In carrying operations, gross receipts amounted to £806,934 and working expenses to £895,214, making a deficit of £88,280.

Belgium. Progress was made with extensive modernization of the network of Belgian waterways and especially those parts connecting industrial districts with the ports of Antwerp, Ghent, Ostend and Zeebrugge. The widening and deepening of the whole length of the canal joining Charleroi with Brussels would make it accessible to vessels up to 1,350 tons. It would then be possible to dispense with the 1-km. tunnel used by boats at Godarville.

Netherlands. The great Tiel lock was opened, inaugurating the new Amsterdam-Rhine canal and marking the conclusion of a project first authorized in 1931. Amsterdam thus became the nearest seaport to the Swiss, German and French industrial districts bordering on the River Rhine. The old canal route was followed from Amsterdam to Utrecht, but from Utrecht a new route was made via Wijk-bij-Duurstede and Ravensway to Tiel, where it was joined to the Waal, the main arm of the Rhine. The lock at Tiel, over 1,180 ft. long and the largest inland lock in the world, was constructed in monolithic form and founded on piles.

Pakistan. Inland water transport plays an important role in the economic life of East Pakistan, which in 1952 had over 2,670 mi. of navigable inland waterways on which nearly 1,000 mechanically propelled vessels plied regularly. Certain waterways in the province were improved, and a comprehensive scheme costing Rs. 187·6 million was drawn up by the provincial government for improving the rest and opening up 1,996 mi. of new channels. For this purpose a fleet of 36 dredgers was ordered of which 8 had already arrived. The Economic Commission for Asia and the Far East was sponsoring a pilot project, which, when established would, *inter alia*, experiment with various types of tugs and pusher craft, and recommend types most suitable for rivers in East Pakistan and other parts of the region.

U.S.S.R. A canal was opened joining the River Volga to the River Don thereby completing a water transport route from the Baltic to the Black sea. Work had been begun before World War II and was resumed in 1947. More than 60 mi. of canal were cut across the steppes from Stalingrad to Kalach and construction works included 13 sluices, 3 dams and a large number of pumping stations, bridges and wharves.

(A. H. J. B.)

Canada. The federal government set up a special projects branch within the Department of Transport to prepare detailed plans and designs for the St. Lawrence seaway, which was expected to employ 9,500 men. The government of Ontario passed a bill to give river residents between Cornwall and Iroquois on the St. Lawrence the choice of compensation or rehabilitation for their properties to be lost by flooding.

Canada and the United States signed a treaty providing for a uniform system of marine radio-telephony on the Great Lakes and related watercourses. Tonnages taken up and down through the three major lock systems of the St. Lawrence river-Great Lakes system, for the April-Sept. 1952 period, showed a general decline when compared with the similar 1951 period (in brackets): St. Lawrence, 7,264,357 (7,381,271); Welland, 13,136,408 (11,781,008); Sault Ste. Marie (Canadian-U.S.) 74,928,489 (90,273,598); Sault Ste. Marie (Canadian only), 2,387,259 (1,898,862). (C. Cy.)

United States. The Rivers and Harbours act of 1952 provided for $158,435,800 for the construction of 26 projects in 23 states. An additional $73,458,900 was appropriated for maintenance, operation and care of ports and inland waterways.

The total net water-borne commerce of the United States was 923,931,053 short tons (prelim. est.) in the calendar year 1951. U.S. commerce on the Great Lakes totalled 178,463,212 tons. Inland waterway commerce, excluding the Great Lakes, totalled 213,407,633 tons, including deep-sea traffic on the Mississippi river below Baton Rouge, Louisiana. (*See* also Docks and Harbours; Floods and Flood Control; Panama Canal Zone; Suez Canal.) (G. Hb.)

CANCER. During 1952 an important contribution to the statistics of cancer was made in a study, issued by the World Health organization, of the trend of mortality from cancer during the 20th century The report covered the period 1900 to 1950 and analysed data obtained from Europe, the United States, Canada, Australia, New Zealand, the Union of South Africa, Japan, Uruguay and Chile Conclusions were somewhat difficult to draw, on account of differences in population and mortality data, variations in medical certification and diagnosis, and many other factors, and much caution was therefore required However, while at the beginning of the century many countries showed less than 5% of all deaths attributable to cancer and malignant tumours, by 1947 most had one in every seven to nine deaths so reported. This change reflected, in part at least, the advance in age of these populations, by which higher proportions now survived to the ages of greater cancer susceptibility than ever before The report analysed data for 23 countries by sex, site of tumour and age groups and drew attention not only to the clear increase in cancer mortality for practically all the nations considered, but to pronounced geographical differences, some of which, although not all, are determined by racial influences For individual sites, the mortality from cancer of the mouth and pharynx and of the skin had not increased and for several countries appeared to have diminished. Similarly, mortality from cancer of the uterus had been stationary, or had decreased, while that for cancer of the genital organs in both sexes had significantly risen. Recorded mortality from cancer of the breast in females had increased, in spite of the relatively favourable prognosis of the disease in this site if diagnosed and treated early. The most spectacular increase recorded was, however, in mortality from cancer of the respiratory system, particularly during the past 20 years, and specially affecting males in the form of cancer of the lungs. The report drew attention to the investigation proceeding under the aegis of the Medical Research council, according to which smoking was thought to be an important factor in causation and the risk of developing lung cancer, above the age of 45, increased in simple proportion with the number of cigarettes smoked Other contributory reasons were, however, suggested, such as prolonged exposure to industrial emanations and to the exhaust fumes of the internal combustion engine In this connection, note must be taken of the most recent studies of Dr Percy Stocks, associating the incidence of cancer of the lung with urban density From this and other work (*e g*, by W C. Hueper), it appeared that the etiology of cancer of the lung was certainly complex and that several environmental causes might be involved. An important addition to cancer statistics was made through the publication, by the British Empire Cancer campaign, of Col W. L. Harnett's *Survey of Cancer in London*

Much progress was reported in the field of chemical carcinogenesis and a useful general account was provided by G. Wolf. The process by which the normal cell is converted into the cancer cell continued to be elucidated through study of the recently discovered "alkylating" carcinogens, which were believed to act by chemical combination with hereditary material in the cell, so leading to genetic modification. New evidence tended to favour the hypothesis that the cancer cell is a somatic mutation "by loss", the action of carcinogens possibly being to eliminate certain genes or enzymes which, in the normal cell, limit the synthesis or availability of other key substances or "substrates" essential for cell division. This led to renewed investigation of the cellular proteins by modern methods of "antigen analysis" developed by J. Oudin, O. Ouchterlony and B. Bjorklund.

In the field of endocrine treatment and chemotherapy, C. Huggins' earlier contributions to the control of prostatic cancer were extended by his observation (Huggins and D. M. Bergenstal) that this disease (and certain cases of breast cancer), might be retarded by removal of the adrenal glands. Many papers contributed to evaluating the role of the sex hormones, the adrenocorticotrophic hormone (ACTH), cortisone, the folic acid antagonists, the nitrogen mustards and allied agents, and various radioisotopes (especially of phosphorus, gold and iodine), in treatment or palliation. Progress was reported in the clinical trial of 1:4-dimethanesulphonoxybutane ("Myleran") in chronic myelogenous leukaemia - perhaps the most useful chemical agent so far discovered for the management of this disease While all these had a certain usefulness, inevitably this was limited and there was no question that in time they would give way to much more specific means of chemical control, arising most probably from the steady advance in knowledge of the carcinogenic process (*See* also BIOCHEMISTRY, EAR, NOSE AND THROAT, DISEASES OF THE, SURGERY)

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CANNING INDUSTRY. An important event in 1952 was the bringing into operation during September of the first of two electrolytic tinning lines in the largest and most modern tinplate plant in the world, at Trostre, south Wales, with a capacity of about 350,000 tons a year and with provision for expansion. Part of the output from this plant was tinned in old-type works to make can quality tinplate pending the installation of hot-tinning machines at Trostre This led to a welcome improvement in supplies of cans. An innovation in Great Britain was the use of cans "labelled" by printing on the tinplate before fabrication with special inks resistant to steam and high temperatures. Such cans had been made in the United States for some years, but the synthetic materials used in their formulation had not been available elsewhere.

Statistics published during the year by the Ministry of Food showed that United Kingdom production of canned vegetables decreased from 322,600 long tons in 1950 to 299,800 long tons in 1951, including 119,800 tons of processed dried peas, 94,200 tons of baked beans, 33,500 tons of fresh peas, 20,500 tons of macaroni and spaghetti, and 12,900 tons of carrots Canned fruit fell from 75,100 tons in 1950 to 74,600 tons in 1951, including 36,600 tons of plums, damsons and greengages, 8,400 tons of apples, 6,900 tons of gooseberries, 5,600 tons of cherries, 5,100 tons of strawberries, 4,800 tons of other berries and currants, 3,700 tons of rhubarb and 3,500 tons of other fruits. Other canned foods included 72,000 tons of soups, 7,900 tons of baby foods, 9,600 tons of meats and 72,800 tons of milk. The largest items in production, processed peas and baked beans, kept the canneries in operation throughout the year, outside the short seasons for fresh fruits and vegetables.

An important *Report on Food Canning*, published by the Anglo-American Council on Productivity, emphasized the serious effects of the shortages of sugar and tinplate on the United Kingdom canning industry and gave valuable information about methods and machines used in U.S. canneries

The relative importance of the canning industries of different countries was roughly proportional to their consumption of tinplate. Statistics published by the International

Tin Study group showed that, out of the world consumption of nearly 6 million tons, the United States used (in round figures) 4 million tons, the U K. 500,000 tons, Canada 210,000 tons, Germany 150,000 tons, France 120,000 tons, Australia 110,000 tons, India 100,000 tons, Japan 80,000 tons, Italy 75,000 tons, the Netherlands 75,000 tons and South Africa 60,000 tons. (G H M F)

United States. Production in the United States of canned fruits, fruit juices, fruit and vegetable specialities, vegetables, milk, fish and meat in 1951 totalled about 648 million standard cases (final statistics), as compared with 588 million cases in 1950, an increase of about 10%. With the exception of canned fish, which showed a substantial decrease, all packs were significantly larger than in 1950. The total pack was the highest on record. By the end of the third quarter of 1952 canned fruit and vegetable prices were about 66% above the 1935-39 average, while the average for all foods was about 133% above pre-World War II levels, and for fresh fruits and vegetables about 166% higher.

Fundamental research progressed in its studies of sterilization by means of ionizing radiations. Research was continued in the laboratories of the National Canners association, in other industrial laboratories and in various universities. The U S Atomic Energy commission expanded its support of work designed to demonstrate the possible use of "gross fission products" which are produced as waste products by the operation of nuclear chain reactors. (E J C)

CANOEING. The 1952 slalom national championships, held near Builth on the River Wye, were well supported. In low water conditions caused by several weeks of dry weather, J McLean of the Tay Canoe club, and Kathleen Tootill of the Canoe Camping club, won the events for men and women respectively.

For the second year in succession, the national paddling championships were held on the River Thames near Marlow, and there was a record entry in all the kayak events. In the events for the Canadian canoe, G D Marchand received no challenge and therefore no races were held. The results were (i) kayak singles· 10,000 m., G C Colyer (Royal Canoe club), 48 min. 58 sec., 1,000 m., R Parker (Richmond Canoe club), 4 min. 40 4 sec., 500 m., (men) G C Colyer, 2 min. 13 6 sec., (women) Joyce Farnham (Royal Canoe club), 3 min. 3 sec., (ii) kayak pairs 10,000 m., R Parker and S Speel (Richmond Canoe club), 45 min. 44 sec., 1,000 m., R Parker and S Speel, 4 min. 28 4 sec.; 500 m. (men), F S T and R G. Prout (Canvey Island Canoe club), 2 min. 10 sec., (women) Shirley Ascott and B Milbourne (Richmond Canoe club), 2 min. 35 sec., (iii) kayak fours· 1,000 m., Richmond Canoe club (R Parker, G Gilkes, S Speel, J Macdonald), (iv) kayak singles relay race 4 500 m., Richmond Canoe club (R Parker, G Gilkes, S Speel, J Swettenham), 9 min. 22 6 sec.

The "Turn of the Tide" event for folding canoe pairs was won easily by R Parker and S Speel with a time of 4 min. 18 sec. A vast improvement in standard was apparent and, in every event but one, times recorded were much faster than those for 1951.

The following represented Great Britain in the Olympic canoe regatta in Helsinki: G. C. Colyer (10,000 m. and 1,000 m. kayak singles); R. Parker and G. Palmer (10,000 m. kayak pairs), F. S. T. and R. G. Prout (1,000 m. kayak pairs), Shirley Ascott (500 m. kayak singles), G. D. Marchand (10,000 m. and 1,000 m. Canadian singles). (*See* also OLYMPIC GAMES.) (J. W. D.)

CANTERBURY, ARCHBISHOP OF. GEOFFREY FRANCIS FISHER, 100th archbishop of Canterbury, primate of all England (b Higham-on-the-Hill, Leicestershire, May 5, 1887), was educated at Marlborough college, Exeter college, Oxford, and Wells Theological college. He was assistant master at Marlborough, 1911, and was ordained priest, 1913, at Salisbury. He was headmaster of Repton school from 1914 to 1932 when he was consecrated bishop of Chester. In 1939 he was translated to London and on April 19, 1945, he was enthroned as archbishop of Canterbury, in succession to William Temple. In an address to the Constitutional club, London, on Jan. 30, 1952, the archbishop referred to the need for revision of the Book of Common Prayer and the dangers of individual interpretations of parts of it by the clergy. At the time of the death of George VI in February, Dr. Fisher was confined to Lambeth palace by an attack of bronchitis, but he recovered in time to conduct the funeral service (with the archbishop of York) at St George's chapel, Windsor, on Feb. 15. He had broadcast a tribute to the memory of George VI on Feb. 10. In July the archbishop commented on the Communist activities of the dean of Canterbury (Dr. Hewlett Johnson), stating that the dean had not made himself liable to legal action and that his "unbecoming conduct" should be ignored by the press. On Aug. 11, Dr. and Mrs. Fisher left England for a holiday in the United States as guests of Bishop Henry Sherrill, presiding bishop of the Episcopal Church in America. Though on holiday, the archbishop accepted an invitation to preach in Boston. He returned to Great Britain on Sept. 19. On leaving New York Dr. Fisher referred to the potential danger of television as a mass-produced form of education, although allowing that on certain occasions television might be an amenity.

CAPETOWN. The "mother city", legislative capital and an important seaport of the Union of South Africa. Area (1948) 81 sq. mi. Pop. (1951 census, revised prelim.) 571,638, incl. 242,493 Europeans, 268,180 Coloured and 51,180 Africans. Administration: mayor (elected annually but customarily holding office for two years), city council, 45 members (3 from each of 15 wards), including 5 non-Europeans, elected every three years. Mayor (until Sept. 1953), Fritz Sonnenberg.

History. On April 6, 1952, Capetown celebrated the third centenary of its existence as the mother city of the Union. An impressive historical pageant and other ceremonies organized on a large scale were attended by representatives of many bodies at home and abroad, and by great crowds of the general public. In 1652 Capetown began under Jan van Riebeeck, its first governor, as a small outpost to supply Dutch ships plying the trade route to the East Indies. Three centuries later, Capetown had grown into a modern city, the southern gateway to a developing country and continent, a well-equipped port and a tourist and health resort famous for the grandeur and beauty of its scenery. The rapid progress of the city, which now conformed to a modern town-planning scheme, was reflected not only in new skyscrapers in the central business area, in blocks of shops and flats in the suburbs and in new satellite townships, but also in an amazing growth of industry on the municipal outskirts.

Another factor which was altering the whole seaward appearance of Capetown was the development of the foreshore area which, until recently, had been a sandy waste. Over a large part of the 480 ac. reclaimed from the sea in the course of the Duncan dock project, a new railway goods terminus was almost completed. The project itself, begun in 1938 and completed in 1945, had provided a 290-ac. dock and a graving dock equipped to take the biggest ships afloat. Layout of the remainder of the area, which would give a grand approach and a new business area for the city, had already reached the stage where roads, drains, sewers and cables had been laid and business sites earmarked for sale

An announcement by the Foreshore board of the terms of sale of these sites was now awaited.

For more than a year the rateable valuation of the municipal area had been increasing by about £1 million a month. New building construction in 1951 had involved 4,568 building projects costing £12,101,250. This was a record, and there seemed to be no marked diminution in the tempo of progress and development during 1952. The total city valuation now exceeded £150 million. In 1951 a municipal rate of 4½*d.* in the pound produced £2,610,781 on a rateable valuation of £140,498,006. The rate for 1952 was 5*d.* Expenditure on the city's general rating account was now more than £8 million a year. (J. LN.)

CAPE VERDE ISLANDS: *see* PORTUGUESE OVERSEAS TERRITORIES.

CARIBBEAN COMMISSION. An advisory body set up in 1946 by France, the Netherlands, Great Britain and the United States in succession to the Anglo-American Caribbean commission to encourage co-operation among the territories in this area and facilitate research. Two subsidiary bodies set up were the Caribbean Research council and the West Indian conference. The conference was to assemble every second year and provide a forum at which representatives of the peoples themselves could discuss social and economic matters. The commission established a secretariat at Port of Spain, Trinidad, and was to meet twice a year.

History. The commission met twice in 1952—in Guadeloupe in May and at Montego Bay, Jamaica, in November-December. The latter meeting was held in conjunction with the West Indian conference (fifth session), the principal themes of which were industrialization and vocational training.

Three technical conferences were held under commission auspices: industrial development, Puerto Rico, February; fisheries, Trinidad, March; and home economics and education in nutrition (sponsored jointly with the Food and Agriculture organization), Trinidad, June-July. In addition, the eastern Caribbean hurricane sub-committee of Regional Association IV, World Meteorological organization, met at the secretariat in June.

An important development in the field of technical assistance was the assignment to the commission of two aided-self-help housing advisers, under the U.S. Point Four programme, for two years. Negotiations with the Food and Agriculture organization for the services of an agricultural economist under the technical assistance programme were completed.

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CAROLINE ISLANDS: *see* PACIFIC ISLANDS, U.S.; TRUST TERRITORIES.

CARTOGRAPHY. In Kenya scattered triangulation was done between 1906 and 1914, but no levelling except in connection with engineering works, such as roads. In 1948 it was decided to lay down new planimetric and altimetric surveys to the highest standards of accuracy. Geodetic levelling began in 1949 and primary triangulation in 1950. It was planned to level 5,000 mi. along railways and main roads, extending the work into Uganda and Tanganyika, and carrying levels from the Indian ocean to Lake Victoria. Up to 1952 three circuits had been levelled and checked, the first was 377 mi. long and had a mean level misclosure of ·19 ft., the second, 637 mi. long, had a misclosure of ·06 ft., and the third, 541 mi. long, misclosed by ·053 ft. The datum was taken from a tide gauge in Kilindini Harbour, Mombasa. This was not satisfactory, being on unstable foundations and not in the open sea. It was hoped to install another at Tanga.

Recent work in connection with the geodimiter, an instrument for the accurate measurement of distances by high-frequency light signalling, had shown that it was capable of an accuracy comparable with that achieved by first-order triangulation. This led to a great deal of discussion of the possibility of using it for closing the gap in the African arc of the 30th meridian, as well as for primary triangulation. Light pulses of known frequency and varying intensity were directed from one end of the line whose length it was desired to measure, to the other, and after reflection by a mirror at that station were received back in a special apparatus beside the transmitter Taking into account atmospheric conditions, the distance could be calculated from the velocity of light. It was found that distances up to 22 mi. could be satisfactorily measured.

The Ordnance survey of Great Britain experimented in the use of the stereocomparator for air triangulation. The computational work was found to be heavy, but it was thought possible to get part of it done on the new electronic computing machine at the National Physical laboratory. The Caithness base of the Ordnance survey triangulation was measured to an accuracy of 1 part in 1,750,000. The first sheets of the 7th series of the one-inch (1:63,360) map were published.

In Canada experiments in the radioactive marking of survey pegs were conducted, in order to overcome the difficulty caused by inability to find marks a few years after they had been put down. A small radioactive pin could readily be located with a geiger counter. It was thought that no excessive risk or expense would be involved.

A *Climatological Atlas of the British Isles* was published (H.M S.O., London, 1952). It comprised maps showing average conditions of most climate factors over the period 1901-30.

In Mexico steady progress was made with the new 1:100,000 general map of the republic and with the 1:25,000 map of the valley of Mexico.

The World Land Use survey prepared a map of Tanganyika, mainly as an experiment in technique, which was then applied to the production of a map of Mauritius. The work depended chiefly on the interpretation of air photographs.

Plates 4, 5 and 6 of the *Atlas of Distribution of Diseases*, showing the occurrence of helminthiases, dengue and yellow fever, and plague, were published by the American Geographical society (New York, 1952).

A *Carte des Tsé-Tsés* by M. C. Henrard was added to the *Atlas Général du Congo* (Institut Royal Colonial Belge, Brussels).

The British Directorate of Colonial Surveys introduced the use of aneroid barometers for control of heights in air surveys The publication of preliminary maps (mostly 1:50,000), especially of the African colonies, continued steadily. Hunting Aerosurveys (England) developed the production from air surveys of very large-scale plans (1:500) of factories and railway works.

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CATTLE: *see* LIVESTOCK.

CAVE EXPLORATION: *see* SPELEOLOGY.

CELLULOSE PRODUCTS: *see* PLASTICS INDUSTRY; RAYON AND SYNTHETIC FIBRES.

CENTENARIES. The most notable centenary in British history recorded in 1952 was that of the death of the Duke of Wellington. A commemorative service was held in St. Paul's cathedral, London, and Wellington's home in Piccadilly, Apsley house, was opened by the Ministry of Works as the Wellington museum on July 19, 1952. Liberals recorded the centenary of the birth of Herbert Henry Asquith, the 1st Earl of Oxford and Asquith. A ceremony was held in Westminister abbey and a luncheon was held at the National Liberal club in London. The births of Sir Walter Raleigh and Richard Hakluyt, believed to have been in 1552, were marked by a joint exhibition at the British Museum.

Corpus Christi college, Cambridge, commemorated its 600th anniversary on the feast of Corpus Christi, June 12, 1952. The year was notable for the 400th anniversaries of nine important schools. Bedford school remembered the grant of its charter by Edward VI with a service in St. Paul's church, Bedford, Princess Margaret visited the school on June 14. Shrewsbury school presented the town of Shrewsbury with a new High Cross to mark its fourth centenary; the queen and the Duke of Edinburgh visited the school on Oct 24. The other seven schools were King Edward's, Birmingham, King Edward VI, Stourbridge, King Edward VI, Nuneaton; the grammar schools of Leeds, Ludlow and Morpeth; and King Edward VI, Retford, which was visited by the Duke of Gloucester on July 1. Later in July he was at Victoria college, Jersey, for its centenary. Colfe's grammar school, Lewisham, was founded in 1652, and the approved school at Kingswood, near Bristol, was opened in 1852.

Laval university, Quebec, the first French and Roman Catholic seat of learning in North America, celebrated its centenary in 1952. Its charter was given in 1852, but it grew from the Quebec seminary founded in 1660. The University of Bologna, and the Pontifical Beda college, Rome, both celebrated their foundation, the first in 1052 and the second in 1852. The American Geographical society and the American Society of Civil Engineers held centennial conferences in 1952.

The Hospital for Sick Children in Great Ormond street, London, commemorated its centenary. A service was held in the church of St Martin-in-the-Fields, and visits were made by the Queen and the Princess Royal. The Manchester Royal infirmary celebrated its bicentenary in July. Sir William Ramsay, the chemist, was born on Oct 2, 1852, and 100 years later an exhibition of his work was held at the Science museum. An appeal was launched to extend the research facilities that led to his triumphs.

Ecclesiastical centenaries recorded in 1952 included: Kirkstall abbey, Leeds, founded by Cistercian monks in 1152; the 14th centenary of the see of Bangor, claimed to be the most ancient in Great Britain with an uninterrupted history; the 700th anniversary of the founding of the church of St. Etheldreda in Ely place, London; the 600th anniversary of Little St. Mary's church, Cambridge; and the quincentenary of Deane church, Bolton. The year 1952 marked a special anniversary—that of St. Swithin who became bishop of Winchester in 852. The Society of Friends celebrated its tercentenary with a world conference at Oxford and with celebrations in the north of England where George Fox lived.

In the field of art the anniversary most widely noted was that of Leonardo da Vinci who was born in 1452. Exhibitions of his works were held at the Royal Academy, London, and in Florence and Milan At Vinci the president of Italy opened the celebrations. The house at Anchiano, traditionally held to be his birthplace, was declared a permanent memorial. The Soviet Union issued a postage stamp with a portrait of Leonardo.

Louis Braille, the blind French priest who invented the braille system of reading and writing, died on Jan. 6, 1852, and commemorative events were held in 1952. In Paris his remains were reburied in the Panthéon, and in London the Duke of Edinburgh opened an exhibition at the National Institute for the Blind. Friedrich Froebel, who permanently influenced educational thought and practice, died on June 21, 1852.

South Africa commemorated the arrival at Capetown on April 6, 1652, of Jan van Riebeek, the first European to settle in southern Africa. An exhibition and fair, the largest ever held in South Africa, took place in Capetown during March and April

The centenary of the death of Nikolay Gogol, the Russian author, on March 4, 1852, was widely celebrated. Gogol centenary committees were set up throughout the Soviet Union, and all the academies of sciences held Gogol sessions. Ireland commemorated the death in 1852 of Thomas Moore.

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CENTRAL AFRICAN FEDERATION. Proposals for associating more closely Southern Rhodesia, Northern Rhodesia and Nyasaland (*qq.v.*) had been discussed for some years. A royal commission in 1938 considered the problem but recommended at that time only an inter-territorial advisory body: this came into being, after wartime delays, in 1945, as the Central African council, in 1951, however, it was reduced to a secretariat. The report of a conference of officials held in London in March 1951 proposed a federation, British Central Africa, with a central authority controlling external affairs, defence and economy. This proposal was examined by territorial representatives and the British colonial secretary at Victoria Falls in Sept. 1951: the African delegates from the north opposed federation, other interests accepted it in principle The Conservatives, returned to power in London in Oct. 1951, affirmed their belief in federation as being in the best interests of the Africans. (*See* also *Britannica Book of the Year 1952* SOUTHERN RHODESIA)

Developments in 1952. In London in January Lord Ismay, Commonwealth relations secretary, Oliver Lyttelton, colonial secretary, Sir Godfrey Huggins and the governors of Northern Rhodesia and Nyasaland discussed criticisms of the federation proposals expressed in the three countries, the governments of the territories were asked to state any modifications to the official plan that they might consider desirable, before March 1. A full conference in London in April would formulate a final scheme.

The House of Commons divided after a debate on federation on March 4 (government majority 18). Lyttelton undertook to invite the three governments to a final conference after the April one before the ratification or abandonment of the scheme was put to the governments concerned. The Southern Rhodesian delegation to the April conference included two Africans. Official African delegates from the legislative councils, the Northern Rhodesian African representative council and the Nyasaland protectorate council accompanied the Northern Rhodesian and Nyasaland delegation. Unofficial delegations from the Nyasaland African congress and the Northern Rhodesian African congress also arrived in London to register opposition to federation. The conference was opened on April 23 by Lord Salisbury, now Commonwealth relations secretary, who with Lyttelton headed the U.K. delegation. The refusal of the Northern Rhodesian and Nyasaland African delegates to attend led to a further

debate in the Commons in which Lyttelton stated that they had been invited both to informal talks and the conference. He had offered them a guarantee in writing that their attendance at the latter would commit them to nothing.

After the conference it was announced that agreement had been reached on a draft constitutional scheme. It included the setting up of a federal legislature and executive; the maintenance of the protectorate status of Northern Rhodesia and Nyasaland and the self-governing status of Southern Rhodesia within the federation; the inclusion in the federal assembly of two elected Africans from each territory; the division of powers between the federal and territorial governments; financial considerations; the appointment of a Statutory African Affairs board independent of the federal parliament and executive and consisting of one European and one African from each of the three territories, with an independent chairman appointed by the governor-general; the establishment of a federal constitution. The conference reaffirmed assurances about African land rights and decided to appoint fiscal, judicial and public service commissions to fill in details of certain parts of the draft constitution. It was decided that after receipt of these commissions' reports, a further conference should be held to put the constitutional scheme into final form. A white paper (Cmd. 8573) was published in June. Another Commons debate took place on July 24; Lyttelton announced that the final conference would be held in Jan. 1953. He denied clumsiness in handling African opinion and spoke of difficulties in ascertaining what that opinion really was. Henry Hopkinson, minister of state for colonial affairs, toured the northern territories in August to test opinion.

Sir Jeremy Raisman, Sir William Douglas and Sir Robert Hudson were appointed chairman of the fiscal, civil service preparatory and judicial commissions respectively; their reports were published in October (judicial, Cmd. 8671; fiscal, Cmd. 8672; civil service preparatory, Cmd. 8673). It was announced in September that the final conference would open in London on Jan. 1 1953. Opposition to the plan by sections of European opinion in Southern Rhodesia was increasing towards the end of the year. (W. H. Is.)

CEREALS: *see* GRAIN CROPS; WHEAT.

CEYLON. Self-governing member of the Commonwealth of Nations, lying S.E. of most southerly point of India. Area: 25,322 sq.mi. Pop.: (1946 census) 6,657,339; (mid-1951 est.) 7,743,000. Language: mainly Sinhalese (69%) and Tamil (21%). Religion: Buddhist (61%), Hindu (22%), Moslem (9%) and Christian, mainly Roman Catholic (7%). Chief towns (pop., 1946 census): Colombo (*q.v.*; cap., 362,000); Jaffna (63,000); Dehiwala-Mt. Lavinia (56,900); Kandy (51,200); Moratura (50,700). Governor-general, Lord Soulbury; prime ministers (1952): Don Stephen Senanayake (*see* OBITUARIES) and (from March 26) Dudley Shelton Senanayake (*q.v.*).

History. The death, following a riding accident, of Don Stephen Senanayake, independent Ceylon's first prime minister, occurred on March 22, 1952, and plunged the whole country into mourning. Three-quarters of a million people filed past the bier of a much-beloved leader, and vast crowds attended the cremation in the centre of Colombo. After several days of uncertainty the late premier's son, Dudley Senanayake, minister of agriculture in his father's government, was appointed prime minister. Parliament was dissolved in April and a general election was held in the following month. The omission from the voters' registers of large numbers of Indians, who had applied for Ceylonese citizenship but had not so far been accepted, drew a protest from the government of India; this was rejected and the controversy continued to smoulder throughout the year. The elections resulted in a decisive victory for the prime minister's United National party and in the weakening of Communist influence. A new government took office on June 2. (*See* ELECTIONS.)

The budget, presented in the following month, showed a deficit of Rs. 35 million to be met from unappropriated surpluses. J. R. Jayawardene, the finance minister, said that its provisions were for completing the programme of work under the six-year plan, 1947-53. Arrangements for continuing the planned development of the country were being made. These would be based on the recommendations of the economic mission of the International Bank for Reconstruction and Development which had surveyed Ceylon. No extra taxation, either direct or indirect, was imposed in the budget. The first currency note issued by the newly formed Ceylon Central bank, Colombo, was put into circulation in January.

The International Bank report, published in September, contained sharp criticism of government policy on the new state industries. Meanwhile Ceylon's financial position had worsened because of a contraction of revenue, and the severe pruning of voted expenditure was ordered. An adverse trade balance amounted to Rs. 67 million for the first half of the year, as compared with a favourable balance of Rs. 248 million for the same period in 1951. To conserve dollars Ceylon imposed restrictions on certain classes of imports from the non-sterling area in September, two months before the prime minister went to London for the Commonwealth Economic conference.

The food situation caused acute anxiety during 1952. Because of Ceylon's inability to buy enough rice in Burma and Siam, the food minister, Sir Oliver Goonetilleke, was forced to ask help from the United Kingdom government in obtaining supplies from other sources. Following a visit to Washington, the food minister bought 40,000 tons of rice from the United States and the rice situation was thus made secure until early 1953. Great efforts were also made to increase domestic rice production.

In September a trade delegation led by R. G. Senanayake, minister of commerce, visited Peking to further Ceylon's policy of trading with China. Proposals for the supply of rice from China in return for Ceylonese rubber were the subject of intense local controversy but were finally adopted by the Ceylon government. Imports from Japan increased



Dudley Shelton Senanayake saluting his mother after he had succeeded his father as prime minister of Ceylon in March.

substantially during the year. In February an Indo-Ceylonese trade agreement covering the year 1952 was signed in Colombo.

In March an event of great religious significance to Buddhists took place at Kandy: in the Temple of the Tooth, before a company that included 100 Burmese on a special pilgrimage from Rangoon, the sacred tooth relic was exposed. (J HKN.)

During 1952 it became known that the island sultanate of the Maldives, just north of the equator and 400 mi. southwest of Ceylon, was to be a republic from Jan. 1, 1953. The islands had been tributary to Ceylon since the early 17th century, and had been ruled by an elected sultan through a cabinet of four since constitutional reforms in 1932 Amir Amin Didi, chief minister of the sultanate and senior member of the ruling family, was to be the first president of the new republic The country would remain under British protection. In 1946 the population of the 200 inhabited islands of the 12,000 forming the archipelago was *c.* 93,000, mainly Moslems speaking a Sinhalese variant. the capital is Male (pop. *c.* 7,000) on King's island. (X.)

Education. Schools (1949) Sinhalese and Tamil government and assisted 5,610, pupils 1,010,184, central and English 631, pupils 237,678 Technical college (1949-50), students 1,969 Teachers' training colleges (1949) 20, students, primary 1,653, secondary 222, post graduate 68 University (1949-50), students 1,850

Agriculture. Main crops ('000 metric tons) tea (1949, 1950 in brackets) 135 4 (138 9), rice, paddy (1950, 1951 in brackets) 314 (315), cassava (1950) 185, sweet potatoes and yams (1950) 59, millet (1948) 10 Copra exports ('000 metric tons, 1951, 1952 est) 12 3 (19 3) Livestock ('000 head, Sept 1951) cattle 1,072, sheep 51, pigs (1950) 104, buffaloes (1948) 658, goats (1950) 370 Coconut oil exports ('000 metric tons, 1951, 1952 est in brackets) 111 5 (105 8)

Industry. Fuel and power manufactured gas ('000 cu m , 1951, 1952, six months, in brackets) 9 26 (4 60), electricity (million kwh , 1951) 106 60 Raw materials (metric tons) rubber (1951, 1952, six months, in brackets) 108,000 (42,000), graphite (exports, 1949) 12,434, salt (1949) 28,775

Finance and Banking (million rupees) Budget (1951-52 est) revenue 896, expenditure 886, (1952-53 est) revenue 904, expenditure 939 Gross national debt (Sept 1949, Sept 1950 in brackets) 549 1 (561 4) Currency circulation (Aug 1951, Aug 1952 in brackets) 361 (362) Bank deposits (July 1951; July 1952 in brackets) 656 (554) Monetary unit *rupee*, with an exchange rate of Rs 13 33 to the pound sterling and Rs 4 775 to the U S dollar

Transport and Communications. Roads (1949) 6,535 mi Licensed motor vehicles (Dec 1950) cars 32,500, commercial 14,800 Railways (1949) 896 mi , passengers (1949) 26 7 million, goods ('000 metric tons, 1949-50) 1,350 Air transport (1950) passenger-mi 6,152,000, cargo, ton-mi 73,000 Telephones (1951) 16,860 Wireless licences (1950) 28,000

Foreign Trade. (Million rupees, 1951, 1952, six months, in brackets) Imports 1,559 (892), exports 1,904 (828) Main sources of imports (1951) U K 22%, Burma 15%, India 12%, Australia 8% Main destinations of domestic exports U K 32%, U S 11%, Australia 7%, Canada 4% Main imports rice, cotton piece-goods and sugar Main exports tea, rubber and coconut products

CHAD: *see* FRENCH EQUATORIAL AFRICA

CHAMBERS OF COMMERCE. United Kingdom taxation, and its effects upon British trade and industry, was closely examined by the Association of British Chambers of Commerce and its constituent chambers during 1952. In addition to its customary pre-budget letter to the chancellor of the exchequer the association made a special study of the effects of death duties and other taxation upon family businesses; a memorandum of the results obtained was submitted to all government members and was widely circulated. Through the A.B.C.C., chambers of commerce presented evidence to the Royal Commission on the Taxation of Profits and Income; the association was one of the principal witnesses at the oral hearing in July when the vexed question of the proper method of valuing stocks and fixed assets in times of inflation was considered. Much activity by chambers and the A.B.C.C. resulted in considerable improvement in the provisions of the Finance bill dealing with the excess profits levy. The government set up a Purchase Tax Paid Stocks committee and a Purchase Tax Valuations committee; the A.B.C.C. gave evidence before each of these bodies

Throughout 1952 chambers continued their active interest in rating, town and country planning and customs and excise matters affecting their members.

Transport policy remained one of the key matters considered by the A.B.C C., with the advent of a new government it was clear that the Transport act of 1947 would be amended and there were close consultations with the government on this vital issue. The setting up of a government-sponsored committee of enquiry to review the Road Traffic act, 1930, moved chambers of commerce to study this problem closely with a view to submitting evidence The A.B.C.C also stated a case before the transport tribunal about the passenger charges scheme, which in the event, involved substantial increases in passenger fares.

Fuel and power, with the advent of the Ridley committee's report, and postal and telephone charges, which underwent heavy increases, occasioned a number of balanced representations to government.

The A.B.C.C. gave much attention to a variety of important matters connected with increased productivity in industry and the need for the long-term planning of export trade The association became a member of the British Productivity council, formed in November, and, also in November, it accepted an invitation from the chancellor of the exchequer to be represented on the National Production Advisory Council on Industry

Severe import restrictions introduced suddenly by Australia caused great concern and led to a visit by the prime minister of Australia for discussions with the government. The prime minister received a deputation arranged by the A B.C.C., and the most vital aspects of the situation were discussed. Through the Dollar Exports council, and in other ways, the A.B.C.C. and chambers continued to promote increased trade with North America and the dollar account countries. The already close relations between Canadian chambers of commerce and the A.B C C were strengthened. Representations were made to the prime minister before the Commonwealth prime ministers' conference; *inter alia*, these reiterated chambers' views on the General Agreement on Tariffs and Trade.

The A.B.C.C. was represented on a committee formed by the president of the Board of Trade to review arrangements for consulting industry before bilateral trade negotiations; it also continued to play its part in policy discussions with the board in advance of such negotiations and as a member of the Consultative Committee for Industry. (A. R. K.)

International. During 1952 the International Chamber of Commerce continued to co-operate closely in the work of the Economic and Social council of the United Nations and of other international organizations concerned with economic affairs Particular attention was devoted to measures to control inflation, both nationally and internationally, to achieve greater freedom in international payments and trade and to promote private foreign investment in underdeveloped countries. Special consideration was given also by the European national committees of the chamber to schemes for the integration of European production and marketing, including the Schuman plan and the Green Pool, and also to the co-ordination of European transport policy.

The chamber's technical committees carried out studies dealing with unilateral relief from double taxation, the alleviation of the harmful consequences to business of the conventional accounting practices in times of inflation, the removal of barriers to international trade and measures to

improve the organization of international rail, road, sea and air transport.

The contracting parties to G.A.T.T. (General Agreement on Tariffs and Trade) adopted, almost unchanged, the I.C.C. recommendations for (1) an international convention to facilitate the importation of commercial samples and advertising material, (2) two sets of standard practices regarding documentary requirements for the importation of goods, and consular formalities and (3) the sanctity of contracts affected by quantitative restrictions imposed after the completion of the contracts. The contracting parties to G.A.T.T. recommended all member-governments to put these recommendations into operation.

The I.C.C.'s rules for the unification of banking practice relating to commercial documentary credits became effective at the beginning of the year and were adopted by the banking systems of many countries. The chamber's digest, *Trade Terms*, was revised. Work was begun on a new edition of *Incoterms, 1936*, the I.C.C. publication which provides a common code of trade terms for international use.

Studies were undertaken also on such questions as the technique of distribution censuses, regulations affecting distribution, the promotion of advertising media research and the encouragement of professional training in advertising.

The following questions relating to the international protection of industrial property were subjects of particular enquiry; formalities connected with applications for patents; protection of horticultural and agricultural inventions; patenting of medical products; international registration of trade-marks; special protection of well-known trade-marks; and limitation of the reasons for refusing the registration of trade-marks.

A special I.C.C. commission was formed to deal with Asian and far eastern affairs, with its head office in New Delhi. This commission would deal with matters of economic policy affecting the interests of businessmen in Asia, particularly with matters raised by the U.N. Economic Commission for Asia and the Far East. (C. G. FE.)

CHANNEL ISLANDS. Great Britain's only remaining possessions of the duchy of Normandy, consisting of: Jersey, pop. (1951 census) 57,296; Guernsey and dependencies (Alderney, Sark and Herm), pop. (1951 census) 45,474. Total area: 75 sq.mi. Part of the United Kingdom, but administered independently. Capitals: Jersey, St. Helier; Guernsey, St. Peter Port. Lieut.-governor of Jersey, Lieut.-General Sir Arthur Grasett; Lieut.-governor of Guernsey, Lieut.-General Sir Philip Neame.

History. In 1952 Jersey's early potato crop did well, but drought delayed later growth; the yield was 37,990 tons from 8,240 ac. Late outdoor tomato crops were again spoiled by hail, but the total exports exceeded those of 1951. The Guernsey glasshouse tomato crop was larger than the previous record crop of 7·5 million 12-lb. baskets. A law was passed establishing the Guernsey Tomato Marketing board. Foot and mouth disease infected four farms on Jersey and two on Guernsey for the first time in many years. Restrictions were enforced from May 5 to Sept. 1. A further outbreak was reported on Jersey on Dec. 9.

The British government offered to sell back to Alderney 1,000 ac. used for military purposes since the mid-19th century.

The Duke and Duchess of Gloucester made a four-day tour of the islands in July. In Jersey the duke attended celebrations to mark the centenary of Victoria college. The bailiff of Jersey visited Ottawa to attend the conference of the Commonwealth Parliamentary association as the representative of the Jersey branch. All the islands had a record number of visitors during the year. On Dec. 10 the States, or parliament, of Guernsey voted £100,000 as a freewill offering to the British government. (B. C. DE G.)

See C. P. Le Huray, *The Bailiwick of Guernsey* (London, 1952); Basil C. de Guérin, *The Norman Isles* (3rd ed., London 1952).

CHAPLIN, CHARLES SPENCER, British stage and film comedian and film director and author (b. London, April 16, 1889), was educated at the Hanwell institution's residential school, London, and at the Hern Boys' school, near London. He had begun his career on the English stage, first appearing in a music-hall sketch at the age of seven. In 1899 he toured the U.K. as one of the "Eight Lancashire Lads" and in 1904 he appeared as Billy in *Sherlock Holmes*. At the age of 17 he joined Fred Karno's vaudeville company with which, in 1910, he made his first tour of the U.S., as leading comedian in *A Night in an English Music Hall*. In Nov. 1913 he was engaged by Mack Sennett to make films for the Keystone Comedy company, Hollywood. His first film was *Making a Living* (1914) and it was in his second, *Kid Auto Races at Venice*, that he adopted his tramp's costume and shuffling gait which soon became world-famous.



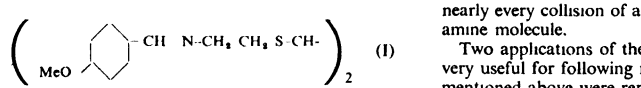
Charles Chaplin and his wife on the roof of the Savoy Hotel, London, after their arrival there on Sept. 23.

His early short slapstick comedies, in which he combined pathos and idealism with a sly impudent opportunism, included *Tilly's Punctured Romance* (1914), *Mabel's Strange Predicament* and *The Champion* (1915), *Easy Street* (1917) and *Shoulder Arms* (1918). In 1918 he formed the Charlie Chaplin Film company and built his own studios in Hollywood and in 1920 he founded, with Douglas Fairbanks and Mary Pickford, the United Artists corporation. The independence he thus gained enabled him to develop his films along more ambitious lines and resulted in such successes as *The Kid* (1921), *The Gold Rush* (1925), *City Lights* (1931), *Modern Times* (1936), *The Great Dictator* (1940) and *Monsieur Verdoux* (1947). His early poverty had imbued Chaplin with an awareness of social injustice and in his later films he expressed this in a championship of the down-trodden which, because it was conceived in a truly comic spirit, became neither tedious nor mawkish. This social criticism in his work, however, was taken to imply in the U.S. unsavoury political affiliations and in 1949 the House of Representatives Un-American Activities committee denounced him as a pro-Communist. In Sept. 1952 he visited London for the première of his latest film, *Limelight* (Oct. 16), in which he played the part of a fading music-hall star.

CHEMISTRY. Conferences. During 1952 a number of important conferences on chemical subjects were held. Among these were the national meetings of the American Chemical society in Buffalo and Milwaukee in March and in Atlantic City in September. The first International Congress on Analytical Chemistry was held under the patronage of the International Union of Pure and Applied Chemistry at Oxford in September. An important conference on phase changes was held in June under the auspices of the French physical chemical society in Paris. The Faraday society held three discussions during the year; the first was in April at Leeds on radiation chemistry, the second in August at Cambridge on the physical chemistry of proteins and the third in September at Toronto on the reactivities of free radicals. This was the first occision on which the Faraday society had held a discussion outside the British Isles. The fourth symposium on flame and combustion phenomena was held at the Massachusetts Institute of Technology during September.

Inorganic Complexes. Since World War II there had been a considerable reawakening of interest in the study of inorganic complex compounds formed by the co-ordination of inorganic and organic molecules and ions to heavy metal ions. During 1952 work on two particularly interesting members of this class was reported. In Dec. 1951 T. J. Kealy and P. L. Pauson (*Nature, 168*, 1039, London, 1951) reported that the reaction of *cyclo*pentadienylmagnesium bromide with ferrous chloride produced a compound of composition $C_{10}H_{10}Fe$ which showed remarkable stability. S. A. Miller, J. A. Tebboth and J. F. Tremaine (*J. Chem. Soc., 632.*, London, 1952) showed that the same compound could be produced by passing *cyclo*pentadiene over an activated iron catalyst at 300°C. R. B. Woodward, M. C. Whiting *et al.* (*J. Am. Chem. Soc., 74*, 2125, 3458, New York, 1952) showed that despite its high degree of formal unsaturation the compound did not react with maleic anhydride and was not readily hydrogenated. It was readily oxidized to a blue cation $Fe(C_5H_5)_2^+$. The reactions of the compound were typically aromatic and the authors suggested that it should be called ferrocene. A number of derivatives were prepared, including the dicarboxylic acid whose first dissociation constant was very similar to that of benzoic acid The authors concluded that the ring carbon atoms and hence the central iron atom were electrically neutral.

J. Collins, F. P. Dwyer and F. Lyons (*J. Am. Chem. Soc. 74*, 1134, 1952) resolved into its optically active forms the complex cobalt (III) ion derived from the Schiff base shown in diagram I.



(I)

The iodide of this sexadentate complex has a specific molecular rotation of $\pm 36{,}700°$. The high molecular rotation suggests that the compounds may be suitable for studies of rotary dispersion despite their high opacity. A number of other sexadentate complexes were resolved by the same workers.

Bond Properties. R. N. Doescher (*J. Chem. Physics, 20* 30, New York, 1952) determined the heat of dissociation of fluorine by direct equilibrium pressure measurements, using a specially coated nickel vessel and differential manometer containing a fluorinated oil. The value reported of 37·7 Kcal./mole for the heat of dissociation was in excellent greement with that deduced by M. G. Evans, E. Warhurst and E. Whittle (*J. Chem. Soc.*, 1524, 1950) from a survey of the literature. H. Wise (*J. Chem. Physics, 20*, 927, 1952) measured the same quantity by an effusion method which had the great advantage that the experiments could be conducted at very low pressures and hence at low temperatures so that the corrosion problems were very much reduced. He found $\triangle H°_{298} = 39·9 \pm 0·8$ Kcal./mole for the reaction $F_2(g) = 2F(g)$.

T. Doehaerd, P. Goldfinger and F. Waelbroeck (*J. Chem. Physics, 20*, 757, 1952) redetermined the heat of sublimation of carbon which had been a matter of controversy for many years by a direct method. Using a versatile apparatus enclosed in a vacuum tank with a very high-speed pumping system, measurements of the rates of evaporation from a hot carbon surface and of effusion from a graphite furnace in the range 2450-2840°K were made; they found 145 8 ± 2 8 Kcal. for the heat of sublimation which leads to the accurate spectroscopic value of 141 26 Kcal. L. Brewer (*J. Chem. Physics, 20*, 758, 1952) pointed out that although this work represented a considerable advance there were still a number of points which had to be settled before the determination could be accepted.

D. F. Smith (*Phys. Rev., 86*, 608, New York, 1952) found by microwave spectroscopy that the chlorine trifluoride molecule has an undistorted "T" shape with the chlorine atom at the intersection of the arms. Within the accuracy of the experiment the FClF angle is 90° and the two similar Cl-F bonds (1·70 A) are longer than the unique Cl-F bond (1·56 A). This remarkable structure is in fair agreement with preliminary X-ray determination. The entropy calculated from this model is in agreement with that determined directly.

Reaction Kinetics. Many reactions, especially of free radicals and atoms, are so fast that it is not convenient to measure their rates directly and it is necessary to use a competitive technique. One of the first of these techniques was the study of sodium flame reactions in which the rate of reaction competes against the rate of diffusion of the reagents. During 1952 R. J. Cvetanovic and D. J. LeRoy (*J. Chem. Physics, 20*, 1016, 1952) remeasured the rate and temperature coefficient of the reaction of sodium atoms with ethyl chloride. The results were in agreement with previous workers but unfortunately it proved impossible to improve the accuracy appreciably. D. Garvin and G. B. Kistiakowsky (*J. Chem. Physics, 20*, 105, 1952) extended the same principal to the measurement of the reaction of boron trifluoride with the methylamines to form co-ordination complexes. The reaction zone could not be detected optically, so a very small and sensitive probe was used to measure the temperature in different parts of the "flame". It proved possible to measure the temperature gradient throughout the flame and fit this to a theoretical curve. In every case the reaction took place on nearly every collision of a boron trifluoride molecule with an amine molecule.

Two applications of the cathode ray oscilloscope which is very useful for following reactions slightly slower than those mentioned above were reported. N. Davidson, R. Marshall, A. E. Larsh and T. Carrington (*J. Chem. Physics, 19*, 1311, 1951) measured the rate of combination of iodine atoms in the presence of argon. They irradiated a cell containing iodine molecules and argon with a flash of light of very short duration that was sufficiently intense to dissociate about 4% of the iodine. The subsequent return of the molecular iodine concentration was followed optically. A light beam passed through the cell on to a photomultiplier tube the output of which was fed to an oscilloscope. In this way it was possible to follow a reaction that was substantially complete in 20 milliseconds. T. Carrington and N. Davidson (*J. Chem. Physics, 19*, 1313, 1951) used a photomultiplier tube coupled to an oscilloscope to follow the decrease in excess N_2O_4 concentration momentarily caused by passing a weak uniform shock-wave down a shock-tube containing nitrogen dioxide. The unimolecular rate constant for the decomposition of N_2O_4 was found to be 1×10^5 sec.$^{-1}$ at 25°C.

Hydrogen Peroxide. A. E. Cahill and H Taube (*J. Am. Chem. Soc.*, *74*, 2312, 1952) settled for a large number of cases the question of the origin of the molecular oxygen formed in the catalysed decomposition of hydrogen peroxide in aqueous solutions. When the oxidizing agent is Ce (IV), MnO_4^-, Cl_2, HClO, or $Cr_2O_7^-$ the oxygen is derived cleanly from the peroxide The same result was found when the catalyst was Fe(III), $I^- - I_2$, $Br^- - Br_2$, MnO_2, and Pt. It proved possible to make deductions about the mechanism of the decomposition in a number of other cases from observation of the isotope fractionation factors

Flash Techniques. The development of very high-intensity light sources for the visible and ultra-violet region opened up new fields of research during recent past years. Of great importance for the further application of the method was the discovery of a suitable actinometer. M. I. Christie and G. Porter (*Proc. Roy. Soc.*, *212A*, 390, London, 1952) showed that the photochemical decomposition of uranyl oxalate produced by a high-energy flash was directly proportional to intensity over an intensity range of 1,000 Since the rate of decomposition of the lowest flash intensity was comparable with that calculated for the highest intensity previously studied in uranyl-oxalate actinometry, it was concluded that the quantum yield of the system was unchanged up to intensities 10^3 times greater than those previously investigated.

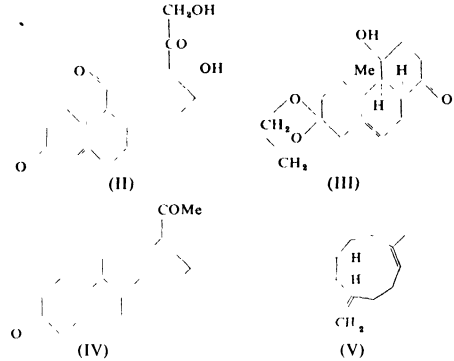
G Herzberg and D A. Ramsay (*J. Chem Physics*, *20*, 347, 1952) observed a spectrum which they attributed to the free NH_2 radical when ammonia was decomposed in a flash photolysis apparatus. The same spectrum was observed in the flash photolysis of hydrazine and had been observed by other workers in the ammonia-oxygen and hydrogen-nitrous oxide flames It appeared possible that a vibrational and rotational analysis could be obtained, particularly when the spectra of the deuterated compounds had been investigated

Theoretical Chemistry. M J S Dewar (*J Am Chem. Soc.*, *74*, 3341-3363, 1952) published a series of papers intended to provide a basis for a molecular orbital theory of organic chemistry From the general theory a number of theorems were derived which established the conditions for a system to be mesomeric and for a mesomeric system to be aromatic. The displacements of charge that occur when a heteroatom or an electromeric substituent is introduced into an alternant hydrocarbon were analysed. The reactivity of free radicals and their stabilization by substituents were discussed The methods were applied to various reactions of aromatic compounds and the effects of annular heteroatoms and electromeric substituents upon their rates were considered The problem of o:p ratios in substitution reactions was considered. Throughout, great emphasis was laid upon the consistency of the necessarily simplified treatment with the more precise but laborious methods developed by other workers.

(A. F. T -D.)

Steroids. This group of compounds again occupied a position of major importance in organic chemistry The most interesting work was a stereospecific total synthesis of cortisone (II) by L. H. Sarett *et al.* (*J. Am Chem Soc.*, *74*, 4974, 1952). The starting material, a perhydrophenanthrenediketone derivative (III), later constituted rings A, B and C of the completed steroid nucleus. Carbon chains were introduced into two positions of ring C and ring formation between these chains gave ring D and also the desired side-chain at C_{17}. The elegance of the synthesis lay in the fact that in every reaction producing a fixed asymmetric centre, the isomer having the same configuration as the end product was formed in extremely high yield.

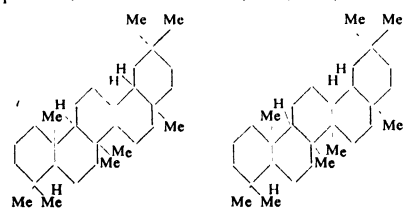
In the search for a synthesis of cortisone which could be feasibly applied on a commercial scale, the important advance was the use of micro-organisms to supplement the more usual chemical methods. The most difficult step in the preparation of cortisone from common steroids is the introduction of oxygen at C_{11}. The accomplishment of this process by a one-stage microbiological reaction was developed by D. H. Peterson and H C. Murray (*ibid.*, *74*, 1872), and the application of the method to readily available steroids such as progesterone (IV) (see, *inter alia*, Carl Djerassi *et al.*, *ibid.*, *74*, 3712) significantly reduced the difficulties of cortisone production.



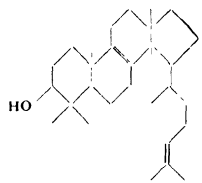
Terpenes. Investigation of caryophyllene (the principal sesquiterpene hydrocarbon of oil of cloves) led D H R Barton *et al* (*J Chem Soc*, 2210, 1952) to suggest a structure (V) containing a nine-membered ring Barton's work was especially interesting in that deductions about the stereochemistry of caryophyllene and its derivatives were made from the course of the chemical degradations In particular the fusion of the four- and nine-membered rings was shown to be very probably of the *cis* configuration. Some aspects of structure (V) were questioned by G R Ramage and his collaborators (*Chem. and Ind*, 450, London, 1952), but Barton *et al.* (*ibid*, 691) did not consider that these criticisms required any alteration of the structure Caryophyllene was the first natural product in which the presence of a nine-membered carbon ring had been definitely established.

Notable progress was made in the study of the triterpenoids In the pentacyclic series the stereochemistry of the oleanane (β-amyrane) group was elucidated. Barton and his co-workers showed that basic skeleton must be either the *trans-anti-trans-anti-trans-syn-cis* (VI) or the *trans-syn-cis-syn-trans-syn-cis* (VII) arrangement (*J. Chem. Soc*, *78*, 1952) An argument in favour of (VI) was developed by W. Klyne (*ibid*, 2916), from a consideration of the values of molecular rotations.

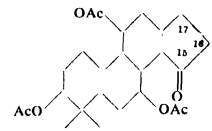
The importance of Klyne's work was not confined to triterpenes It dealt with the fundamental problems of stereochemistry and provided a means by which the stereochemistry of different groups of polycyclic compounds might be compared. By this method Klyne demonstrated that the conventional representations of steroids and triterpenoids do not agree. This difficulty led to a new method of formulating triterpenoids (E. R. H. Jones *et al.*, *ibid.*, 2862).



The structural investigation of the tetracyclic triterpene lanostadienol ("lanosterol") was almost completed and the compound could be provisionally assigned the formula (VIII), the only doubtful feature being the position of the side-chain (*e.g., see* L. Ruzicka, O. Jeger *et al., Helv. Chim. Acta, 35,* 66, 1952). This was known to be connected to ring C, but the exact position was not yet decided. Evidence on this point was produced by D. H. R. Barton (*Chem. and Ind.*, 426, London, 1952) from a study of the nuclear ketone (IX) which possesses a carbonyl group in the position occupied by the side-chain in lanostadienol. The properties of (IX) led to the rejection of position 16 as the ketonic function, but did not allow an unequivocal decision to be made between positions 15 and 17.

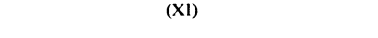


(VIII)

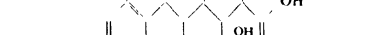


(IX)

Antibiotics. Several antibiotic compounds of most unusual structure were investigated. W. D. Celmer and I. A. Solomons (*J. Am. Chem. Soc., 74,* 2245, 3838, 1952) isolated mycomycin (an elaboration product of *Norcardia acidophilus*) and established its structure as (X), after an investigation which was greatly expedited by the use of ultra-violet and infra-red absorption spectroscopy. The possession of an asymmetrically substituted allene system (a feature so far unique in natural products) confers optical activity upon mycomycin. The loss of activity which occurs when mycomycin is treated with alkali is explained by its isomerization to isomycomycin (XI). This transformation involves migration of the triple bonds of (X) and the destruction of the asymmetric allene grouping



(X)



(XI)

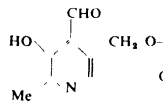
(XII)

The closely related antibiotics terramycin and aureomycin were investigated simultaneously by two groups of workers in America. F. A. Hochstein, R. B. Woodward *et al.*, were the first to propose the terramycin structure (XII, R_1=H, R_2=OH) (*ibid., 74,* 3706, 1952), and shortly afterwards both groups advanced the same structure (XII, R_1=Cl, R_2=H) for aureomycin (Hochstein, Woodward *et al., ibid., 74,* 4976 C. W. Waller, B. L. Hutchings *et al., ibid., 74,* 4978 *et seq*, 1952). The structures of the two compounds are extremely similar, and for the common ring system the name "tetracycline" was suggested.

Actinomycin B (a red quinonoid antibiotic) was shown to contain various amino-acid residues which could be removed by alkaline hydrolysis to give actinomycinol B. Many of the properties of the latter compound suggested that it might be an aminotrihydroxydimethylanthraquinone. A more detailed study excluded this possibility, but did not reveal any obvious alternative (A. W. Johnson, A. R. Todd and L. C. Vining, *J. Chem. Soc.*, 2672, 1952).

Coenzymes. Important information was obtained about coenzyme A and codecarboxylase, compounds of very wide distribution in the animal and plant kingdoms. Coenzyme A, which probably contains an adenylic acid system connected through a sugar group to a pantothemic acid residue, was shown to function as an acetylating coenzyme by acetyl transfer at its terminal thiol group (J. Baddiley and E. M. Thain, *ibid.*, 3421, 3425, 1951; J. D. Gregory and F. Lipmann, *J. Am. Chem. Soc., 74,* 4017, 1952).

Codecarboxylase (XIII), a phosphate of the vitamin pyridoxal, is involved in such fundamental processes as the decarboxylation of amino-acid to amines by micro-organisms and transference of nitrogen by transamination. The unambiguous synthesis recorded by J. Baddiley and A. P. Mathias (*J. Chem. Soc.*, 2583, 1952) clarified the uncertain stages of previous preparations of this compound (P. Karrer *et al., Helv. Chim. Acta, 34,* 2198, 1951).



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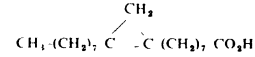
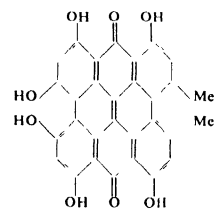


(XIV)

Sterculic Acid. This acid (XIV) was extracted by J. R. Nunn (*J. Chem. Soc.*, 213, 1952) from the kernel oil of *Sterculia foetida* and was shown to possess a cyclopropene ring, a system not previously encountered in the structure of natural products. The undoubtedly high steric strain involved in such a grouping makes its occurrence in nature very remarkable. This compound provided another example of the most important trend of 1952—the discovery of "unlikely" structures in a wide variety of natural products.

Hypericin. An account of the photodynamically active pigments was given by H. H. Brockmann (*Progress in Organic Chemistry, 1,* 64, London, 1952), who was responsible for most of the work on this subject. The name of these pigments derives from the fact that animals which have been fed on plants containing these substances develop diseases (*e.g.*, hypericism) only when they come into contact with light. The living cells of the animal are photosensitized by means of these compounds, but the nature of the chemical processes underlying the effect is not clear. The structure of the most common of the pigments, hypericin, was established as (XV) (for experimental details, *see* H. H. Brockmann *et al., Chem. Ber., 84,* 865, Weinheim, Germany, 1951).



(XV)

Insulin. Investigation of this hormone was continued, the most notable work being that of F. Sanger. Oxidation of insulin with performic acid caused fission of the S-S bridge and the formation of two types of polypeptide chain in which the cystine systems were converted to cysteic acid residues.

The amino-acid sequence of " fraction A " (containing glycyl N-terminal residues) was determined after partial hydrolysis of the fraction with hydrochloric acid and separation of the resulting peptides by paper chromatography (F. Sanger and E. O. P. Thompson, *Biochemical Journal*, *52*, iii, Cambridge, 1952). Since the sequence of the other fraction (containing N-terminal phenylalanine residues) was also known this work brought the complete structural elucidation of insulin within sight. (*See* also BIOCHEMISTRY.) (G. D. M.)

See C. A. Coulson, *Valence* (Oxford, 1952); H. A. Taylor and S. Glasstone, *Physical Chemistry*, vol. ii, *The Properties of Matter* (New York, 1952).

CHESS. In 1952 the more important tournaments took place outside Great Britain. In the final zone tournament at Stockholm the results were: first A. Kotov, second and third T. Petrosian and M. Taimanov, fourth E. Geller (all U.S.S.R.). Y. Auerbach (U.S.S.R.), S. Gligorić (Yugoslavia), G. Stahlberg (Sweden) and L. Szabó (Hungary) all tied for fifth place and would probably be admitted to the 1953 Candidates' tournament (for a challenger to M. Botwinnik in the world championship).

Other major tournaments of the year were: Havana, a tie between M. Najdorf (Argentina) and S. Reshevsky (U.S.), a subsequent match being won by Reshevsky, 11-7; Budapest, first P. Keres (U.S.S.R.); Belgrade, first H. Pilnik (Argentina); Helsinki (a team tournament in which 25 countries took part), first U.S.S.R., second Argentina, third Yugoslavia. The women's world championship at Moscow was won by E. Bikova (U.S.S.R.) with F. Heemskerk (Holland) and O. Ignatieva (U.S.S.R.) second.

The British tournaments were on a much smaller scale because of the absence of the official support enjoyed by chess in many other countries. The Hastings tournament was won by S. Gligoric (Yugoslavia), with D. A. Yanofsky (Canada) second. Yanofsky also won the Southsea tournament. The British championship, at Chester, was won by R. G. Wade (New Zealand). A small but strong tournament at Paignton was won by L. Barden (Oxford university). Oxford beat Cambridge, 4-2, in a university match which showed a great increase in playing strength among young players. Oxford also won the national club championship.

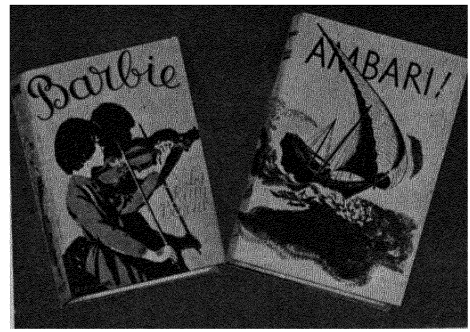
During 1952 the death occurred of J. H. Blake, a great figure in British chess, of T. R. Dawson, the world's foremost problemist, of E. D. Bogolubow, a notable figure in the history of chess, and of P. W. Sergeant, author of several valuable books on chess.

BIBLIOGRAPHY. (All London, 1952). R. C. Griffith and J. H. White, *Modern Chess Openings* (8th ed., revised W. Korn); S. G. Tartakower and J. du Mont, *500 Master Games of Chess*, 2 vols.; " Assiac " *Adventure in Chess*; E. Lasker, *Chess Secrets*. (J. DU M.)

CHILD LABOUR: *see* YOUTH EMPLOYMENT.

CHILDREN'S BOOKS. Important contributions in 1952 to the bibliography of children's literature were the Library association's *Books for Young People; Group I, Under Eleven*, edited by Hilda M. McGill, and the British Council's *20th Century Children's Books*, a concise illustrated survey by Frank Eyre.

Boys enjoyed several convincing scientific fantasies, including *The Death of Metal*, by Donald Suddaby; *Dark Atlantic*, by David Craigie; *The Perilous Descent*, by Bruce Carter; and *Lodestar*, by Franklyn M. Branley. African boyhood was described in *Ambari*, by R. Forbes-Watson and Australian in *Turkey*, by Ray Harris; British police work in *Bill Brown, C.I.D.*, by Alan Brock; and the pranks of village lads in *Our Exploits at West Poley*, by Thomas Hardy, published for the first time in England in book form.



The jackets of two children's books issued in Great Britain during 1952. " Barbie " was published by Dent and " Ambari " by the Oxford University Press.

Vivid portrayal of character and incident recreated the past in several stories published in 1952, including *Redcap Runs Away*, by Rhoda Power, and *Brother Dusty-Feet*, by Rosemary Sutcliff (about 14th- and 16th-century England respectively). *The Gentle Falcon*, by Lorna Lewis, portrayed the child queen of Richard II. Ancient Athens was depicted in *The Crown of Violet*, by Geoffrey Trease. *Eagle's Glen*, by E. W. Betenson, *The Golden Quest*, by Frank Crisp and *Young Harry Tremayne*, by Roland Pertwee, were forceful adventure stories in period settings.

Companions of Fortune, a boys' story by René Guillot, and *The Wonderful Farm*, an animal fantasy by Marcel Aymé, were finely imaginative translations from the French.

The Fairy Caravan, by Beatrix Potter, published in the United States in 1929, appeared in its first general edition in Britain in 1952. Children fond of fantasy also read *Mary Poppins in the Park*, by P. L. Travers; *The Borrowers*, by Mary Norton; *Wanderlust: Voyage of a Little White Monkey*, by Richard Armstrong, and *The Voyage of the Dawn Treader*, an allegory by C. S. Lewis.

Talented picture stories included *Orlando: a Seaside Holiday* and *Manda*, by Kathleen Hale; *The Little Horse Bus*, by Grahame Greene, and Rowland Emett's whimsical *Nellie Come Home*.

Girls appreciated *Barbie*, a perceptive study of a young musician by Kitty Barne, and the topicality of Pamela Brown's *The Television Twins*. There was fun and adventure in *The Hop Dog*, by Nora Lavrin and Molly Thorp, good narrative in *Hidden in a Dream*, by Monica Edwards, and a glimpse of a stage school in *On Stage, Please*, by Joan Selby-Lowndes.

The Boy at the Swinging Lantern was an Irish story of originality by Patricia Lynch and *Smoky Joe*, by Laurence Meynell, an amusing cat study.

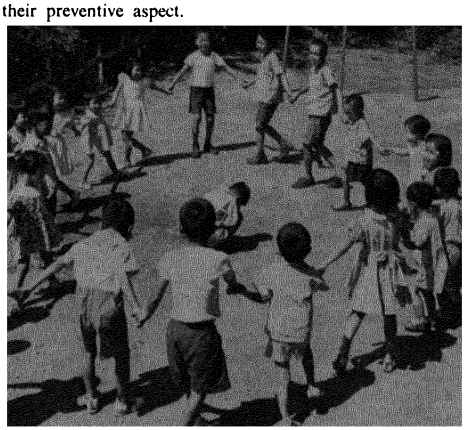
The Ballad of the Kon-Tiki and *Belinda and the Swans*, by Ian Serraillier, and *The Blackbird in the Lilac*, by James Reeve and Edward Ardizzone, were notable contributions to children's poetry. Eve Garnett illustrated her verse anthology *A Book of the Seasons* and Barbara Leonie Picard effectively retold *The Odyssey of Homer* in prose.

Informative books in 1952 included *The Story of the Book*, by Agnes Allen; *Alice in Music-Land*, by Ernest La Prade, and *Exploring Old Buildings*, by Evelyn V. Clark. Biographical works were numerous but not always successful: they ranged from studies of scientists in Egon Larsen's *Men Who Have Changed the World* and Laurence Meynell's *Builder and Dreamer* (a life of Brunel) to *The Story of William the Conqueror*, by Dorothy Margaret Stuart. (D. D. C.)

CHILD WELFARE. In 1952 the schemes for the welfare of children which had resulted from the National Health Service act, 1946, were continued and consolidated. Child health as judged by vital statistics showed continuous improvement. In the first quarter of the year there were 5,588 deaths of children under one year of age in England and Wales, representing an infantile mortality rate of 33·4 per 1,000 births. This was the lowest rate ever recorded for the March quarter, comparing with 38·2 in 1951. In the second quarter there were 4,290 infant deaths, giving a provisionally corrected infantile mortality rate of 25·1. This was 3·6 below that for the second quarter of 1951 and 16·0 per 1,000 below the average rate for the ten preceding years 1941-50. These figures followed satisfactory statistics for the whole of 1951 when the infantile mortality rate was 29·6, the lowest ever recorded for England and Wales.

Whooping cough for the first quarter of 1952 showed a death rate per million population of 5, as compared with 19, 8 and 19 respectively for the corresponding quarter in the three previous years. For the whole of 1951 the total number of cases of diphtheria recorded was 699 and the number of deaths was 34. This was the lowest figure ever recorded in the country and paid tribute to the wisdom of parents in having their children immunized. In an article in the *Monthly Bulletin* of the Ministry of Health, it appeared that such falling-off in immunization as had occurred resulted from public apathy to a disease so little seen and not from fear resulting from publicity as to the correlation between immunization and poliomyelitis. By the 39th week of 1952, 3,323 cases of poliomyelitis had been notified. This compared with 2,205 up to the corresponding period in 1951.

There was much discussion about possible means of integrating the child welfare services which were divided between the regional hospital boards who provided in-patient treatment, counties and county boroughs who were responsible for the personal health and child welfare services and the remaining authorities who were responsible for environmental care. Dr. A. Leslie Banks, professor of human ecology in the University of Cambridge, advocated that child welfare services should be administered by the hospital management committees. The local authorities on the other hand considered that to associate child welfare with curative services would constitute a failure to realize their preventive aspect.



Young Korean orphans playing in the grounds of the United States Air Force orphanage in Seoul, Korea.

During 1952 patients became responsible for paying part of the charge for treatment and the provision of articles under the national health service scheme. This part-charge particularly applied to dental treatment, the cost of dentures, and to spectacles. These charges, however, did not apply to children, and such saving as might thereby be effected in the cost of the service would not be at the expense of the welfare of children.

During the early years of the national health service scheme local authorities had found it difficult to obtain the services of dentists for the care of children before and after entry to school. In 1952 there was an easing of this situation. New salary scales were adopted and the number of dentists in the service of county councils and county boroughs increased.

Accidents to young children in the home caused much concern and many authorities were conducting campaigns to enlighten parents about the causes of these accidents and the ways in which they might be prevented.

Day nurseries were declining in numbers. Approved places in 1951 were 40,100, as compared with 42,410 in the previous year. There was a tendency for this decrease to continue. It represented a general preference for keeping children at home in the early years of life rather than congregating them together in nurseries, and was possibly associated with a diminution in the number of married women who were working and with decreased illegitimacy.

The National Baby Welfare council continued its propaganda work throughout the world and was responsible for an excellent leaflet *Diets for Babies and Children in Health and Sickness*. The National Association for Maternity and Child Welfare held a very satisfactory conference on "Wastage of Child Life before and after Birth". (D. H. G.)

United States. The population increase in the United States, reflected by both a reduced mortality rate among young children and a higher birth rate than had been expected by health authorities, was sufficient to overcrowd child care facilities, family housing units, hospitals and schools. This problem led the 81st congress to direct that a nation-wide survey of elementary and secondary schools should be made. A progress report of the survey, published in 1952, with data from 25 states, rated 44% of the elementary schools as unsatisfactory and many of these, as well as the schools rated fair and satisfactory, were seriously overcrowded. The Child Welfare League of America in 1952 completed a two-year study of residential treatment centres for emotionally disturbed children.

Aid to dependent children showed a marked drop in the number of recipients. For the month of June in 1951 and 1952 the number of children thus aided was (1951) 1,617,893 and (1952) 1,527,375. The number of families dropped from (1951) 632,649 to (1952) 589,976.

International Services. Increased activity in child welfare was reported, through voluntary and statutory bodies. The Save the Children fund continued its work in 11 different countries of Europe, Asia and Africa. It was estimated that 45,000 children were helped in 1952.

The United Nations International Children's Emergency fund (U.N.I.C.E.F.) continued to administer extensive programmes under its own auspices or in co-operation with the Food and Agricultural organization (F.A.O.) or the World Health organization (W.H.O.) during 1952, in all cases working with government agencies in the countries assisted. It allocated $14,013,000 for its 1952 programme and expected a budget in excess of $15 million for 1953.

The major types of U.N.I.C.E.F. assistance were: general maternal and child health services; B.C.G. (Bacillus-Calmette Guérin) vaccination and other tuberculosis control measures; campaigns against bejel, syphilis and yaws; anti-malaria and

other insect control measures, immunization against diphtheria and whooping cough, aid in production of antibiotics and insecticides, child feeding; milk conservation; and clothing, shoes, shelter and miscellaneous supplies. In contrast with its tremendous emergency feeding programmes during the first years of the fund's existence the emphasis in 1952 was on long-range projects whereby countries could lay a basis for more adequate feeding of their own children and for reducing illness and death among children.

The W.H.O. held its fifth World Health assembly in Geneva, May 5 to 22, 1952 The assembly adopted a 1953 budget for the W H O. of $8,485,095, a substantial increase over the budget for 1952

Typical of W.H.O. activities was a seminar on mental health and infant development held in Chichester, England, in the summer of 1952, attended by doctors, nurses and social workers from 28 countries and territories. Another project reflecting a growing interest in W H.O. in mental hygiene was a conference of experts on mental health aspects of adoption, held in New York in September.

Child welfare organizations throughout the world, government officials and representatives of various specialized agencies of the U N became aware in 1952 and preceding years of the need for many more workers than had been available in all the professions serving children. Consequently the recruitment and training of workers in these professions had become major objectives in social planning

The All-India Institute of Health and Public Hygiene in Calcutta was an example of recently developed and expanded facilities for professional training. Beginning in July 1953, this institute was to offer postgraduate training for public health nurses and maternal and child health doctors In Latin America the Institute of Inter-American Affairs, the Rockefeller foundation and the Institute of Nutrition for Central America and Panama joined in co-operative projects in which the training of workers was an essential element.

Other international conferences in 1952 concerned with the welfare of children included the International Council for Exceptional Children, at Philadelphia, from April 30 to May 3, and the World Assembly of Youth, at Dakar, Senegal, from July 28 to Aug 10. (*See* also JUVENILE DELINQUENCY, YOUTH EMPLOYMENT.) (H. W. HK)

See Ian McLeod (minister of health), speech at Taunton, Sept 27, 1952, Ministry of Health *Monthly Bulletin*, (London, Feb , 1952); *Report* of annual conference of the National Association for Maternity and Child Welfare, London 1952

CHILE. Republic occupying the Pacific coast of South America for about 2,600 mi and having an average width of only 110 mi. Chile is bounded on land N. by Peru and E. by Bolivia and Argentina Area: 286,396 sq mi. Pop.: (1940 census) 5,023,539, (1952 census, prel.) 6,032,376. The racial composition, largely of European origin, includes *mestizos* (15%) and Indians (4 2%). Language· Spanish. Roman Catholicism is the predominant religion. Chief towns (pop , 1952 census): Santiago (cap , incl. suburbs, 1,412,940); Valparaiso (222,238); Concepción (133,573), Temuco (90,957), Viña del Mar (88,196); Osorno (75,151); Antofagasta (72,838). Presidents in 1952: Gabriel González Videla and (from Nov. 3) Carlos Ibáñez del Campo (*q.v*).

History. The most significant event in 1952 was the election as president of General Ibáñez. In the Sept. 4 election he secured 432,920 of the 921,335 votes cast, as compared with 252,648 gained by Arturo Matte Larrain, the right-wing candidate and 183,783 by Pedro Enrique Alfonso, the left-centre and government candidate. Only 51,984 votes were cast for Salvador Allende, the extreme left-wing candidate. General Ibáñez was president and virtual dictator of Chile from 1927 until his enforced resignation in 1931. He began his second term of office on Nov. 3.

The year had begun in Chile with further industrial unrest, due primarily to the continued inflation and resulting rise in living costs. Almost every class of employer and employee, public and private, was involved in strikes. Of these the most damaging to the country was that in the nitrate fields It lasted from Feb. 28 to April 29, and was calculated to have caused a loss in production of 200,000 tons, and in foreign exchange of $10 million Strikes also occurred in two of the leading copper mines, both U.S.-owned. Absence of stable conditions hindered an increase in copper output. This was estimated at 350,000 metric tons for the year, well below war-time levels of nearly 500,000 metric tons, and the prewar record of 413,000 metric tons achieved in 1937.

Early in May President González denounced as " unworkable " the 1951 agreement by which Chile sold 80% of its copper output to the United States at 27·5 cents per lb. Chile claimed this to be below the price it could obtain elsewhere. The United States being dependent on Chile for 25% to 30% of its copper needs, Washington agreed in June that U.S. copper importers should negotiate their own price with Chile Subsequent prices showed rises of three to five cents a lb , although sales of copper to Europe were reported as high as 40 cents per lb

In April a trade agreement with Argentina provided for the exchange of 15,000 tons of copper for 8,300 head of Argentine cattle During the year Chile imported wheat to meet an estimated difference of 70,000 tons between domestic production and consumption. Coal was also imported to meet a similar shortfall in home output.

A varied programme of public works was continued or initiated during the year. It included improvements to the ports of Antofagasta and Valparaiso, additions to the mercantile marine, electric power, road and irrigation projects, and the mechanization of coalmines with the aid of an $11 million loan from the International Bank for Reconstruction and Development, which also lent $16 million to build a cellulose plant. Early in the year Bolivian engineers visited Chile to plan a road from the Chilean port of Iquique to the Bolivian mining centre of Oruro

The main feature of Chilean foreign policy in 1952 was the signature, on April 9, of a treaty with the United States for mutual military aid. On May 21 President Gonzalez told congress that the treaty would in no way limit Chilean sovereignty, and that its armed forces would not be sent outside the American continent. But although subsequently ratified by congress, and commended to the nation by leaders of the armed forces, the treaty aroused considerable opposition which led to riots in Santiago at the end of June The treaty was consistently attacked by General Ibáñez in his election campaign.

His bid for the presidency aroused speculation at home and abroad. His former term of office was marked by important administrative reforms, labour legislation, separation of church and state, public works financed mainly by private U.S. investors, reorganization of the nitrate industry and the settlement of the Tacna-Arica frontier dispute with Peru. But the régime was based on military force, and public reaction to this, coupled with the effects on Chile of the world depression, forced Ibáñez to resign and withdraw to Argentina. In 1952 conditions favoured his presidential candidature. A deteriorating economic situation and constant disagreement among the parties composing the government coalition disillusioned the voters, who turned to Ibáñez. With no definite party of his own he was supported by rebels from virtually every political group; the election results showed that the Communists, outlawed as a party, supported him rather than the left-wing Allende.

Ibáñez campaigned on a platform calling for an end to

corruption, restoration of credit and reduction in expenditure, increased production and the "re-establishment of the principles of authority". In opposing the treaty with the United States, with Chilean dependence on the U S. copper market, he called for the closest political and economic relations with other Latin American states. Ibáñez was accused of (and denied) accepting support from President Perón. Yet election propaganda in his favour was smuggled into Chile from Argentina, and his success at the polls was warmly welcomed by the Argentine press. (N. P MACD.)

Education. Schools (1948) state primary, pupils 518,446, private and municipal primary, pupils 149,802, secondary, pupils 70,622 Higher education University of Chile, students 5,287, Catholic university of Santiago, students 1,528, University of Concepción

Agriculture. Main crops ('000 metric tons, 1951-52 est.) wheat 988, barley 125, oats 110, rice 80, potatoes 473, beans 64, maize 89, chick peas 4 Wine production (1951) 381,000 metric tons Livestock (1950, '000 head) cattle 2,331, (1949) pigs 585, goats 636, sheep 6,345

Industry. Manufacturing establishments (1948) 5,585, employees 296,000 Mineral production (1950, '000 short tons) iron ore 3,255 3, nitrate of soda 1,779 3, copper 399 9, manganese 37 2, mercury (lb.) 23,886, silver (troy oz.) 740,832, gold ('000 fine oz., 1951) 175, crude oil (cu m., 1951) 120,780 Manufactured goods ('000 metric tons 1951) pig iron 245 4, crude steel 184 6, cement 699 4, woven cotton fabrics (c 85% of total production) 39 78 million m Electricity (1951) 1,681 million kwh

Finance and Banking (million pesos) Budget (1951 actual) revenue 26,008, expenditure 27,640, (1952 est.) balanced at 29,073, (1953 est.) balanced at 42,377 Currency circulation (July 1952) 9,080 Deposit money (July 1952) 20,570 Gold reserve (Aug 1952) U S $41 4 million Monetary unit *peso*, with an official exchange rate (Oct 1952) of P 31 00 to the U S dollar and a free rate of P 141 00 to the U S dollar, £1 sterling 86 80 pesos (official), £1 sterling 375 00 pesos (free rate)

Foreign Trade (million pesos, 1951) Exports (excluding gold) 1,802 6, imports 1,593 4 Chief exports copper bars 45%, nitrate of soda 18%, metal manufactures 9%, wool 6% Chief imports machinery, tools and electrical equipment 18%, industrial oils, paints and chemical products 16%, transport materials 11%, iron, steel, other metals manufactures 7%, sugar 6% Main destinations of exports U S 51%, Argentina 7%, U K 6%, France 4%, Germany 4% Main sources of imports U S 55%, Argentina 8%, U K 7%, Germany 5%

Transport and Communications. Railways (1949) 5,434 mi., incl 3,859 mi owned by the government Highways (1947) 1,785 mi international, 3,815 mi national and 26,300 mi provincial roads Motor vehicles (Dec 31, 1950) cars 40,098, lorries 27,507, buses 4,164 Merchant marine (1951) vessels (100 tons and over) 88, total gross tonnage 170,173

CHINA. The most populated and second largest country of the world, China is a people's republic in Asia bounded N.E., N. and N.W. by the U S.S.R., W. by Afghanistan, S.W. and S. by India and 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 (no census ever taken):

	Area (in sq.mi.)	*Population*
China proper (18 provinces)	1,444,626	409,137,000 (1936 est.)
Inner Mongolia	326,285	5,143,000 (1936 est.)
Manchuria	503,127	43,234,000 (1940 census)
Western China (Sinkiang, Chinghai and Sikang)	1,118,323	6,524,000 (1936 est.)
Formosa (Taiwan) (*q v*)	13,857	7,647,700 (1950 est.)
Kwantung (incl Port Arthur)	1,444	1,750,000 (1938 est.)
Tibet (*q v*)	469,294	3,000,000 (1948 est.)
Totals	3,876,956	476,435,700

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., 1950 est.): Peking (cap., 2,031,000); Shanghai (5,407,000), Tientsin (1,795,000); Mukden (1,551,000); Canton (1,496,000); Dairen (1,054,000); Chungking (1,100,000); Nanking (1,020,000); Tsingtao (1948, 850,000); Harbin (1948, 760,000), Hankow (1948, 722,000); Sian (559,000).

During the year China continued to have two governments:

(1) the Communist, formed in Peking on Oct. 1, 1949, with Mao Tse-tung (*q v*) as president of the republic (chairman of the central people's government council) and Chou En-lai as prime minister (chairman of the state administrative council) and minister of foreign affairs

(2) the Nationalist, headed by Generalissimo Chiang Kai-shek which in Dec. 1949 was moved to Taipei, Formosa.

History. China's internal affairs and external relations alike occupied much of the world's attention in 1952. Industrial achievements were balanced by increasing transformation of China into a police state subject in every detail to the Communist dictators, while China's relations with the west steadily deteriorated and hatred of the United States was preached with unsurpassable ferocity.

Between January and June the so-called "three antis" and "five antis" campaign threw the Chinese into convulsions: the first, against corruption, waste and bureaucracy in all state organs, schools and hospitals, the second, against bribery, smuggling and evasion of taxes, stealing state property, shoddy work on government contracts, and stealing government information for speculation among businessmen Public letter boxes were provided into which anonymous accusations could be dropped, all employees were exhorted to denounce their employers, children to accuse their parents. Many business men committed suicide. Others made public confessions and paid fines The number of executions was small but the emotional upheaval was so severe and all business so completely brought to a standstill that on June 15 Chou En-lai stopped the campaign It had, however, two permanent results one the creation of an All-China Confederation of Industry and Commerce to control whatever industry and trade remained in private hands, the other, the formation of security committees in residential areas, villages, factories and schools, elected from lists supplied by the authorities, to spy out and denounce anyone suspected of counter-revolutionary tendencies.

In October land reform was said to be completed in 90% of all China, with an average distribution of one *mow* (a sixth of an acre) per adult in each family Evidences of discontent among the peasants against increased taxation and confiscation of grain for the army were numerous. Significant of this was a decree in June abolishing all local taxation and introducing one unified tax to be collected only by the central government. A new feature of the land reform was the formation of mutual aid and co-operative groups, in which each peasant pooled his land, labour, tools and beasts, work was directed by a Communist manager and profits shared out according to each man's contribution At the end of August 35 million peasant families in north China (the most developed part) had been brought into such groups. There were also over 500 state farms, some farming as much as 17,000 ac. with the latest machinery. Collectivization of the land was now frankly admitted to be the Communists' ultimate aim

On July 1 the Chungking-Chêngtu railway, begun a year before, was opened to traffic, 330 mi long, with 43 tunnels, 1,300 bridges, this line was expected to be valuable in opening up the rich but remote western province of Szechuan In the north the Lung-Hai railway, which starts at Haichow on the coast and extends northwestward for 1,100 mi., was extended another 220 mi. to Lanchow, capital of Kansu. Ultimately it was intended to carry the line another 1,000 mi. across the deserts and oases of Sinkiang, possibly to assure the Chinese hold on a province which in recent years had become increasingly Russianized.

Conservancy of the Huai river, which runs across northern

central China, was being strenuously pressed. This river with no outlet but the lakes in north Kiangsu annually floods its banks over a huge area. The ultimate design—to turn it into the old seaward channel of the Yellow river—involved a vast system of dykes, canals, reservoirs and sluices. Due to be finished in 1955, it would safeguard the cultivation of millions of fertile acres. On the Yangtze a detachment reservoir of 380 sq.mi. was constructed by repairing old and building new dykes, southward of the long narrow channel upstream from Hankow which, fed by several tributaries, had produced appalling floods. Three colossal sluices enabled the surplus water to be let in and out as required. Conservancy of the Yellow river (" China's sorrow ") and several minor streams in the north also began.

The state of production was difficult to estimate because of the Communists' addiction to the expressing of all results by percentages. The only figures vouchsafed were that southwest China had 10·5 million hogs or 4 million more than in 1951: hogs' bristles have always been an important Chinese export. The rice harvest was said to have been from 5% to 20% and wheat 100% above 1951. In March it was stated that the production of cereals in 1951 was 98% of the prewar figure and of cotton 33% above it. Exports and imports were stated to have increased largely, mostly with the U.S.S.R. and the European people's democracies. That China would be glad to do trade with other countries was indicated by the vigorous propaganda in Peking on what it could buy from Great Britain at the time of the International Economic conference in Moscow in March. Eight or 10 British business men went to the conference and in April an agreement was signed by Lord Boyd-Orr and Nan Han-chen, the chief Chinese delegate, for the exchange of £10 million (by each side) worth of goods; 35% of the British contribution was to be textiles. How much of the remainder (chemicals and metals) would come under the ban on the export of strategic materials to China was uncertain.

It was generally observed that the Communists could get all the permissible goods through Hong Kong and Shanghai without any new contract. But this apparently was not their wish. On May 19 Anthony Eden announced in the House of Commons that the British chargé d'affaires in Peking had been instructed to inform the government that all the remaining British firms in China had decided to quit owing to the heavy losses and impossibility of doing business under the Communist régime and to ask that facilities be given them to leave at once. (To get a permit to leave China takes many months and involves heavy payment to the Chinese staff and for every real or imaginary claim.) The total value of British property in China in all business concerns and real estate was probably over £300 million. Only a few hundred British remained in China. Before World War II in Shanghai alone there were nearly 10,000.



The Very Rev. Hewlett ***Johnson, Dean of*** *Canterbury, examining bombs in Peking alleged by the Chinese to have carried germs.*

The expulsion from Hong Kong early in the year of a few Communist agitators and the suspension of the *Ta Kung Pao* in May, when the owner and editor were sentenced to nine and six months' imprisonment (these sentences were reversed on appeal), evoked a violent verbal attack on the colony. A threatening protest was said to have been sent to London, but apparently was never received. On Aug. 5 the Hong Kong Supreme court decided that the 70 aircraft in Kowloon formerly belonging to the Nationalist government and claimed by the Communists had been lawfully sold to the U.S. Civil Aviation Transport corporation. The Communists retaliated by seizing the docks of Shanghai Dockyards, Ltd. and Moller's shipyards, both British.

On Aug. 19 a huge Chinese mission headed by Chou En-lai arrived in Moscow for a conference. On Sept. 16 an agreement was announced, that the U.S.S.R. would hand back the Manchurian railways to China as provided for in the 1950 treaty, but that, at China's request because peace with Japan had not been signed, Russian troops would remain in Port Arthur. Nothing was said about Dairen, still in Russian possession. No further result of the conference emerged and on Sept. 23 Chou En-lai was back in Peking. The general comment abroad was that China had come off badly. Perhaps to counteract this, the Sino-Soviet Friendship association of Peking announced on Oct. 29 a Sino-Soviet Friendship Month to be devoted to hymning the praise of Russia. The truth of Sino-Russian relations excited much speculation. Drawn together as they were by world politics, there were many obvious points of possible discord behind the scenes. It was noticeable that Stalin's portrait was no longer carried alongside Mao Tse-tung's in public processions but behind it. And the Chinese asserted that Mao's political teaching has gone far beyond Marxism and Stalinism: Maoism was now their creed.

In October the Chinese held a 10-day peace conference in Peking to launch a peace campaign " in Asia and Pacific territories " as a contribution to the Vienna congress of peace (Dec. 1952). Intensive propaganda brought together delegates from 33 states. Resolutions were adopted calling for peace in Korea, " demilitarization " of Japan, a five-power peace pact, freedom for international trade and guarantees for all peoples against outside interference. Speeches harped on alleged U.S. germ warfare and preparation for " further aggressive war " and British and French " crimes " in Malaya and Indochina.

On Sept. 1 it was announced that the new school year had begun with 49 million children in new primary schools. Evening schools for adults were being set up with emphasis on education in correct political thought. A notable feature was the re-education of hundreds of college professors and teachers who were compelled to undergo cross-examination and confess their ideological failings before their own students. Among the victims who lost their posts were three of the most distinguished scholars in China, the president and two leading professors of Yenching university. All three had actually served either in the Communist government or the People's Political conference (China's parliament). All Chinese universities, the finest flower of missionary educational effort, were absorbed in new Communist organizations.

By November only 10 British missionaries remained in China and as far as could be ascertained about 1,200 Roman



A woodcut "Gifts for the Army" by Wu Shih from the Chinese People's republic, an example of contemporary Chinese art similar to the four pictures published on page 148 in "Britannica Book of the Year 1951"

Catholic priests and 400 nuns, mostly Chinese. Between January and April six foreign Roman Catholic bishops and priests and 20 nuns reached Hong Kong. All of them had been cruelly treated The French bishop René-Désiré-Romain Boisguérin had been manacled so long that his hands hung helplessly at his sides In April the British government inquired in Peking about 55 British, Australian, Canadian and U S missionaries and others, some known to have been long in gaol, others under house arrest. This inquiry was repeated in September but no reply was vouchsafed Since July 1950, when Chou En-lai publicly denounced all foreign missionaries as spies and "agents of the imperialists", the Chinese Christian community was forced into a "Reformed Church of China" which was manifestly used as a tool of Communist propaganda. Since religious belief was nominally free, services were held, but ministers were obliged to preach hatred of the United States, denunciations of "germ warfare" and the like. Pastors considered unsatisfactory were black-listed and not allowed to preach.

Exhibitions of Chinese produce were held in Bombay (Jan.) and Karachi (March). China contracted to send 100,000 tons of rice to India (May 26) and 80,000 tons to Ceylon to be paid for by rubber (Oct 5) An economic and cultural co-operation agreement was signed with the Mongolian people's republic (formerly Chinese territory, now a Soviet satellite) in October. The French embassy in Peking was seized by the Communists in September. The Shanghai waterworks, gas and tram companies and the property of Mackensie and Co, all four British companies, were seized in November, no reason being given. A "British Workers' delegation" (eight trade unionists) took part in May day celebrations in Peking. Ten members of the British China Friendship association including four Socialist M P.s visited China on invitation in September. The perpetration of "germ warfare" by the U S. in Korea was unceasingly alleged by Peking throughout the year. Dean Hewlett Johnson and Joseph Needham of Cambridge (with some foreign scientists) visited China separately during the summer, both gave the allegations support (O M G.)

Education. Schools (1952) elementary 355,000, pupils about 37 million (*i e*, only a half of eligible school-age children), secondary, pupils about 1 5 million Institutions of higher education, students about 128,000

Agriculture. No production figures were available but according to official estimates in 1951 grain production was almost as high as before World War II while in 1952 it was said to be 9% higher, for cotton the increase was said to be 55%. Taking as a base the 1931-37 published figures for the 22 provinces of China proper and former Inner Mongolia *i e*, excluding Manchuria, the crop estimates for 1952 would be ('000 metric tons) rice, paddy 54,570, wheat 23,700, barley 8,580, kaoliang (sorghum) 7,925, maize 7,100, millet 7,000; oats 960, cotton, ginned 1,054 Livestock ('000 head, 22 provinces, 1947) cattle 18,200, pigs 59,510; sheep 10,450, goats 13,976, buffaloes 9,640; horses 2,033, asses 8,561, mules 1,905, poultry 209,335

Industry. The introduction of the first five-year plan 1953-57 for economic development was announced from Peking on Nov 17 On Oct 5, in his report to the 19th congress of the Communist Party of the Soviet Union, G. M. Malenkov said that the Chinese people's republic was making rapid industrial progress industrial output in 1951 was more than double that of 1949 Tsen Yun-chuan, Chinese ambassador to Warsaw, wrote in an article in *Trybuna Ludu* (Oct 1) that in 1951, compared with the best prewar years, the production of pig iron was expected to increase by 4%, that of steel by 55%, of electricity by 15%. No estimates in absolute figures were possible because no indication was given as to what was considered the best "prewar year" and which was the territory considered, namely, if Manchuria was included or not. For instance, Manchuria's production in 1940 reached 5 4 million metric tons of iron ore, 1 7 million tons of pig iron and 1 3 million tons of steel In China proper before World War II heavy industry was almost non-existent Coal production was considered to be in 1952 about 20 million tons, *i e*, less than half of the highest prewar figure

Finance. No budget estimates were published since the establishment of the Communist government in Peking on Oct 1, 1949. Monetary unit People's bank dollar or *jenminpiao* (JMP$) with official exchange rates (Dec 1952) of JMP$ 23,430 to the U S dollar, and JMP$ 69,270 to the pound sterling and JMP$ 4 310 to the Hong Kong dollar

Foreign Trade. The Soviet Union now held a leading place by Sept 1952, according to a Soviet source, imports from the U S S R amounted to 44 7% of China's total imports, in China's exports the Soviet part was 51 5% The British trade with China, including Hong Kong (*q v*), expressed in percentages of the total British exports and imports, was as follows.

	1936	1947	1948	1949	1950	1951
Exports	1 79	2 24	1 85	1 68	1 44	1 41
Imports	0 99	0 52	0 66	0 61	0 86	0 58

The highest percentage of British exports to China, including Hong Kong, was reached in 1932 (3 47%) and the highest percentage of British imports from China in 1929 (1 04%)

Transport and Communications. Railways (1950) track in operation, 22,600 km The completion of the Chunking-Chengtu railway (531 km) was announced on June 14 from Peking it required no less than 40 tunnels and 970 bridges Altogether, from 1950-52, about 14,000 km of track were rehabilitated and 1,267 km of new track were built By 1950 there were 203,000 km of roads, only one-fifth of the highway system was surfaced and one-third was badly in need of repair From 1950-52 about 1,000 km of new highways were built

CHRISTIAN DEMOCRATIC PARTIES.

The Nouvelles Equipes Internationales (N E I), founded in 1947 on the initiative of the Catholic Conservative party of Switzerland to promote international contacts between the various national Christian Democratic parties of Europe, sponsored a highly successful Youth congress at Villach, in Austria, in August, in which nearly 20,000 delegates from all parts of Europe took part, under the chairmanship of Bernhard Schuerman, Swiss president of the Union of Young Christian Democrats August de Schrijver, of Belgium, chairman of the N E.I., was present, and other prominent speakers included Leopold Figl, chancellor of Austria, Pierre-Henri Teitgen, leader of the French Mouvement Républicain Populaire (M.R P), and Paolo Emilio Taviani, leader of the Italian Partito Democratico Cristiano (P D C).

In the following month the sixth annual congress of the N.E I. took place at Fribourg, Switzerland, when delegates from 17 countries, eight of them behind the " iron curtain ", discussed " The Strength and Weakness of Christians in Europe ". Leading speakers at Fribourg included Professor Robert Houben, general secretary of the Belgian Parti Social-Chrétien (P S.C), who deplored what he described as the indifference, and even the hostility, towards political action of many Christian intellectuals.

The Italian P D.C identified itself as closely as possible with Catholic Action and the church when Alcide De Gasperi and many leading members of his party sat on the tribune with the Pope at the celebrations in October of the 30th anniversary of Italian men's Catholic Action; and both they and the German Christich-Demokratische Union (C D.U) were increasingly preoccupied with their relations with other groups of the political centre The elections for the provincial councils held in Italy in May brought the *Democristiani* only 36% of the votes cast, as compared with 48 7% in the 1948 general election The German C.D.U. received 36% of the votes cast on March 9 in the election for the Landtag of the new Southwest state, but lost in Rhineland-Westphalia, Rhineland-Pfalz and Lower Saxony when new Landtage were elected there on Nov. 9. The figures for these three Lander were respectively 35 8 as compared with 37 6 previously; 38·9 (44 6); and 18 6, including coalition candidates (24·2).

In the general election held in Holland on June 23 (for the first chamber) and June 25 (for the second chamber), the Katholieke Volkspartij also fared badly, falling from 31 6% of the votes cast in 1950 to 28 67%, losing ground especially in the towns and finding itself, for the first time since 1917, no longer the strongest party in the Netherlands. The Belgian P.S.C., which had gained control of the government in the national elections in 1950, lost considerably, especially in the industrial centres, in the local elections held on Oct 12, its vote falling by between 7% and 10%. The French M R.P. found itself with only 9 8% of the votes when half the seats in the Council of the Republic were renewed by indirect voting on May 18. Despite these evidences of declining fortune, however, Christian Democratic figures like Konrad Adenauer, Robert Schuman and Alcide De Gasperi continued to dominate the international life of Europe, and in a year which saw the emergence into the realm of practical politics of the idea of a " little federation " in Europe, to be composed of countries in which Christian Democrats had since the war played a prominent and often predominant part, and the consequent currency of phrases not only about " Charlemagne's Europe " but also about a " Vatican Europe ", it was important to emphasize what little extra-governmental contact these Christian leaders really had

The N.E I. was supported by another body working in this field, also established in Switzerland in 1947, although more specifically Catholic in character—the Union Internationale Chrétienne-Sociale, whose congress in Brussels in January was attended by such men as Joseph Pholien, Belgian minister of justice, and P -H. Teitgen. But it remained true nevertheless that the Christian Democratic parties of Europe had no such representative international machinery as the Communist, Socialist and Liberal parties. It would have been just as false to identify the Vatican with the Christian Democratic parties as it would have been to identify either in any exclusive fashion with the plan for a " little Europe " or with any other movement for European unity. (*See* also ELECTIONS)

(M. DK.)

CHRISTIAN SCIENCE.

Continued steady growth throughout the world was reported in 1952 by the Mother Church, the First Church of Christ, Scientist, in Boston, Massachusetts The Mother Church in 1952 had 3,067 branches in the United States and about 40 other countries, and organizations at 116 universities and colleges.

With continued expansion of the military forces of the United States, 14 Christian Science chaplains were on active duty with troops, four of them in Korea. More than 360 civilian camp welfare workers, serving as Christian Science practitioners, were ministering to hospitalized veterans and members of the armed forces. Relief activities were both national and international in scope during 1952. About $200,000 was voluntarily contributed by Christian Scientists to aid sufferers in the Kansas-Missouri valley flood. The overseas relief division of the denomination sent about

CHRISTIAN DEMOCRATIC PARLIAMENTARY REPRESENTATION
(Figures in brackets are those of the preceding election)

Country	*Party corresponding to Christian Democratic*	*Date of last elections*	*Votes obtained*	*% of total votes*	*C.D.'s seats*	*Total no of seats*
AUSTRIA	Österreichische Volkspartei	Oct 9, 1949	1,844,850 (1,602,244)	44 2 (49 9)	77 (85)	165
BELGIUM	Parti Social-Chrétien	June 4, 1950	2,354,965 (2,190,898)	47 7 (43 5)	108 (105)	212
FRANCE	Mouvement Républicain Populaire	June 17, 1951	2,353,544 (5,058,301)	12 3 (26 4)	94 (164)	627
GERMAN FEDERAL REPUBLIC	Christlich-Demokratische Union Zentrum (Roman Catholics)	Aug 14, 1949	7,357,579 — — 727,343 —	30 0 — 2 9 —	139 — 10 —	402
LUXEMBOURG	Parti Social-Chrétien	June 3, 1951	— —	— —	21 (22)	52
NETHERLANDS	Katholieke Volkspartij	June 25, 1952	1,529,464 (1,531,154)	28 7 (31 6)	30 (32)	100
NORWAY	Christian People's party	Oct 10, 1949	146,413 (117,579)	8 4 (7 9)	9 (8)	150
ITALY	Partito Democratico Cristiano	April 18-19, 1948	12,751,841 —	48 7 —	307 —	574
SWITZERLAND	Catholic Conservative party	Oct 27-28, 1951	— —	— —	48 (44)	196

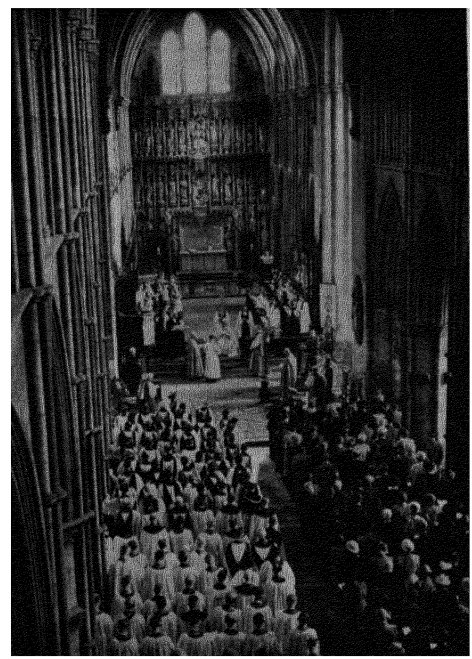
$46,000-worth of used clothing to its churches in Austria, France, Germany, Great Britain, Indonesia, Italy, the Netherlands, Norway and Greece, and to individuals in Finland, Korea and Yugoslavia. Food parcels worth $13,000 were also sent to these countries. The denomination provided about $680,000 towards the operation of its three charitable institutions during the year.

A Dutch translation of Mary Baker Eddy's *Science and Health with Key to the Scriptures* was published during the year. Distribution of Bibles by the Christian Science Publishing society, one of the world's largest distributors of the Bible, reached a record level. Church officials reported that testimonials of Christian Science healing during 1952 included cases of cancer, deformity, imbecility, poliomyelitis, gallstones, arthritis, heart ailment, nephritis and carious bones and flesh. Members of the Christian Science board of lectureship were assigned to lecture tours during the year in continental Europe, Great Britain, Africa, Canada, the orient, Ireland, Mexico, South America, Australia, New Zealand, Alaska and the United States. (T. E. HY.)

CHURCHILL, WINSTON LEONARD SPENCER, British statesman (b. Blenheim palace, Oxfordshire, Nov. 30, 1874). For his biography and political career during World Wars I and II see *Encyclopædia Britannica.* After the defeat of his government in the general election of 1945, he led the Conservative opposition in the House of Commons. His speech at Fulton, Missouri, in 1946 was regarded as the starting point of the movement for European unity and for a Council of Europe. In the general election of Oct. 1951, the Conservatives were returned to power and on Oct. 26 Winston Churchill took office as prime minister. Churchill had left for the United States at the end of 1951 and, during Jan. 1952, he had discussions with President Truman and addressed congress. He also paid a short visit to Canada where he had talks with the Canadian prime minister, Louis St. Laurent. He returned to England at the end of January. On Feb. 7 he broadcast on the occasion of the death of George VI the previous day and on Feb. 15 attended the state funeral. On April 25 he spoke of hopes of national solvency in three or four years, at the annual Primrose League Grand Habitation demonstration at the Royal Albert hall. In general his utterances were noticeably concerned with the gravity of both the economic and international situations. On May 20 at the Conservative women's annual conference he appealed for time before judgment was passed on the Conservative government, and on June 11 at a Press association luncheon in London he spoke of the " trap-door " upon which the present standard of living was supported. On June 17 he reviewed favourably the talks he had had with the Australian premier R. G. Menzies on matters of common concern. On July 1 he praised the patience of the United States in dealing with the Korean war, but regretted that British leaders had not been consulted before the bombing of North Korean power stations. Addressing his constituents at Woodford on Sept. 6, Churchill forecast that in the second half of 1952 Britain would be in balance with the non-sterling world and that the whole of the sterling world would be in balance with the rest of the world. On Oct. 4, in a broadcast, he launched the George VI Memorial fund. He sailed for the U.S. *en route* for Jamaica on Dec. 31.

CHURCH OF ENGLAND. During 1952 much of the attention of the whole church had to be focused on the upkeep of ancient churches and cathedrals. By public appeal Manchester and Salisbury cathedrals raised large sums of money for vital and urgent repairs, and this restoration work was completed during the year. In both Ely and Gloucester cathedrals the ravages of the dreaded deathwatch beetle in roof and tower timbers were discovered to be very extensive and large appeals were issued for both of these great churches. But the same decays afflicted many ancient parish churches, which did not qualify, as cathedrals did, for grants from the Pilgrim trust, but whose bills for repair were far too large to be met by their own populations. The Church assembly appointed a commission under the chairmanship of Ivor Bulmer-Thomas to consider what ought to be done. It reported during the year, and its recommendations that heavy repairs to ancient parish churches must be the concern of the whole church and that the sum of £4 million must be raised to meet this need were accepted by the Church assembly. During the year there were many signs of the growth of congregations, and during the summer the cathedrals were thronged by far more visitors than ever before in living memory.

The year was notable for the widespread and strenuous efforts made to find ways to check the alarming growth of paganism among the people. Many great cities, notably Portsmouth, Manchester and Cardiff, organized vast universal missions; and in November there was a great simultaneous mission to every R.A.F. establishment in the world. Other missions on a smaller scale were too numerous to chronicle. The year also brought welcome signs of a much-needed inventiveness in evangelistic work. In one town teams of clergy paid warmly welcomed and regular visits to public houses where they sat as a brains trust to answer questions, and the first priest-workmen of the English Church began their new ministries by working as miners in a Kentish coal-pit. Factory and industrial chaplains also increased.



Southwark cathedral, London, in May when the Right Rev. William P. Gilpin was consecrated bishop suffragan of Kingston-on-Thames.

There were two less happy episodes which caused unwelcome notoriety. In the summer, Dr. Hewlett Johnson, dean of Canterbury, returned from a visit to China and issued a statement publicly accepting the allegations of the Chinese government that United Nations forces in Korea had dropped containers of disease bacteria behind the lines on the civilian population. This caused angry questions in the House of Commons, a debate in the House of Lords and much distress in the church. The archbishop of Canterbury had once more to explain that the dean in no way represented him and to make a speech in the House of Lords explaining the dean's position both under ecclesiastical and civil law. Another, less important, episode was the anonymous preface to the 1952 edition of Crockford's *Clerical Directory* in which many charges were made in particularly wounding language against the episcopate, and were very widely quoted.

The Rev. Oliver Tomkins, previously one of the secretaries of the World Council of Churches (*q.v.*), was appointed principal of Lincoln Theological college in succession to Canon C. K. Sansbury and would take office in Jan. 1953. Bishop Mervyn Haigh retired from the see of Winchester for reasons of health, and he was succeeded by Bishop Alwyn Williams, who was translated from Durham. The vacant see of Durham was filled by Canon A. M. Ramsey, regius professor of divinity in the University of Cambridge. No other episcopal vacancies occurred during the year.

All over the country the traditional outward shape of the old parochial system continued to be changed by a steadily increasing number of parishes being amalgamated with neighbouring parishes when vacancies occurred instead of being provided with new vicars of their own. For this the inadequacy of clerical stipends and the shortage of clergymen were responsible. In London, however, the vacancy of a City church was seized upon as an opportunity to provide the diocese with a centre or clearing-house of information to which all its clergy could go for spiritual refreshment and to learn about the different experiments which one or another of them was making. (*See* also ANGLICAN COMMUNION; CANTERBURY, ARCHBISHOP OF; MISSIONS, FOREIGN RELIGIOUS.) (R. L.)

Erratum. It is regretted that in the illustration to this article in the *Britannica Book of the Year 1952* the Right Rev. Sherard Falkner Allison was referred to as the Right Rev. S. F. Falkner.

CHURCH OF SCOTLAND. The Church of Scotland recorded severe losses in the year 1952 through the death of some of its most prominent ministers, most notable among them the Very Rev. Dr. John White, twice moderator of the general assembly and generally acclaimed as the main architect of the union of 1929 and the fervent advocate of National Church Extension.

In May the Church of Scotland exercised its privilege of presenting a loyal address to Queen Elizabeth on her accession.

Subjects prominent before the church through its general assembly in May were questions of marriage and divorce, on which a special committee was engaged in submitting evidence to the royal commission, and of Communism, on which a masterly report was printed by the special committee studying the subject. The Church of Scotland continued its keen interest in oecumenical matters and it was represented at the Lund conference in Sweden by a distinguished deputation.

In more domestic matters the work of the foreign mission had to suffer a certain curtailment owing to financial considerations but nevertheless in submitting its new plans an appeal was made for "a greater response in personnel and resources if the possibilities of the new policy are to be turned to full advantage." A noteworthy decision of the general assembly in May was the granting of permission to the overseas presbytery of Kenya to enter into discussions with the Presbyterian Church of East Africa with a view to union.



The retiring moderator of the Church of Scotland, the Right Rev. W. White Anderson (right) and his successor, the Right Rev. G. Johnstone Jeffrey, at the general assembly in May.

The Church of Scotland like other churches found itself faced with a dearth of candidates for the ministry and its Committee on Education for the Ministry was earnestly studying ways and means by which larger numbers of students might be attracted to the divinity halls.

The work of meeting the needs of the people of Scotland transferred to new housing areas and the maintaining of religious ordinances in the more isolated districts of the highlands was continued by the Home board and its subsidiary committees. It was hoped that the memorial to Dr. John White would include the building of 16 new hall-churches. The interest of the church in social conditions was shown by the ever-expanding work of the Social Service committee which had, during 1952, 15 Eventide homes under its supervision. The Church and Nation committee continued to keep in touch with economic, national and social problems, such as the evil of gambling and the measures to be taken against tuberculosis.

The membership of the Church of Scotland in 1952 was 1,273,027, an increase of 1,780 on the previous year's total, the number of charges being 2,340. The moderator of the general assembly for 1952 was the Right Rev. George Johnstone Jeffrey, and H.M. commissioner to the general assembly was Viscount Cunningham of Hyndhope. (*See* also PRESBYTERIAN CHURCH.) (T. C.)

CHURCH OF SOUTH INDIA. The Church of South India was inaugurated in 1947 and comprises 14 dioceses and about 1 million members, who formerly belonged to the Anglican, Methodist, Presbyterian and Congregational Churches. The third meeting of the synod was held in Jan. 1952. The Most Rev. A. M. Hollis, bishop in Madras, was re-elected for the seond time as moderator, and the Rt. Rev. H. Sumitra, bishop in Rayalaseema, was elected deputy moderator. Other outstanding events at the synod were the recommissioning of the Rev. and Mrs. Satya Joseph, the first overseas missionaries of the church, for their work in Papua and approval of the constitution of an Order of Sisters for the church. This order was inaugurated in Bangalore cathedral on Whit Sunday, 1952, when 27 women, 17 Indian and 10 English, were commissioned by the moderator as sisters of the church, and Sisters Rachel

Joseph and Carol Graham were elected joint heads of the order.

New united theological colleges were established at Dornakal for the Telugu-speaking area and at Nazareth near Tinnevelly for Tamil. A similar institution already existed at Trivandrum for Malayalam, and the United Theological college at Bangalore for those who studied in English, so that almost all the clergy were trained together with those coming from other traditions. In connection with the U.T.C. at Bangalore an Institute for the Christian Study of Society was established, with A. K. Thampy, a former member of the Communist party, as its secretary.

Important liturgical work was done in the church. In 1950 a Liturgy for the Holy Eucharist was published and an Order of Service for Confirmation. No minister was obliged to use these forms, but they were proving acceptable and were being translated into the Southern Indian languages. Groups of scholars were also studying the subject of Christian initiation, and in due course it was proposed to produce a baptismal service.

About 25,000 former Anglicans in the Nandyal district, northwest of Madras, decided to continue as members of the Chuch of India. An agreement was reached between the Metropolitan's commissary and the C.S.I. regarding the use of churches and the management of schools.

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(C. S. M.)

CIGARS AND CIGARETTES: *see* TOBACCO.

CINEMA. The International Federation of the Association of Film Producers published a statement during 1952 urging the organizers of international film events to restrict the number of competitive festivals to one a year because there were insufficient films of suitable quality to maintain a high standard among the entries for more than one annual festival. In 1952, as in previous years, a number of festivals were organized; the chief in western Europe were at Cannes, Berlin, Venice and Edinburgh. The Communist countries held their festival at Karlovy Váry, Czechoslovakia, where the Soviet film *The Unforgettable Year 1919* won the Grand Prix. At Cannes the main awards went to Renato Castellani for *Due Soldi di Speranza* and to Orson Welles for *Othello;* both shared the Grand Prix. In Venice the premier award went to René Clément for *Jeux Interdits.* Berlin and Edinburgh were both organized as non-competitive festivals.

Great Britain. The complex pattern of British film production finance was clarified during 1952 when the operation of the group system (initiated in 1951) became more fully developed and the amount of the contributions to producers from the British Film Production fund became known. The exhibitors' British quota remained at 30% of screen-time for long films and 25% for shorts.

The National Film Finance corporation received from the Conservative government ratification of the proposal previously made by the Labour government to increase the borrowing powers of the corporation by a further £2 million, bringing the total available capital at its disposal to £8 million. It was stated, however, that this additional revenue should be found, as far as possible, from private sources. The three groups, originated by the N.F.F.C. (British Film Makers, Ltd., at Pinewood, the Elstree group and the pioneer Group Three) together with London Films and Ealing studios, accounted for most of the first feature product on which the general reputation of British films was based. In September John Grierson resigned from the position of executive producer of Group Three.

The British Film Production fund (also known as the Eady fund) operated well though it was subjected to considerable criticism by the exhibitors through whom its money was collected. Producers received about 40% of the box-office returns on their films as a quarterly bonus, the sum varying in proportion to the number of applicants drawing on the fund. Without such a scheme the average British film could only be expected to regain 73% of its cost at the British box-office; with the Eady plan it was hoped that producers could retrieve 106%, and eventually even 115%. Producers therefore insisted that the fund must be continued in some form after 1954, when it would end Financial support from the Film Production fund for the Children's Film Foundation, Ltd., a non-profit-making company founded in July 1951 to make entertainment films for children, was maintained in 1952 with the result that the foundation's productions for the year included eight one-hour feature films and a number of serials, shorts, magazine films and cartoons.

British documentary work during 1952 received a severe blow when the government announced that the Crown Film unit and the Mobile Film Exhibition units initiated during World War II and later maintained by the Central Office of Information, would be disbanded at the end of March. Protests were made by many organizations and individuals and although the sponsorship of documentary by public money did not cease altogether it was greatly curtailed.

Little progress was made in the problems affecting the film industry and television. The British Broadcasting corporation maintained its own production unit for newsreels, special documentaries for television screening and film inserts for use in various otherwise "live" programmes. Large-screen television had been demonstrated in 1951 at the Festival Telekinema, the experimental theatre organized by the British Film institute at the South Bank exhibition, London, and a further public exhibition was also given in 1952 at the Odeon cinema, Leicester square. The Telekinema was renamed the National Film theatre and reopened by the British Film institute in the autumn to show specialized programmes to the institute's members and to the public

The chief British feature film productions of the year included *The Sound Barrier* (David Lean), *The Importance of Being Earnest* (Anthony Asquith), *Cry the Beloved Country* (Zoltan Korda), *Angels One-Five* (George More O'Ferrall), *I Believe in You* (Michael Relph and Basil Dearden), *Mandy* (Alexander MacKendrick), *Murder in the Cathedral* (George Hoellering and T. S. Eliot), *Outcast of the Islands* (Carol Reed) and *Secret People* (Thorold Dickinson).

Commonwealth. The chief centres of film production were India and Canada. Production, almost entirely of documentary films, continued on a small scale in Australia and New Zealand.

The output of the Indian film industry had become since World War II second only to that of Hollywood. The greater part of this production had for some time originated from Bombay state, though the industry in general was partly regionalized into west, east and south. Production was by some 400 individual companies, working in 67 studios, centred mostly in Bombay, Madras and Calcutta. These studios were reported, in a survey undertaken by U.N.E.S.C.O. (1947-48), to be quite well equipped and to be entirely supported by Indian capital. The average annual output of feature films had been 250. United States distributors in India handled about 225 Hollywood features annually; the British about 25. The main countries which imported Indian films were Pakistan (chief importer), Burma, Ceylon and Malaya. Few Indian films had been shown in the cinemas of Europe and the U.S., though Chetan Anand's

film *Neecha Nagar* won the Grand Prix at the Cannes festival in 1946 and Uday Shankar's *Kalpana* was widely appreciated for its presentation of Indian dancing. *Aan*, India's first colour film, was shown in London in 1952. An international non-competitive festival of films was held in India early in 1952; it was organized first in Bombay and afterwards in Madras, Delhi and Calcutta. Twenty-three countries, including the U.S.S.R., submitted films.

In Canada the main form of production had for some years been government-sponsored documentary produced through the National Film board, established in 1939 with John Grierson as the first film commissioner. The commissioner in 1952, W. A. Irwin, had been appointed in 1950, and his staff in 1951 numbered nearly 500, of whom more than 100 were concerned with film usage, distribution and exhibition in the provinces of Canada and in foreign countries. Production during 1951-52 amounted to 213 subjects, and the non-theatrical audience in Canada was nearly 11.5 million. Some of the films made were designed for theatrical exhibition in public cinemas but most were for specialized educational use. The board maintained regional offices throughout Canada and a staff of operators using mobile exhibition equipment. Television, especially in the United States, had begun to form an important additional means of distribution. The board was also responsible for the production of film-strips and other visual aids useful in education and social service.

France. Production in France, as in Great Britain, continued in 1952 to depend on the amount of screen-space French films could command in their own country in the face of foreign competition, particularly from the U.S. Inconclusive discussions were held with the Motion Picture Association of America about the importation of U.S. films, before these discussions the French government announced that it had cut the number of dubbing visas for foreign films by 20%, thereby reducing the number of films France was prepared to import in any single year from 186 to 138.

Film-making in France had always been largely the work of the independent producer and a recent development had been the growth of co-production between producers in France and in other countries, notably Italy. During 1950-51, 23 Franco-Italian co-productions were made and it was arranged that a balance should be maintained so that about the same number of films were made in each country, so providing equal employment for both Italian and French technicians. Co-production was authorized officially by the French Centre National de la Cinématographie and the Italian Direzione dello Spettacolo. These co-productions enjoyed unrestricted entry to the markets of both countries and in certain cases had quota privilege. A commission made up of French and Italian representatives acted regularly to control the economic and legal arrangements governing co-production. An example of co-production with Great Britain was the full-length cartoon by the company known as les Gémeaux: *La Bergère et le ramoneur*.

Since World War II the most distinctive work in French film-making had been achieved jointly by directors of prewar standing such as Marcel Carné and René Clair and by directors whose international reputation had been made in more recent years such as H. G. Clouzot, Robert Bresson, Jacques Becker, Jean Delannoy, Claude Autant-Lara, Louis Daquin, René Clément, Yves Allégret, André Cayatte, Georges Rouquier and the dramatist Jean Cocteau. There had also been a revival of French short film-making, especially scientific films and films on art subjects, and cartoons, notably by les Gémeaux (Paul Grimault and André Sarrut). Jean Renoir, whose *The River* was an Anglo-U.S. production made in India, continued to work outside France, whereas Max Ophüls, the distinguished Austrian film-maker, had recently joined the French studios. French films had once more become consistent award-winners at the more important international festivals, and although the finer French productions presented dark and morbid themes, sensitivity in the handling of difficult social and psychological situations had become characteristic of the outstanding newer directors like Robert Bresson, René Clément and André Cayatte.

Important films made during 1952 included *Nous sommes tous des assassins* (Cayatte), *La Jeune folle* (Yves Allégret), *Casque d'or* (Jacques Becker), *Jeux interdits* (Clément), *La Bergère et le ramoneur* (les Gémeaux) and *Les Belles de nuit* (René Clair).

Germany and Austria. The German-speaking films produced in western Germany and Austria (the main outlet for Austrian production being in the German market) were faced with the economic difficulties common to many of the European industries. The first postwar realist productions, mostly originating from studios in eastern Germany, made a certain international reputation, but German audiences wanted films which took their minds off the destruction outside the theatres. The greater part of the 350 films produced in western Germany during 1945-52 (82 during 1951) were conventional dramas, comedies and musicals, and very few of them earned international acclaim. Producers continued to complain of the heavy taxation placed on the industry. Another outlet for German producers was co-production.

Austrian films were also forced to concentrate on conventional subjects, and remained wholly dependent on export to meet production costs. Production of feature films reached 28 in 1951. More recent titles included *Eroica* (about Beethoven), *Vagabonds* and *She-Devil* (both based on plays) and *Adventure in the Red Sea*, a feature-length documentary by Hans Haas about an underwater expedition. The veteran Austrian film-maker G. W. Pabst was occupied during 1952 in making *The Voice of Silence* in Italy. There was also in Austria a considerable production of documentary, instructional and advertising films.

Italy. The development of the Italian film industry had been a most striking postwar feature. The policy of the industry, operating under the official guidance of the Direzione dello Spettacolo, was to consolidate a world market with the aid of expert publicity handled by Unitalia, the organization representing the various production interests. Unitalia initiated during 1952 a series of Italian film weeks in a number of places, including London, New York and Madrid. Production figures for 1951 showed 98 Italian feature films completed. A co-production agreement between Germany and Italy was completed in 1952, while the United States continued to produce films in Italy following the famous *Quo Vadis?*, which was first shown in Britain during 1952. The production of short films for 1951 numbered 306.

The overseas market for Italian films earned about 15% more in 1951 than in 1950, and a further rise was expected for 1952. Receipts from the home market also showed a gradual rise despite heavy competition from imported U.S. films, which tended to derive from the Italian box-office about three times the receipts obtained by home-produced films. During 1951 the number of cinemas operating in Italy was 8,625, with a weekly average attendance of over 13 million, a rise of both these figures was expected for 1952.

Notable productions in 1952 included *Umberto D* (Vittorio de Sica), *Olden Times* (Alessandro Blasetti), *The Girls of the Piazza di Spagna* (Luciano Emmer), *Europa '51* (Roberto Rossellini), *The White Sheik* (Federico Fellini), *Wife for a Night* (Mario Camerini), *Due Soldi di Speranza* (Renato Castellani), *Bellissima* (Luchino Visconti) and *Il Cappotto* (Alberto Lattuada). Outstanding among documentary films was *Leonardo da Vinci*, made by Luciano Emmer and based on Leonardo's drawings.

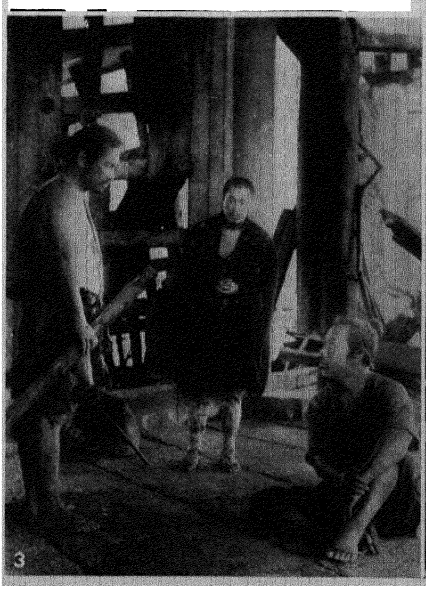


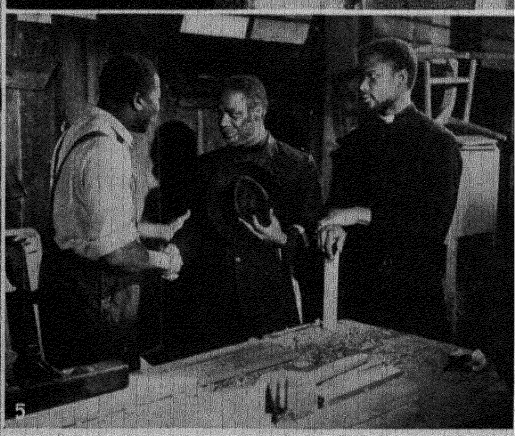


FILMS SHOWN IN BRITAIN IN 1952

1. Charlie Allnutt (Humphrey Bogart) and Rose Sayer (Katharine Hepburn) in "The African Queen", directed by John Huston. 2. Terry, a ballerina (Claire Bloom), with Calvero, a music-hall comedian (Charles Chaplin), in "Limelight". Charles Chaplin wrote the script and the music, and directed and produced the film which had its London première on Oct. 16. 3. A scene from the Japanese film "Rashomon". 4. (Left to right) Jack Worthing (Michael Redgrave), Cecily Cardew (Dorothy Tutin) and Algernon Moncrieff (Michael Denison) in the film version of Oscar Wilde's "The Importance of Being Earnest", which was directed by Anthony Asquith. 5. Stephen Kumala (Canada Lee), with his friend the Rev. Msimangu (Sidney Poitier), visiting his brother John Kumalo (Edric Connor) in "Cry the Beloved Country", directed by Zoltan Korda.







U.S.S.R. and Eastern Europe. The productions of the U.S.S.R. set a model for the film industries of Czechoslovakia, Poland, Hungary, Bulgaria, Rumania and eastern Germany. The chief Soviet productions released in 1952 were *The Unforgettable Year 1919* (about the defence of Petrograd against the interventionist armies, directed by M. Chiaureli), *Country Doctor* (about life in a rural hospital, directed by S. Gherasimov), and, in the series of biographical films in which Soviet directors had specialized during recent years, *Przhevalsky* (the career of the 19th-century Russian explorer, directed by S. Yutkevich) and *Taras Shevchenko* (the Ukranian poet and national hero). V. I. Pudovkin's contribution to Soviet cinema was *Harvest*, about rural socialization, and G. V. Alexandrov made a film about the Russian composer M. I. Glinka. Other films were *Cavalier of the Golden Star* (Y. Y. Raizman) and *Donets Miners* (L. D. Lukov). Many scientific and documentary films were awarded Stalin prizes and work in cartoon films was widely developed, chiefly for child audiences. Almost all Soviet films were made in colour.

The main centre of the Polish film industry was at Łódź, where, in addition to studios, a training establishment for film-makers had been set up, with a five-year course of study. Outstanding productions were *The Young Chopin*, directed by Aleksander Ford, a film which linked Chopin with the historical struggle for Poland's liberation, *The Crew* (Jan Fetke), about sea cadets, and *First Days* (Jan Rybkowski), which dealt with the postwar reconstruction of a steel mill.

The Hungarian film industry, nationalized in 1948, also concentrated on social subjects in *Strange Marriage*, a colour film satirizing the hierarchy of the Roman Catholic Church, and a film of historical reconstruction, *Madame Déry*, dealing with the movement for liberation from the Austrian régime. Production in Bulgaria had also been nationalized in 1948 and similar social subjects were presented in *Alarm*, *Danka* (the struggle of the textile workers under capitalism) and *Dawn over the Land* (about the Bulgarian Communist youth movement). Rumania began to develop film-making with productions like *Life Triumphant*, about the socialization of the scientists, and *Mitrea Cocor*, about a Rumanian peasant who deserted the Fascist army to join the Communists

In eastern Germany production was centred on the *Deutsche Filmgesellschaft* (D.E F.A.) studios in Berlin, where Wolfgang Staudte made *The Subject*, based on Heinrich Mann's novel. A recent biographical film was *Wilhelm Pieck*, the story of the carpenter who became a leader in the working-class movement and was made president of the German Democratic Republic. *Women's Lives* (directed by Slatan Dudow) dealt with the problems of women in contemporary Germany. Criticism of Allied administration in the west was the subject of *The Condemned Village*, the story of a German village evacuated to make a U.S. military air base, and *Shadow over the Islands*, the story of a doctor's fight for the health of the people in the Faroe Islands.

Yugoslavia. During 1952 Yugoslavia continued to develop its technical resources and to train film technicians during the actual process of production. Among films released was Vjekoslav Afrić's third film, *Hoja Lero*, a fantasy set in an imaginary land of the 7th-century and derived from a work of the 17th-century poet Gundulić. A Slovene folk tale was made into the film *Kekac*. *The Chronicles of Visoko* was derived from a historical novel by the Slovene writer Ivan Tavčar and directed by Bojan Stupica; its action took place during the Reformation in Slovenia. (R. MAN.)

United States. The U.S. motion-picture industry continued during 1952 to recover from the adverse effects of television, and gross box-office receipts for the year were estimated at $1,225 million as compared with $1,166 million in 1951. At least three factors contributed to the industry's revival: record foreign income, continued growth of the outdoor drive-in theatre and a greater variety and somewhat improved quality of pictures released from Hollywood. Major producers estimated that foreign income for 1952 would exceed $165 million, an increase over the previous high record of $160 million set in 1951. Canada alone accounted for almost $100 million of the 1952 gross receipts.

By June 1952 the drive-in theatres had increased in number from 820 in 1948 to 3,483 (including Canada). These new outdoor theatres had more than offset the closing of 1,500 mostly obsolete "indoor" theatres during the period 1948-52 and by the end of that period were accounting for approximately 20% of gross motion-picture theatre receipts in the United States and Canada. One of the principal reasons for the popularity of the drive-ins was their solution of the "baby-sitting" problem for parents. In June 1952, nevertheless, there were still 15,950 permanent motion-picture theatres operating in the United States.

The old-fashioned western pictures, once the staple product of the U.S. motion-picture industry, continued to decline in popularity in 1952 and more topical films took their place. Biographical films were also produced in quantity, with 30 either released or in production at the end of the year, of these, 12 were in the musical category. Historical events were dramatized in a number of pictures, such as the voyage of the "Mayflower" (*Plymouth Adventure*) and the German siege of Tobruk in World War II (*Desert Rats*). The story of a U.S. weather mission to the Gobi desert in Outer Mongolia during the early years of World War II was effectively told in *Destination Gobi*.

The three top box office successes of the summer period were Cecil B. De Mille's circus picture, *The Greatest Show on Earth*, the Dean Martin and Jerry Lewis comedy *Jumping Jacks*, and the English *Tales of Hoffmann*, a Technicolor adaptation of Jacques Offenbach's opera.

Samuel Goldwyn released his $4 million Technicolor *Hans Christian Andersen*, starring Danny Kaye, in Nov. 1952, it broke a 16-year gross-receipts record at the Criterion theatre in New York city during its first week of showing.

Cinerama, the new three-dimensional motion picture, made its successful debut in New York city, Sept. 30, 1952. A Technicolor film entitled *This is Cinerama* was projected on a curved screen 65 ft. wide and consisted of a series of short subjects. Another three-dimensional process, known as Natural Vision, made its first appearance in *Bwana Devil* at Los Angeles, California, in December. By the end of 1952 there were 19 U.S. companies working on three-dimensional processes, some (like Cinerama) not requiring the audience to wear special polaroid glasses.

The U.S. Supreme court ruled 9 to 0 in May 1952 that U.S. cities and states cannot censor or bar motion pictures on the grounds that they are sacrilegious (the picture in question was the Italian film *The Miracle*, which had been banned in New York state). The Supreme court held that motion pictures come under the freedom-of-speech provisions of the U.S. constitution.

The U.S. Department of Commerce reported that there were 14,900 companies in the motion-picture industry of the U.S. at the end of the first quarter of 1952—unchanged since Sept. 1951. There were 647 theatre circuits, each with four or more theatres, operating 51% of the total number of theatres, with 64·1% of the total number of seats. Approximately 6,795 companies or individuals operated the remaining 49% of the theatres with 35·9% of the seating capacity. Production investment of all types in 1951 was estimated at more then $500 million and the average cost of production

was about $900,000. Corporate sales of the industry in that year amounted to $1,813 million.

The Academy of Motion Picture Arts and Sciences announced in March 1952 the awards for 1951, among which were the following: best picture, *An American in Paris* (Metro-Goldwyn-Mayer), best actor, Humphrey Bogart in *The African Queen*, best actress, Vivien Leigh in *A Streetcar Named Desire*; supporting actor, Karl Malden in *A Streetcar Named Desire*; supporting actress, Kim Hunter in *A Streetcar Named Desire*; best direction, George Stevens, *A Place in the Sun* (Paramount). (S. L.; X.)

CIVIL AVIATION: *see* AVIATION, CIVIL.

CIVIL DEFENCE. Despite financial restrictions the progress of civil defence continued during 1952. Recruiting showed a steady upward trend, the number reached being more than 250,000. A special campaign was launched in the autumn on a personal canvass basis and showed a marked improvement over the more conventional methods. There was still a large gap to be filled before the peacetime establishment was reached, though some county areas had attained their targets.

A change was made in the organization of the local division involving the amalgamation of the Pioneer section with the Rescue section, thereby reducing the local division to five sections in England and Wales and four in Scotland. Not all the responsibilities originally assigned to the Pioneer section would pass to the Rescue section, but it was felt that this re-arrangement would strengthen the organization.

A most important development during the year was the opening of the Tactical school. The new buildings at the Staff college at Sunningdale park, near Ascot, were almost completed by the end of the year and parts of them came into use in September. A detailed study, such as would be possible at the Tactical school, of the problems set by modern bombing tactics and weapons was essential if not only the Civil Defence corps but all the associated services, such as police and fire, were to fight their battles successfully and with a common tactical doctrine.

Work continued on the re-establishment of a warning system and on the enrolment of warning officers, who took part in the large-scale air exercises held. Preparations for the establishment of one group of a mobile column for experimental purposes were pushed ahead so that it could operate during 1953. It was to be composed of volunteers from the army and the R.A F., and with a civil defence staff, and would be on a site in southwest London. The provision of premises, shelters, etc., for civil defence was still severely restricted, though a modest start was made in the provision of control centres for some of the most important areas. On the training, as opposed to the operational, side the provision of premises continued, an important consideration being their additional use for social and recreational purposes as a means of helping to hold the members of the corps together. In Scotland two zones were formed to cover the highly populated areas round Edinburgh and Glasgow and zone controllers were appointed

The training of instructors continued steadily and in 1952 more than 20,000 were available, this number comprising general, rescue and tactical. Assistance continued to members of the Commonwealth and to North Atlantic Treaty organization countries, especially to Canada, Malta, Gibraltar, Cyprus, Malaya, Singapore, Pakistan and Hong Kong. In Malta, where recruiting started in July, civil defence personnel took part in a combined services exercise for the first time. Canada had well over 60,000 volunteers in 1952. (J. HL.)

CIVIL LIST. The death of King George VI and the accession of Queen Elizabeth II caused parliament to pass a new Civil List act. A select committee of the House of Commons was appointed on May 20 and reported on June 26. For the first time since 1837 provision had to be made for a queen regnant. Unlike the payment to the consorts of kings the provision for the Duke of Edinburgh was made from the consolidated fund and not from the sovereign's civil list. The total of the queen's civil list was £475,000, as compared with £410,000 for George VI, and was made up as follows (1937 figure in brackets): privy purse, £60,000 (£110,000); household salaries and pensions, £185,000 (£134,000); household expenses, £121,800 (£152,800); royal bounty, etc., £13,200 (£13,200), supplementary provision, £95,000 (nil).

Provision was made for the Duke of Cornwall to receive one-ninth of the revenues of the duchy of Cornwall (about £10,000 a year) from the beginning of the reign until his 18th birthday and £30,000 a year during the last three years of his minority On his majority he would receive the entire revenues of the duchy. The Duke of Edinburgh was granted an annuity of £40,000 for life. In the case of children of the sovereign other than the Duke of Cornwall provision was made for sons to receive £10,000 a year at the age of 21, increasing to £25,000 a year on marriage. For daughters the amounts were fixed at £6,000 and £15,000. Provision was also made for Princess Margaret to receive £15,000 a year on her marriage. (She had received £6,000 a year from her 21st birthday in 1951.) The other members of the royal family who received payments from earlier Civil List acts were: Queen Mary (£70,000), Queen Elizabeth, the queen mother (£70,000), the Duke of Gloucester (£35,000) and the princess royal (£6,000). It was felt that up to £25,000 of the supplementary provision of the queen's civil list might be used to make special provision for other members of the royal family who would undertake public duties (*e.g.*, the Duchess of Kent and the Countess of Athlone).

Civil List Pensions. Under the Civil List act, 1937, the amount allowed for pensions in any one year was £2,500. In the year ended March 31, 1952, £875 of this was spent on new pensions and £1,625 on increases to earlier ones. Four new pensions were granted: to Mary Gaskell Gillick, widow of Ernest George Gillick, in recognition of his services to art (£150); to Percy James Wyndham Lewis for his services to literature and art (£250), to Thomas Ulick Sadleir for his services to scholarship (£250), and to Kathleen Roberta Williams, daughter of John Williams, for his services to Welsh music (£225). The Civil List act, 1952, increased the amount allowed for pensions to £5,000.

CIVIL SERVICE. *Strength.* As a result of intensive efforts in all departments, the total number of staff in the civil service was reduced from 688,435 on Jan. 1, 1952, to 673,687 on Oct 1, a reduction of 14,748.

Pay. In January an agreement was reached between both sides of the National Whitley council providing for a special addition to the pay of all non-industrial civil servants on salaries of up to £2,000 a year. This settlement gave increases of 10% on the first £500 of remuneration, 5% on the second £500, 2½% on the third £500 and a total increase of £100 on salaries of between £1,500 and £2,000, and was in final settlement of all civil service non-industrial wage claims based on movements in prices and wages in respect of the period up to Dec. 31, 1951.

Professional Classes. In July a report was published of the third of the committees set up to deal with the remuneration of the professional classes in accordance with the recommendation made by the Chorley committee. (See *Britannica Book of the Year 1951* and *1952*). This committee, under the chairmanship of Sir Thomas Gardiner, reviewed the pay

and organization of professional accountants in the civil service and recommended certain salary increases. They endorsed the general principles of the existing organization and in particular the division of functions between professional accountants, who are engaged for cost accounting, investigations and advisory work, and civil servants of the executive class who handle most of government accounting and auditing.

Security. In Jan. 1952 a new security procedure was introduced for staff employed on exceptionally secret work, including work involving access to classified atomic energy information. This procedure involved open enquiries designed to establish the reliability of such staff and to carry out the government's policy that no person should be employed on work the nature of which was vital to the security of the state if he was a member of the Communist party, a Fascist organization or associated with either in such a way as to raise legitimate doubts about his reliability.

Pensions (Increase) Act, 1952. The year saw the enactment of the Pensions (Increase) act, 1952, authorizing small increases of pension to mitigate the hardship caused to public-service pensioners (civil servants, teachers, police and so forth) by the rise in the cost of living since 1947. The pensions of public service pensioners were not related to changes in the cost of living after retirement It had, however, been the practice of successive governments to increase the pensions of retired public servants to meet rises in the cost of living serious enough to cause real hardship to the smaller pensioner. The 1952 act thus embodied the same general policy as the Pensions (Increase) acts of 1944 and 1947 and those of the early 1920s (E. E. Bs.)

See Bosworth Monck, *How the Civil Service Works* (London, 1952)

CLARK, MARK WAYNE, U S. general (b Madison Barracks, New York , May 1, 1896). He graduated from the U.S. Military academy, West Point, in 1917 and saw action in France as a battalion commander during World War I He was graduated from the Command and General Staff school, Fort Leavenworth, Kansas, in 1935 and from the Army War college, Washington, two years later In Aug 1942 he arrived in Great Britain to take over command of U S ground forces in the European theatre of operations, and in Nov. 1942 he was second in command of the U.S forces in the North African operation. Three weeks before the landings Clark had led a successful secret mission by submarine to establish contact with French officers in North Africa friendly to the Allied cause For this feat he was promoted to lieutenant-general Subsequently he led the U.S 5th army in Italy in Sept. 1943, and in Nov. 1944 he was appointed commander-in-chief of the Allied 15th army group. After World War II Clark, who had advanced to the rank of full general (temporary), was U.S. high commissioner for Austria (1945-47), commander of the U.S 6th army in San Francisco (1947-49) and commander of the U.S. army field forces at Ft. Monroe, Virginia (1949-52) On April 28, 1952, President Harry S. Truman appointed him supreme commander of U N. forces in Korea to succeed General Matthew B. Ridgway (*q v.*). Clark took command on May 12.

CLARK, SIR KENNETH McKENZIE, British art historian (b. London, July 13, 1903), was educated at Winchester college and Trinity college, Oxford. From 1926 until 1928 he worked in Florence as assistant to Bernard Berenson, the eminent critic and Renaissance scholar. He was keeper of the department of fine art of the Ashmolean museum, Oxford, 1931-33, and a fellow of Magdalen college, 1933-37. From 1934 to 1945 he was director of the National gallery, London, holding concurrently until 1944 the surveyorship of the king's pictures; in 1939-41, however, he served with the Ministry of Information, as director of the film division (1939), controller of home publicity (1940) and controller of planning (1941). He was Slade professor of fine art, University of Oxford, from 1946 until 1950 On May 13, 1952, it was announced that he had resigned his membership of the Royal Fine Art commission, to which he had been appointed in 1946, and a week later he was appointed chairman of the Arts Council of Great Britain. He had been a founder-member of the Council for the Encouragement of Music and the Arts (1940), the Arts Council's predecessor, and was chairman of the latter's art panel Clark's writings include *The Gothic Revival* (1929); *L. B Alberti on Painting* (1944), *Landscape into Art* (1949), and *Piero della Francesca* (1951) He was part author and editor of the extensive commemorative catalogue of the Italian exhibition at Burlington house, London, in 1930, and in 1939 edited Roger Fry's *Last Lectures.* Also well-known as a Leonardo scholar, he was responsible for the definitive *Catalogue of Drawings of Leonardo da Vinci in the Collection of His Majesty the King at Windsor* (1935) and *Leonardo da Vinci* (Ryerson lectures, Yale university, 1936; publ 1939, 2nd ed 1952) Clark was created K.C.B. in 1938 and elected a fellow of the British Academy in 1949.

CLASSICAL STUDIES. The papers read at the first International Congress of Classical Studies (Paris, Aug 1950) were published during the year in an impressive volume of *Actes* of over 400 pages. The Classical association held a meeting in London on the general theme of ancient religion and philosophy, and there was a large attendance at its annual four-day meeting at Reading, at which the presidential address was delivered by W. M. Calder on "Getting to Know the Greeks". T. B L. Webster gave his address, as president of the Hellenic society, on "Art and Literature in Aristotle's Athens" The Classical Association of Scotland held a successful jubilee meeting in Edinburgh.

A remarkable monument of scholarship and industry, as well as of printing, was vol. II of Sir Arthur Evans' *Scripta Minoa* (Oxford), published by Sir John Myres from notes left by Evans and supplemented by his own, vol. I had appeared as early as 1909. This at last made available the Cretan Linear Script B, with other texts in the same script from the mainland published by E. L Bennett in *The Pylos Tablets* (Princeton and Oxford). Other notable continuations were a 12th volume in the Oxford translation of Aristotle, *viz.*, W. D. Ross's *Select Fragments*, and in the Loeb series (London and Cambridge, Massachusetts), vol. XIII of Livy (books 43-45, A. C. Schlesinger), vol. IX of Pliny's *Natural History* (books 33-35, H. Rackham), vol. VII of Diodorus Siculus (books 15-16, C. L. Sherman) and the single volume of Aristotle's *Meteorologica* (H D. P. Lee). A new edition of the *Bucolici Graeci* by A. S. F. Gow, with the new evidence from papyri, replaced, in the Oxford classical texts, the former by U. von Wilamowitz-Moellendorff. M. Grant's *Ancient History* followed W. A. Laidlaw's recent *Latin Literature* in the Home Study books (London). To the popular Penguin books (London) was added Plato's *Symposium* in a new translation by W. Hamilton. Among welcome revised editions were R. G. Austin's *Pro Caelio* of Cicero (2nd ed., Oxford), Sir William Tarn's *The Greeks in Bactria and India* (2nd ed., Cambridge) and also his *Hellenistic Civilization* (3rd ed., with G. T. Griffith, London).

New publications of 1952 included: W. H. Porter, *Plutarch's Life of Dion* (Dublin); H. Hill, *The Roman Middle Class* (Oxford); T. A. Sinclair, *History of Greek Political Thought* (London); H. Michel, *Sparta* (Cambridge); R. Hackforth, *Plato's Phaedrus* (Cambridge); J. B. Skemp, *Plato's Statesman* (translation and notes, London); E. A. Thompson, *A Roman Reformer and Inventor* (Oxford); L. Kelling and A. I. Suskin,

Index Verborum Iuvenalis (North Carolina and Oxford); Kathleen Freeman, *God, Man and State* (Boston and London); M. Charlesworth (ed.), *The Heritage of Early Britain* (London); E. A. Parsons, *The Alexandrian Library* (London), and a charming inaugural lecture by E. G. Turner on Athenian books (London).

Classical scholarship was sadly impoverished during the year by the deaths of E. H. Alton, Sir Frederic Kenyon, Lord Lindsay of Birker (for these *see* OBITUARIES), Sir Arthur Pickard-Cambridge, Edwin Abbott, J G C. Anderson, S O. Andrew, F. J Kittermaster, G Hope Stevenson and Sir Robert Tate. (L J D R)

CLOTHING INDUSTRY. The depression that hit the clothing trade in the latter half of 1951 persisted during the earlier months of 1952. The public's resistance to buying continued despite a marked downward trend in retail prices, in some cases to below cost, in an effort to liquidate stocks and release capital for future buying. With diminishing orders, manufacturers generally cut their production, with the result that there was a big rise in the unemployment figures for the main clothes-producing centres The value of retail sales of clothing in March was only slightly above the level of two years previously and the significance of this comparison in terms of the volume of business transacted can broadly be judged in the light of a rise of about 25% since 1950. Sales of women's and children's clothing during the month were 14% lower in value than in March 1951 and those of men's and boys' wear, 29% lower.

When conditions began to brighten at the retail end later in the year, shopkeepers, working on extremely low stocks, found themselves unable to satisfy the demand for many items of apparel and the makers, unable to get back their former employees from other industries, could not cope with the orders for early delivery The result was that delivery periods lengthened to six months and more Many goods ordered in June, for example, had still not arrived in the shops by the end of the year The value of retail sales in September was 15% above the rather depressed level of a year earlier Since Sept. 1951 was a particularly poor month for the retail clothing trade, and Sept 1950 a particularly good one, it was difficult to draw conclusions from comparisons. It was generally felt, however, that the trade was emerging out of the depression

During the first week of the year all price control of non-utility clothing, except children's wear, ended in Britain In March a scheme was introduced in the budget to replace both the utility and purchase tax systems for clothing. Called the "D" scheme, it made all goods taxable at the former rates, but only on the amount by which their wholesale price exceeded a set figure For example, the "D" figure for men's shirts was put at 17*s.* 6*d.*, and that for lined overcoats and raincoats, at £6 10*s.* Two months later, the rates of purchase tax were cut from 66⅔% and 33⅓% to 50% and 25% respectively.

Retail clothing trade employees got minimum wage increases, varying from 3*s.* per week for those under 16 years of age, to 12*s.* per week for shop managers. An application by the National Union of Tailors and Garment Workers for an increase of 6*d.* per hour on the minimum rates for operatives in the clothing factories was twice rejected by the Wholesale Clothing Manufacturers' federation.

International trading in clothing was severely handicapped during 1952 by the imposition of import restrictions by several countries. For the nine months ended Sept. 30, the value of exports of clothing from the United Kingdom was £24,311,900, a drop of more than £10 million on the figure for the same period in 1951. The 1950 figure was £24,841,912. The biggest customer in the nine months of the year under review was in the United States which imported U.K clothing to the value of £2,857,726, as compared with £3,251,566 in Jan.-Sept 1951 and £2,143,742 in the preceding year. Australia's purchases dropped from £4,283,810 in 1951 to £2,473,621, and those by the Union of South Africa from £3,761,716 to £2,024,275. Sweden took £1,837,984 worth (£3,678,325 in 1951), British West Indies, £1,842,393 (£2,627,581), Netherlands, £595,000 (£1,078,315); Belgium, £571,638 (£1,168,994); Irish Republic, £623,007 (£1,762,842), and Switzerland, £657,574 (£907,188). (R J. MY.)

United States. The U.S clothing industry continued in the doldrums during the first half of 1952 The consequences of over-production, accompanied by reduced consumer buying because of high prices, were still evident in the form of lowered production and reduced employment.

Factories producing men's wear were operating at only 70% of capacity, as compared with a normal output of 85%-90%. Production of suits declined by 19% as compared with the same period of 1951, and the emphasis was on lightweight sports and leisure garments. Rayon was becoming increasingly popular for sportswear. Production of men's shirts declined during the first half of 1952 because the demand for shirts for formal wear decreased. The increase from 800,000 sports coats cut in 1940 to nearly 8 million in 1952 showed clearly the tremendous increase in demand for informal garments The use of dacron blends, all-rayon suitings and cords for lightweight summer suits was growing, with a consequent reduction in all-wool tropical worsteds Blends of man-made fibres and wool, such as dacron and wool and orlon and wool, were becoming increasingly popular for both men's and women's wear.

The first half of the year was bad for the trade in women's clothing. Retailers still had inventories of merchandise they had bought in 1951 in anticipation of a price rise, which customers refused to buy because of high prices. However, with production generally lower in most items of women's wear, after the summer business improved (*See* also TEXTILE INDUSTRY) (H. A CN.)

COAL. The coal situation in Great Britain improved in several respects during 1952 The total output, the distributed stocks and overseas exports were all higher than in 1951 and there was also a marked improvement in the recruitment of labour for the mines A higher proportion than usual of the new entrants were juveniles and, for the first time in many years, the upward trend in the average age of the miners was checked.

The particulars of production and employment given in Table I show that the output per manshift was slightly lower than in 1951 because, it is stated, of the abnormal proportion of trainees to productive workers in the industry during the earlier months of the year. The output per manshift in 1951 was the highest ever recorded in Great Britain and in 1952 it was higher than in any other part of western Europe A further improvement in this direction was expected when more young men became qualified to take their places at the working face.

The total number of workers on colliery books at the end of 1952 was 715,000, as compared with 698,000 at the end of 1951. The scheme to bring Italian workers into the industry had to be abandoned on account of opposition to their employment in some coalfields but there were still about 10,000 foreign workers in the pits at the beginning of 1952 out of the 18,000 who entered the industry during World War II.

Despite the improvements referred to, it was estimated that the total output in 1952 fell short of the true requirements by about 20 million tons because the real demand for coal in Great Britain since World War II had been masked by

TABLE I. PRODUCTION AND EMPLOYMENT IN BRITISH COAL MINES

		1950	1951	1952
Coal output (million tons saleable)	Deep-mined	204·1	211·9	213
	Opencast	12·2	11·0	12
	Total	216·3	222·9	225
Manpower (thousands)	Face workers*	288	287	317
	Other workers*	409	411	457
	All workers*	697	698	774
	Recruitment	55	73	77
	Wastage	76	63	62
Productivity (tons per manshift)	Face workers	3·11	3·17	3·15
	All workers	1·19	1·21	1·19

* Yearly average.

statutory restrictions on supplies. The government Committee on National Policy for the use of Fuel and Power Resources, under the chairmanship of Lord Ridley, reported in September that production from the mines was unlikely to be sufficient to meet the real demand within the next decade, even with a vast expenditure of capital in the coalfields; they, therefore, recommended that steps should be taken immediately to conserve fuels by every means that might lead to greater efficiency in the utilization of heat and power. The consumption of fuel and power in the United Kingdom in 1951 together with the committee's estimates of requirements for 1959-63 are shown in Table II.

The National Coal Board. The latest available summary of the total income and expenditure of the National Coal board is given in Table III. In 1951 the board sustained a loss of £5,500,000 on the sale of 1,200,000 tons of coal imported from the United States to home consumers at the normal controlled prices and, as a result of this, it started operations in 1952 with a net deficit of £1,800,000.

The returns from each of the nine divisions of the coalfields showed a marked increase in the cost of production during 1952 due mainly to the rise in the cost of materials. As in previous years, the financial burden was again carried by the east midlands, west midlands and northeastern divisions which included the most recently developed and productive parts of the midland and Yorkshire coalfields, and previously the chief assets of the National Coal board. The more easily worked seams in the older parts of the Scottish, Durham and southwestern divisions were nearly exhausted and working conditions in some areas within these divisions were exceptionally difficult. Further progress was, however, made during 1952 in the development of newer areas in Scotland and south Wales which, it was hoped, would eventually enable these divisions to make better contributions to the output and financial resources of the industry.

Developments in the Coalfields. The capital expenditure on new developments in 1952 was over £39,000,000, as compared with £26,500,000 in 1951. The National Coal board estimated that £38 million would have to be spent every year from 1951 to 1955 if all the proposals in the Plan for Coal were to be carried out and the fact that the actual capital outlay had fallen short of this, in spite of the increase in the cost of materials, gave rise to apprehension about the future prospects of the industry. Five to six years were needed to bring a large colliery into production after work had begun on shaft-sinking and another five years might elapse before the mine reached its full productive capacity. Some of the more important technical developments were proceeding on the lines suggested by the Reid committee, particularly in connection with skip winding and the layout of mine workings on the horizon system to enable locomotives to be used for main haulage. About 460 locomotives were at work at the end of 1952, of which 400 were of the diesel type and about 60 of the electric battery type. In cases where the gradients were unfavourable to locomotives, belt conveyors were being used in preference to rope haulage. Much attention was given during the year, by the Ministry of Fuel and Power and the National Coal board, to the problem of reducing the risk of fire on belt conveyors underground. The disaster at Cresswell colliery in Sept. 1950 emphasized the urgency of this problem and intensive research during 1952 led to the development of a non-inflammable plastic covering for belts as a substitute for vulcanized rubber.



The Duke of Edinburgh visiting the coal fields in Lancashire on April 3. He spent two hours underground at the Mosley Common pit.

Efforts to overcome the difficulty of achieving complete mechanization of mining operations on long-wall faces were still being made and in 1952 considerable attention was given to the possibility of carrying out these operations continuously instead of intermittently by the conventional methods of undercutting, blasting and loading. Complete mechanization was again mainly confined to relatively few faces with the aid

TABLE II. FUEL AND POWER CONSUMPTION IN THE UNITED KINGDOM IN 1951

In millions of tons of coal and coal-equivalents. The estimated values for 1959-63 are shown in brackets.

Sector	Coal used directly	Coke, etc.	Gas	Electricity	Oil, excluding road transport	Total
Domestic	35·1 (34·6)	4·2 (7·4)	9·2 (11·4)	11·2 (12·9)	0·7 (1·1)	60·4 (67·4)
Iron and steel	8·0 (9·1)	17·1 (26·0)	2·9 (3·9)	4·3 (5·5)	1·5 (2·7)	33·8 (47·2)
Other industries	38·3 (38·0)	5·3 (6·8)	3·1 (4·0)	12·7 (20·7)	4·1 (7·1)	63·5 (76·6)
Commercial	2·4 (0·8)	4·7 (5·2)	1·8 (2·6)	3·0 (5·0)	0·2 (1·0)	12·1 (14·6)
Public authorities	4·8 (4·8)	2·9 (4·8)	1·3 (1·4)	2·6 (3·3)	0·2 (0·2)	11·8 (14·5)
Railways	14·1 (13·7)	0·4 (0·4)	—	1·2 (1·3)	0·1 (0·3)	15·8 (15·7)
Colliery power	10·5 (7·5)	—	0·1 (0·1)	1·5 (1·5)	—	12·1 (9·1)
N. Ireland	2·8 (3·1)	—	—	—	—	2·8 (3·1)
Loss in transit, etc.	1·9 (2·1)	—	—	—	—	1·9 (2·1)
Total	117·9 (113·7)	34·6 (50·6)	18·4 (23·4)	36·5 (50·2)	6·8 (12·4)	214·2 (248·4)

TABLE III. SUMMARY OF INCOME AND EXPENDITURE, 1951

Income	(£ million)	Expenditure	(£ million)	%
Coal	521·3	Wages	334·7	61·7
Coke	28·6	Workmen's compensation	13·3	2·4
Gas, tar and by-products	13·9	Salaries	19·7	3·6
Briquettes and patent fuel	6·1	Pensions	6·4	1·2
Bricks, tiles and pipes	2·9	Materials, power and repairs	110·6	20·4
Farm produce and livestock	0·4	Other expenses	18·0	3·3
Miscellaneous products	1·5	Depreciation	23·7	4·3
Services, wagon repairs, etc.	5·0	Profits tax	2·0	0·4
Total	579·7	Interest and interim income	14·5	2·7
Less sales in National Coal board organization	43·9			
Net sales	535·8			
Other receipts	5·3			
Total income	541·1			
Net deficiency	1·8			
Total	542·9	Total	542·9	100·0

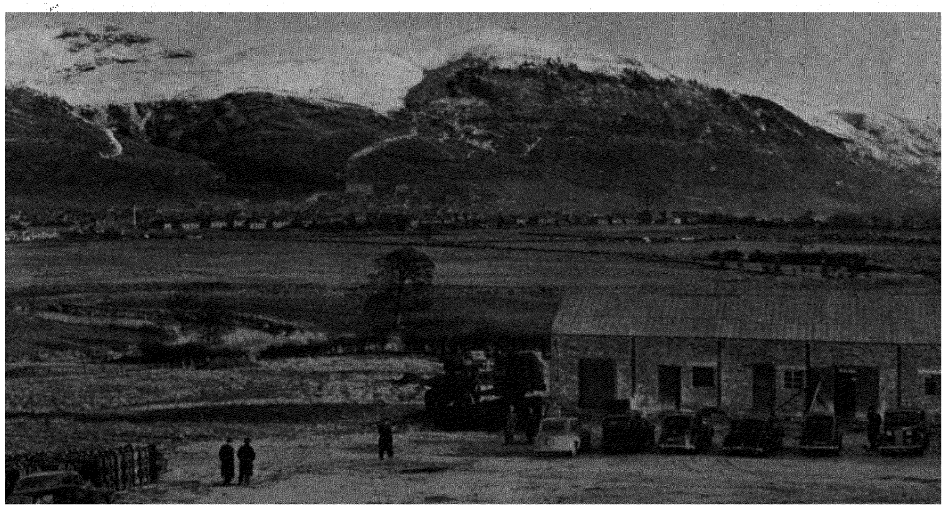
of Meco-Moore machines, Samson Strippers and ploughs which together produced about 6 million tons during the year or about 2·5% of the total output of deep-mined coal. About 75% of the total output was undercut by machines and mechanically conveyed from the face, but 97% of it was loaded by hand. Experiments were being made to operate short longwall faces by remote control with no men at all working on the face. Some further progress was made in the development of machines for stowing waste material in the goafs, but this work and the loading of coal at the face was still carried out mainly by manual labour.

On June 19 Geoffrey Lloyd, the minister of fuel and power, inaugurated the sinking of the shafts for a new colliery at Bevercote in Nottinghamshire, which was to be typical of the larger projects in the Plan for Coal. It was situated at the centre of an area of 12 sq.mi. under which there were proved reserves of over 100 million tons of coal at depths varying from 2,400 to 3,000 ft. The colliery was designed for an output of 5,000 tons a day and about 1,250,000 tons a year. It was expected to have a useful life of at least 100 years; and the coal in this area was suitable for general industrial and domestic purposes. It was estimated that the cost of sinking the shafts and equipping the colliery would be about £5,500,000 and that 1,700 workers would be employed when the mine was fully developed. Production was due to begin in 1960 and it was expected that an output of three tons per manshift would be obtained with power loading, trunk conveyors, locomotive main haulage and skip winding. A coal preparation plant was to be installed on the surface, capable of dealing with the whole of the output and all the machinery in and about the mine would be driven by electricity.

The new Calverton colliery, also in Nottinghamshire, was opened in September by Lord Leathers, minister for co-ordination of fuel and transport. This colliery was planned and partially constructed by B. A. Collieries, Ltd. before World War II and the National Coal board completed the work mainly in accordance with the original plans, which provided for an annual output of about 1,250,000 tons and a useful life of 100 years, as in the case of the Bevercote colliery.

TABLE IV. WORLD PRODUCTION OF COAL AND LIGNITE
(Millions of metric tons)

	1947	1948	1949	1950	1951
Australia	21·31	21·82	21·83	24·20	25·87
Belgium	24·44	26·69	27·85	27·30	29·66
Canada	14·40	16·74	17·35	17·36	16·84
China	14·15	8·72	15·50	18·76	—
Czechoslovakia	38·58	41·06	43·53	45·97	—
France	47·32	45·13	53·05	51·53	54·96
German Fed. Rep.	129·85	151·89	175·50	186·60	202·04
India	30·48	30·61	32·20	32·83	34·86
Japan	30·06	36·44	40·08	39·75	44·72
Netherlands	10·57	11·31	11·91	12·44	12·67
Poland	63·89	75·30	78·70	82·84	86·70
Saar	10·54	12·57	14·27	15·09	16·28
South Africa	23·82	24·02	25·50	26·47	26·11
Spain	11·76	11·82	11·96	12·38	12·82
U.S.S.R.	175·00	200·00	230·00	260·00	288·00
United Kingdom	200·63	212·75	218·61	219·78	222·18
United States	623·98	595·71	445·96	504·47	526·00
Yugoslavia	9·29	10·72	12·10	12·86	12·04
World Total	1,440	1,486	1,396	1,495	—



The site of the Glenochil mine at Alva, Clackmannanshire, where work was started in January, when completed this would be Britain's largest drift mine. Its output was estimated at 750,000 tons of coal a year for more than 60 years.

Valuation Boards. During 1952 the district valuation boards continued their task of valuing colliery assets but showed little signs of completing their work. Several districts decided to hasten the division of the sum allotted to their district as payment for their mines by appointing independent arbitrators. This was done and many ex-owners received their chief compensation Compensation units like housing estates were still outstanding

Western European Production. The Ministerial Coal Production group of the Organization for European Economic Co-operation (O E.E C) met in London on July 28 to review the production and consumption figures for the immediate future and to discuss the financing of investments in the coal industry in France, Germany and Belgium. The production figures for 1952 and 1953 were predicted from data supplied by the various governments concerned and, as was expected, they were exceeded in 1952 in Great Britain and the German Federal Republic Some of the factors which were taken into account in arriving at these figures did not have the same significance in all cases. In France and Belgium, for example, there was not much difficulty in getting labour for the mines and the problem of raising the output in these countries was that of increasing the load on existing equipment and extending the working faces. The main problem in Great Britain was to increase the productivity of a limited labour force by the introduction of new types of machines, particularly for loading coal on long-wall faces Under the O.E.E C. five-year plan for the German Federal Republic the aim was to raise the output of hard coal to 150 million metric tons a year by 1956. A capital investment of 3,600 million marks was needed to carry out this programme but only a third of this could be raised within the industry and a tenth was to be provided by the state, the remainder would have to come from an external source, probably through the International Bank for Reconstruction and Development (*See* also EUROPEAN COAL AND STEEL COMMUNITY.) (J A S. R.)

TABLE V UNITED STATES COAL PRODUCTION
(Thousands of short tons)

	1947	1948	1949	1950	1951
Bituminous	627,389	596,024	434,342	512,941	530,373
Lignite	2,874	3,086	3,092	3,370	3,292
Anthracite	57,190	57,140	42,702	44,077	42,670
Total	687,453	656,250	480,136	560,388	576,335

COCHIN-CHINA: *see* INDOCHINA

COCOA. World cocoa production in 1951-52 was at its lowest since 1947-48 and about 7 or 8% below the level of the immediate pre-World War II years. In British West Africa owing to excessive rains output was 14% less than in 1950-51, the Gold Coast crop amounting to 211,000 tons and that of Nigeria to 108,000 tons, as against 262,000 and 110,000 tons respectively in 1950-51, for 1952-53 the Gold Coast crop was forecast at 245,000 tons. With swollen shoot disease still the chief problem, cocoa production in both territories continued below the immediate prewar average In the Gold Coast, destruction of diseased trees was re-enforced in the middle of the year; there was further research, however, into the use of the systemic insecticide, Hannane, which destroys the mealy-bug transmitting the swollen shoot virus The prices paid by the Gold Coast Cocoa Marketing board and the Nigeria Cocoa Marketing board were raised in 1951-52 to £149 6*s.* 8*d.* and £170 per ton respectively, as against £130 13*s* 4*d.* and £120 respectively in 1950-51; for 1952-53, however, the lower price of £130 13*s* 4d. a ton in the Gold Coast was announced, but in Nigeria prices were expected to remain unchanged.

Brazil's crop was reduced by drought to some 105,000 tons in 1951-52 and the 1952-53 crop was forecast at the same figure compared with the record output of 159,000 tons in 1949-50. French West Africa and Cameroun together provided in 1951-52 a further 103,000 tons, 7,000 tons less than in 1950-51.

Cocoa exports from British West Africa, although reduced in volume in 1951-52, continued as one of the chief colonial dollar earners. Exports in that season from the Gold Coast amounted to only 203,000 tons and those from Nigeria to 111,000 tons, the combined total being 47,000 tons less than in the previous season. In Brazil exports from Bahia and Ilheos during the first nine months of 1952 amounted to 29,000 tons or over 50% less than in the same period of 1951. Consignments from the Dominican Republic in the first eleven months of 1952 at 21,000 tons were slightly greater than in the previous year. Imports in the first nine months of 1952 into the United States, the world's chief consumer, amounted to 201,000 tons, as against 270,000 tons in the full year 1951. The United Kingdom took 104,000 and 107,000 tons in 1952 and 1951 respectively; the buying panel representing United Kingdom purchasers, set up in 1950 on the termination of government bulk-buying, was dissolved in the spring of 1952, and individual firms again made their own purchasing arrangements for raw cocoa. (E. O. G)

COFFEE. World exportable production of coffee in 1951-52, estimated at 35 million cwt , was very slightly less than in 1950-51 and about 20% below the 1936-40 average. Latin-American output was estimated at 29 4 million cwt. as against 29·9 million cwt in 1950-51 and a prewar average of some 38 million cwt. The main decline was in Brazil, where production was 16 8 million cwt. in 1951-52 as against an average of 26 million cwt. before World War II, but Indonesia also produced only a fraction of its prewar output Output showed a marked expansion, on the other hand, in Colombia (6 6 million cwt. in 1951-52 as against a prewar average of 5 3 million cwt) and in Africa (5 4 million cwt in 1951-52 of which British East Africa provided about one-quarter); in Africa production in French West Africa, Angola and Uganda had doubled or even trebled since before World War II. For 1952-53 the world exportable crop was again forecast at 35 million cwt , the Brazilian crop alone being estimated at 16 2 million cwt

Total exports from Latin-American countries (mainly Brazil) recovered from 28 5 million cwt in 1950 to 30 75 million cwt. in 1951, though still over 4 million cwt. less than in 1949, limited supplies and high prices helped to reduce exports and consumption in foreign markets from the end of 1949. As before, over 70% of total coffee exports from Latin America went to the United States and some 20% to Europe (including the United Kingdom). Imports of coffee from all sources into the United States in 1951 totalled 24 0 million cwt. as against 21 8 million cwt. in 1950, the prewar average annual import having been some 16 5 million cwt. Total imports into Europe (including the United Kingdom) in 1951 were 9 8 million cwt., 0·5 million cwt. more than in 1950, but over 20% below the average of the immediate prewar years. Imports into the United Kingdom in 1952 amounted to 851,000 cwt., again mainly from British East Africa and Brazil, as compared with 852,000 cwt. in 1951 and 401,000 cwt. in 1938, the Ministry of Food's contracts with Commonwealth producers were renewed in 1952 for a further two years, but from Aug. 1952 the trade was given the right to import the remainder of the country's requirements from specified countries while retail prices were decontrolled.

With world supplies short of demand, coffee prices, in contrast to those of most other agricultural products, continued high throughout 1952. At the beginning of 1952 Brazil's Santos No. 4 averaged 55 cents per lb. on the New York market, but showed a slight downward movement in the first half of the year, although this was subsequently

reversed; the ceiling price of 55·5 cents per lb. for this type continued in force throughout the year. In the United Kingdom the retail price of top grade coffee was raised from May 6 from 4*s* 10*d* to 5*s*. 4*d*. per lb., and, after decontrol in August, there was little rise until the end of the year (E. O G.)

COKE: *see* COAL; GAS.

COLD, COMMON: *see* EAR, NOSE AND THROAT, DISEASES OF.

COLOMBIA. Republic situated in northwestern South America adjoining the isthmus of Panama, Colombia is the only South American country with both Caribbean and Pacific coast lines. Area: 439,714 sq mi. Pop. (1951 census, prel. fig.): 11,266,000. About 68% of the population is classified as mixed blood, 20% as white, 7% as Indian and 5% as Negro. Language: Spanish. Religion: predominantly Roman Catholic. Chief towns (pop., 1951 census): Bogotá (cap., 643,187), Medellín (329,965); Barranquilla (278,269), Cali (243,463); Cartagena (110,504), Bucaramanga (104,179). Presidents in 1952: Laureano Gomez Castro, titular, Roberto Urdaneta Arbeláez, interim.

History. In Nov. 1951, President Gómez, leader of the extreme right wing of the Conservative party, withdrew for reasons of health from the active exercise of his office, and Urdaneta, the minister of the interior, assumed the presidential duties pending Gómez' return. Constitutional guarantees remained suspended and censorship continued in force throughout 1952. On May 13, an office was established to co-ordinate the government's propaganda activities. On the economic front, official policy reflected a progressive tightening of controls, particularly restrictions on imports and exports. A National Economic Planning board was created in May to advise the executive on economic matters, and an Administrative Council of National Railways was set up on June 8 to reorganize rail transport.

Mariano Ospina Pérez, former president and leader of a Conservative faction rivalling that of Gómez, resumed political activity in July. Many Conservatives supported the former president for re-election in 1954 in the belief that his return to office would offer promise of peace with the opposition Liberal party, which pursued a policy of political abstention throughout 1952.

Negotiations were completed on Aug. 12 for a loan from the International Bank for Reconstruction and Development to Colombia of $25 million of which $20 million would be designated for construction of the projected Magdalena River railway. A military aid agreement was signed with the United States on May 17. At the end of the year, Colombia remained the only Latin-American state with armed forces participating in the Korean conflict. (G. I. B.)

Education. Schools (1948): primary 13,010, pupils 765,482, teachers 17,849; high 601, pupils 42,293, commercial 153, pupils 5,914, night 347, pupils 8,904, teachers' colleges 76, pupils 4,411. Universities 5, students 9,991, teachers 1,590.

Agriculture. Coffee production (1951) 5,576,640 bags of 132 lb. each, of which 4,798,518 bags were exported, incl. 4,311,009 bags to the U.S. Banana exports (1951): 6,347,690 stems, of which 4,776,414 went to the U.S. and 1,516,564 to German Fed. Rep. In 1951-52, 127,000 metric tons of wheat, 318,000 tons of rice (rough) and 490,000 tons of potatoes were produced. Sugar production (1951): 147,410 tons. Livestock ('000 head, 1950): cattle 15,200, pigs 2,470, goats 531, sheep 1,339.

Industry. Production (1951): gold 430,723 troy oz., silver 129,773 oz., platinum 17,157 oz., salt 110,085 metric tons, cement 648,131 metric tons, electricity 742,712,000 kwh., crude petroleum 38,398,000 bbl. Crude petroleum exports 32,236,969 bbl., of which 16,740,078 bbl. went to the U.S. and 11,510,496 bbl. to Curaçao for refining. Refined products included 1,986,347 bbl. of petrol.

Finance (million pesos): Budget (1951 actual) revenue 733.4, expenditure 685.6, (1952 est.) balanced at 632.7. Public debt (Dec. 31, 1951) 567.1. Currency circulated (Sept. 30, 1952), 490.0. Monetary unit *peso*, with an official exchange rate (Oct. 1952) of P 1.95 to the U.S. dollar and P 5.46 to the pound.

Foreign Trade (million pesos, 1951): Exports 1,093, imports 872.1. Chief exports: coffee 78%, petroleum 16%, bananas 2%. Main destinations of exports: U.S. 81%, Germany 6%, Netherlands Antilles 5%. Main sources of imports: U.S. 69%, Germany 8%, U.K. 5%.

Transport and Communications. Railways (1947) 2,208 mi. Roads (1948) 11,166 mi. Motor vehicles (Dec. 31, 1950): cars 36,374, lorries 23,763, buses 7,380. Cargo received at ports on the Magdalena river in 1951 totalled 1,572,650 metric tons, passengers numbered 183,933.

COLOMBO. Capital and principal seaport of Ceylon. Pop. (1946 census): 355,374.

Over a million people visited the well-planned and financially successful exhibition which opened in Victoria park on Feb. 23, 1952, and continued for a month. The exhibition, the first trade fair of its kind to be held in Asia, was linked with the Colombo plan. All the countries participating in the plan displayed their resources and products, as well as their cultural and artistic achievements. Australia, Canada, Great Britain and the United States also took part.

Good progress was made with the harbour construction scheme being carried out by French engineers, of which the main part was to be the construction of deep-water quays. Two "alongside" berths for large ocean-going cargo ships were completed, by 1955 quayside accommodation was expected to be enough for 17 passenger and cargo liners. Meanwhile, great efforts were being made to speed up the existing methods of port-working to meet complaints from western shippers of excessive loading and unloading delays. By September the Ceylon government was satisfied that the causes of such delays had been removed and asked the shipping lines to lift the heavy surcharge imposed on Colombo freights.

An exhibition of historical manuscripts was held at the Colombo Art gallery. The National School of Music and Dancing was opened on July 2. The school's aim was to preserve Ceylon's national dances, folk songs and music. (J. HKN.)

COLOMBO PLAN. The report later to be known as the Colombo plan was published in Nov. 1950 by the Consultative Committee on Economic Development in South and South-East Asia, a body set up at the Colombo conference of Commonwealth foreign ministers in Jan. 1950. The plan formally came into operation on July 1, 1951. The founder members of the consultative committee were Australia, Canada, Ceylon, India, New Zealand, Pakistan and Great Britain, but the non-Commonwealth countries in the area were invited to co-operate: Vietnam, Laos and Cambodia subsequently joined, and at a meeting of ministerial representatives in Karachi in March 1952 Burma and Nepal were welcomed as members of the plan, Indonesia, the Philippines, Thailand and the International Bank for Reconstruction and Development continued to send observers, and one from the United Nations Economic Commission for Asia and the Far East also attended. The United States, as a member of the consultative committee, was also represented at the Karachi meeting.

The progress of the six-year development programmes of the Asian member-countries of the Colombo plan was described in the first annual report of the consultative committee, covering the period July 1951 to June 1952, compiled at the Karachi meeting. The report gave an encouraging picture of work in progress. During the year large irrigation and hydro-electric schemes went rapidly ahead in India, Pakistan and Ceylon, and a number of industrial projects went into production. In some of the other countries in the area development was still affected by grave political and social disturbances: in Malaya, for example, development schemes directly concerned with dealing with the emergency (*e.g.*, refugee re-settlement and improvement of communications) had to take priority over other projects.

The original financial estimates for the national development programmes were increased, partly because of the higher cost of developmental goods. But some of the increase resulted from an extension of the scope of the programmes. For the area as a whole, economic conditions generally deteriorated after the raw materials boom of early 1951, and many of the under-developed countries experienced during 1952 a substantial decline in the demand for their primary produce.

The efforts of the Asian countries to finance their development from their own resources were supplemented by help made available under the bilateral aid programmes of other members of the consultative committee and by loans from the International Bank for Reconstruction and Development During the fiscal year 1951-52 the United States government made grants of over $150 million to countries in the Colombo plan area, and also authorized substantial loans; Australian, Canadian and New Zealand aid for 1952-53 was to be on the same scale as that given in the first year of the plan. In addition, an increasing amount of technical assistance was made available to the area under the United Nations programmes, the U.S Point Four scheme and the technical cooperation scheme of the Colombo plan itself (S. J. G. F.)

COMMERCE: *see* BUSINESS REVIEW; CHAMBERS OF COMMERCE; INTERNATIONAL TRADE.

COMMONS, HOUSE OF: *see* PARLIAMENT, HOUSES OF.

COMMONWEALTH OF NATIONS. The self-governing territories are dealt with under the sub-heading *Dominions and India*, and the others, which include colonies, protectorates and trust and mandated territories, under *Colonies*. The table gives essential data as at Dec 31, 1952.

Dominions and India. In Feb. 1952 the whole Commonwealth was saddened by the news of King George VI's sudden death on Feb. 6 (*see* OBITUARIES). From all the dominions and from India there came expressions of the deepest sympathy with the new queen and the queen mother. There were also many tributes, not least from India and Pakistan, to the part that the late king had played in smoothing the way for changes which in the last years of his reign had transformed the character of the Commonwealth. Due recognition of these changes was made in the proclamations of the new queen, who in Australia was proclaimed as " Queen Elizabeth the Second by the Grace of God Queen of this Realm and of all Her other Realms and Territories, Head of the Commonwealth, Defender of the Faith, Supreme Liege Lady in and over the Commonwealth of Australia . . . "

The Marquess of Salisbury succeeded Lord Ismay as secretary of state for Commonwealth relations on March 12 and was in turn succeeded by Lord Swinton on Dec. 15.

The appointment of a Canadian, Vincent Massey, as governor-general of the senior dominion was a new departure, but both New Zealand and Australia, in the selection of Sir Willoughby Norrie and Field Marshal Sir William Slim respectively as her majesty's representatives, reverted to the older tradition.

The third and most serious payments crisis of the sterling area since World War II was responsible for a meeting of Commonwealth finance ministers in London from Jan. 15 to Jan. 21. At the end of the discussions a statement was issued which recorded the conviction of the conference that the fall in the gold and dollar reserves of the sterling area could not be checked by negative and restrictive measures alone and that the only way in which recurrent drains on the central gold reserves could be prevented was for every country in the area " strenuously to endeavour to live within its means ". The communiqué concluded by reaffirming the need for frequent and comprehensive consultation between Commonwealth governments on the problems of the sterling area. Abruptly imposed cuts in Australian imports of United Kingdom goods provoked some doubts about whether this was taking place, but the Australian prime minister, Gordon Menzies (*q.v.*), in a visit to the U.K. gave some reassurance on this point and in the early autumn,a meeting of Commonwealth officials assembled in London to review the success of measures so far adopted and to prepare the way for a conference of Commonwealth prime ministers.

The final results of the elections to the lower house of the Indian parliament, the House of the People, which began in Oct. 1951, were complete early in 1952. The Congress party with 363 seats had a large majority over all other parties, but due note was taken of the comparative success of the Communist candidates in the south. Far more important than its results was the election itself, for never before in the history of representative government had so large an electorate gone to the polls. In Ceylon, where the death of Don Stephen Senanayake in March as the result of a riding accident was a grave loss both to his own country and to the Commonwealth, an election was also held late in May. It resulted in the return of the United National party under the leadership of Dudley Senanayake, the son of the late prime minister; the United National party had a clear majority over all others.

There were times when the United Nations representative, Frank Graham, seemed to be making some progress in his protracted negotiations with the representatives of India and Pakistan about a settlement in Kashmir, but while U.N. sanctioned the continuance of his endeavours agreement about the timing and scope of demilitarization could not be reached. In December the Indian rejection of the Anglo-American proposals for direct negotiation on Kashmir provoked much criticism in Pakistan. Meanwhile the Kashmir government of Sheikh Abdullah entered into conversations with the Indian government with a view to defining the relationship of Kashmir to the Indian republic. In a broader field, a further meeting of the consultative committee of the Colombo plan in Karachi in March indicated that steady, if not dramatic, progress was being made in the working out of the plan in south and southeast Asia.

Throughout the year the situation in South Africa aroused much anxiety. In addition to the tension created by South Africa's native policies there was a constitutional crisis brought about by the decision of Daniel Malan's government to circumvent a judgment of the Supreme court. The judgment ruled that the Representation of Voters bill, which was intended to remove Cape Coloured electors from the common voters' roll, was invalid because it had been passed only by a bare majority in each house sitting separately, whereas under the South Africa act the franchise was entrenched so that a two-thirds majority of both houses of parliament sitting together was needed to amend it. The government responded by setting up a High Court of Parliament in a bill which could review and set aside the judgment of the Supreme court. Within South Africa this provoked violent protest from the opposition. The crisis had a Commonwealth significance partly because of the nature of the constitutional issues involved and still more because of the racial implications of Malan's policies.

Problems of security and defence remained a matter of constant concern. Both the United Kingdom and Canada were strongly represented at the meeting of the council of the North Atlantic Treaty organization at Lisbon in February when Lester Pearson, the Canadian secretary of state for external affairs, was chairman. In the Pacific the corresponding council to be set up under the Pacific Security

agreement held its first meeting at Honolulu in August, and military conversations between the three participating countries, Australia, New Zealand and the United States, followed in the autumn. In London the fact that the United Kingdom was not represented at these talks, even by observers, provoked some unfavourable comment.

The meeting of Commonwealth prime ministers to examine further the measures to be taken to strengthen the reserves of the sterling area took place in London in November. Except for India and South Africa, who were represented by their finance ministers, all the Commonwealth prime ministers attended. At the conclusion of their meeting they issued a communiqué saying that there was a vital need to expand the earning power of all sterling countries and accordingly for each country in the Commonwealth to concentrate on development projects which contributed to the sterling area's balance of payments. The value of existing preferential duties was recognized but there was also agreement to seek the co-operation of other countries in plans for expanding world trade. (N. MGH.)

Colonies. As forecast by the new secretary of state for the colonies on Nov. 14, 1951, the change of government brought no marked change in Great Britain's colonial policy. There was perhaps a slight slowing-up in the promulgation of new constitutions and, though much was said of the importance of economic development, there were in fact no new economic experiments. The political team did not long remain unchanged; the minister of state, A. T. Lennox Boyd, was in May transferred to the Ministry of Transport and replaced at the Colonial Office by Henry Hopkinson.

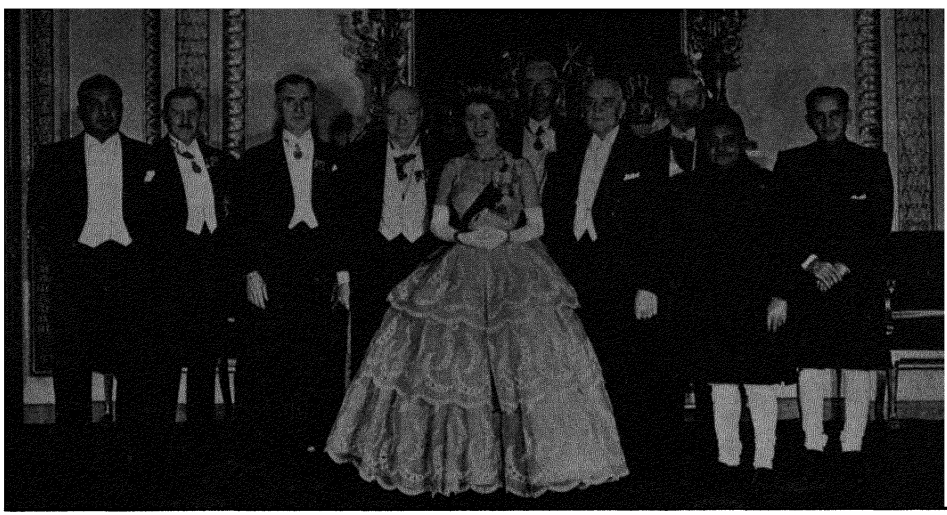
During 1952 the House of Commons had full-scale debates on closer association in central Africa (on three occasions), on Kenya land use and on general colonial affairs, in addition to adjournment debates on export controls to Hong Kong, the development of colonial rice supplies and the appointment of a clerk-assistant to the speaker to act as private tutor to new colonial legislatures. The House of Lords debated the situation in Malaya twice, Commonwealth students in Great Britain, the Colombo plan, the annual report of the Colonial Development corporation, the central African federation, developments in the Gold Coast and colonial affairs in general. Question time in the House of Commons also showed the quickened and more enlightened interest in colonial matters to be found in recent parliaments. It did, however, seem that the bipartisan approach to colonial policy might be seriously endangered when the opposition pressed a division on central African federation in March; but the division was on a point of procedure only and not on the principle of federation.

In the latter part of the year interest centred on Mau Mau in Kenya and on the steps taken to suppress it. Both Lords and Commons debated the subject and in the Commons the debate was pressed to a division.

This interest was not restricted to words, but was given practical effect in a number of ways. A delegation of the United Kingdom branch of the Commonwealth Parliamentary association attended the formal opening of the Nigerian House of Representatives in March. From June 23 to July 10, under the auspices of the United Kingdom branch of the association, a course was held in London and Belfast at which members of colonial legislatures were instructed in the workings of the United Kingdom and Northern Ireland parliaments. Colonial branches were fully represented at the meeting of the Commonwealth Parliamentary association that opened in Ottawa in September. Finally the services of E. A. Fellowes, clerk-assistant of the House of Commons, were lent to Nigeria in August and for ten days he presided over the session of the Nigerian House of Representatives.

The continued state of emergency in Malaya, aggravated by the fall in rubber prices, and the problems raised by the government's declared support of the principle of federation in central Africa were the two features which appeared most prominently on the political horizon. Though the economic development of the colonies continued to prove a slower and more hazardous process than its more vociferous proponents had suggested, the opposition hesitated to make a target of

(Continued on page 153.)



Queen Elizabeth II with the prime ministers who attended the Commonwealth conference in London, Nov. 27-Dec. 11. Left to right: D. S. Senanayake (Ceylon); Sir Godfrey Huggins (Southern Rhodesia); S. G. Holland (New Zealand); W. S. Churchill (United Kingdom); R. G. Menzies (Australia); L. S. St. Laurent (Canada); N. C. Havenga (representing D. F. Malan, South Africa); Khwaja Nazimuddin (Pakistan) and C. D. Deshmukh (representing Jawaharlal Nehru, India).

Country	Area (sq mi)	Population (1951 est. in '000s)	Capital	Status	Rulers, Governors and Prime Ministers
EUROPE					
GREAT BRITAIN AND NORTHERN IRELAND, UNITED KINGDOM OF	94,501	50,369[4]	London	kingdom	Queen Elizabeth II; prime minister, Winston Churchill *Northern Ireland* governor, Lord Wakehurst, prime minister, Viscount Brookeborough
CHANNEL ISLANDS					
JERSEY	45	57[4]	St Helier	parts of the United Kingdom	Lieutenant-governor, Sir Arthur Grasett
GUERNSEY, etc	30	45[4]	St Peter Port		Lieutenant-governor, Sir Philip Neame
ISLE OF MAN	221	55	Douglas		Lieutenant-governor, Sir Geoffrey Bromet
GIBRALTAR	2 12	22[5]	—	colony	Governor, Lieut-General Sir Gordon MacMillan
MALTA	120 8	313	Valletta	self-governing colony	Governor, Sir Gerald Creasy; prime minister, G. Borg Olivier
ASIA					
ADEN	112	750	—	colony and protectorate	Governor, Tom Hickinbotham
BRITISH BORNEO					
NORTH BORNEO	29,387	334[4]	Jesselton	colony	Governor, Sir Ralph Hone
BRUNEI	2,226	46[3]	Brunei	protectorate	High commissioner, Sir Anthony Abell
SARAWAK	47,017	570	Kuching	colony	Governor, Sir Anthony Abell
CEYLON	25 322	7,743	Colombo	dominion	Governor-general, Lord Soulbury, prime minister, Dudley Senanayake
CYPRUS	3,572	492	Nicosia	colony	Governor, Sir Andrew Wright
HONG KONG	394	2,013	Victoria	colony	Governor, Sir Alexander Grantham
INDIA	1,136,069	356,756[4]	New Delhi	republic	President, Rajendra Prasad; prime minister, Jawaharlal Nehru
MALAYA, FEDERATION OF	50,690	5,337	Kuala Lumpur	2 settlements and 9 protected states	High commissioner, General Sir Gerald Templer
PAKISTAN	364,737	75,842[4]	Karachi	dominion	Governor-general, Ghulam Mohammed, prime minister, Khwaja Nazimuddin
SINGAPORE	224	1,042	Singapore	colony	Governor, John Nicoll
AFRICA					
ANGLO-EGYPTIAN SUDAN	967,500	8,350[3]	Khartoum	condominium	Governor-general, Sir Robert Howe
BRITISH SOUTH AFRICAN TERRITORIES:					
BASUTOLAND	11,716	556[1]	Maseru	colony	High commissioner, Sir John Le Rougetel
BECHUANALAND	275,000	293[1]	—	protectorate	High commissioner, Sir John Le Rougetel
SWAZILAND	6,704	184[1]	Mbabane	protectorate	High commissioner, Sir John Le Rougetel
GAMBIA	4,003 4	279[4]	Bathurst	colony and protectorate	Governor, Sir Percy Wyn-Harris
GOLD COAST (incl. TOGOLAND)	91,843	4,333	Accra	colony, protectorate and trust	Governor, Sir Charles Arden-Clarke prime minister, Kwame Nkrumah
KENYA	224,960	5,680	Nairobi	colony and protectorate	Governor, Sir Evelyn Baring
MAURITIUS	807	508	Port Louis	colony	Governor, Sir Hilary Blood
NIGERIA (incl CAMEROONS)	373,257	26,000	Lagos	colony, protectorate and trust	Governor, Sir John Macpherson
NORTHERN RHODESIA	288,130	1,947	Lusaka	protectorate	Governor, Sir Gilbert Rennie
NYASALAND	48,444	2,400	Zamba	protectorate	Governor, Sir Geoffrey Colby
ST. HELENA	119	5	Jamestown	colony	Governor, Sir George Joy
SEYCHELLES	156	37	Victoria	colony	Governor, Frederick Crawford
SIERRA LEONE	27,925	1,950[3]	Freetown	colony and protectorate	Governor, Sir George Beresford-Stooke
SOMALILAND	68,000	500[5]	Hargeisa	protectorate	Governor, Sir Gerald Reece
SOUTH AFRICA, UNION OF	472,494	12,646[4]	Pretoria, Capetown and Bloemfontein	dominion	Governor-general, Ernest Jansen prime minister, Daniel Malan
SOUTHERN RHODESIA	150,333	2,146[4]	Salisbury	self-governing colony	Governor, Major-General Sir J. Kennedy; prime minister, Sir Godfrey Huggins
SOUTH-WEST AFRICA	317,725	430,354[4]	Windhoek	South African mandate	Administrator, A J R van Rhyn
TANGANYIKA	362,688	7,827	Dar-es-Salaam	trust	Governor, Sir Edward Twining
UGANDA	93,981	5,187	Entebbe	protectorate	Governor, Sir Andrew Cohen
ZANZIBAR	640	272	Zanzibar	protectorate	Resident, John Rankine
AMERICA					
BAHAMAS	4,404	81	Nassau	colony	Governor, Major-General Sir Robert Neville
BARBADOS	166	209[3]	Bridgetown	colony	Governor, Sir Alfred Savage
BERMUDA	21	37[3]	Hamilton	colony	Governor, Sir Alexander Hood
BRITISH GUIANA	83,000	431	Georgetown	colony	Governor, Sir Charles Woolley
BRITISH HONDURAS	8,866	69	Belize	colony	Governor, Patrick Renison
CANADA	3,843,144	13,893[4]	Ottawa	dominion	Governor-general, Vincent Massey prime minister, Louis St. Laurent
FALKLAND ISLANDS	4,618	2	Stanley	colony	Governor, Sir Miles Clifford
JAMAICA	4,411	1,430	Kingston	colony	Governor, Sir Hugh Foot
LEEWARD ISLANDS	422	117	St John's	colony	Governor, Sir Kenneth Blackburne
TRINIDAD AND TOBAGO	1,980	643	Port of Spain	colony	Governor, Major-General Sir Hubert Rance
WINDWARD ISLANDS	829	309	St. George's	colony	Governor, Sir Robert Arundell

Country	Area (sq.mi.)	Population (1951 est. in '000s)	Capital	Status	Rulers, Governors and Prime Ministers
AUSTRALASIA					
AUSTRALIA, COMMONWEALTH OF	2,974,581	8,538	Canberra	dominion	Governor-general, Sir William McKell, prime minister, R. G Menzies
FIJI	7,040	298	Suva	colony	Governor, Sir Ronald Garvey
NAURU	8	1[2]	—	Australian trust	Administrator, Robert Richards
NEW HEBRIDES	5,700	49[3]	Vila	Franco-British condominium	Resident British commissioner, H J M Flaxman
NEW ZEALAND	103,939	1,961[4]	Wellington	dominion	Governor-general, Lieut.-General Sir Willoughby Norrie, prime minister, S G Holland
PACIFIC ISLANDS	12,138	188	Honiara	colony and protectorates	High commissioner, Robert Stanley
PAPUA-NEW GUINEA	183,540	1,057	Port Moresby	Australian territory and trust	Administrator, Colonel J K. Murray
WESTERN SAMOA	1,133	82[4]	Apia	N Z trust	Administrator, G R Powles

[1] 1946 census [2] 1950 census [3] 1950 est [4] 1951 census [5] 1952 est

(*Continued from page 151*)

schemes which it had originally sponsored, while government supporters were not anxious to embarrass their leaders who found themselves inheriting a policy not necessarily of their own choosing. At the same time concern was felt at the closing down of several more of the Colonial Development corporation's schemes and at the more cautious policy to be adopted by the corporation towards fresh undertakings. However, the annual report of the corporation for 1951 showed that in spite of the writing-off of failures 53 undertakings were in operation at the end of 1951—an increase of three during the year.

Ministerial visits to colonial territories to obtain first-hand information were, if anything, more frequent than ever. The secretary of state visited the four west African territories during May and June. Lennox Boyd, before his transfer, visited east Africa; Henry Hopkinson toured central Africa in the interests of central African federation in August; and Lord Munster went the rounds of the Caribbean territories in the spring. Finally, the secretary of state visited Kenya in September.

There were, too, a number of conferences in England, beginning with that between the governments concerned with central African federation (*q.v.*) in January. Advisers, nominated by colonial governors, were invited to attend the meetings of Commonwealth finance ministers in January. A general conference for members of the colonial service home on leave and a summer school for those members attending the second Devonshire course were held at Oxford in March and Cambridge in September respectively. The directors of colonial medical departments from 22 territories held a conference and colonial co-operative officers attended a summer school in Oxford in July. The Colonial Civil Aviation conference was held in London in September. But perhaps the most important of these conferences was at Cambridge under the chairmanship of Sir Philip Morris, vice-chancellor of Bristol university, in September, when representatives of all facets of education in Africa gathered together with the secretary of state's advisers and members of his advisory committee to discuss the reports of the two groups of experts who had visited Africa in 1951 to study educational policy.

In the 1951-52 academic year the colonial universities and university colleges had a total of 3,417 students, representing a large increase in facilities for higher education. Alongside this increase in local facilities there was a phenomenal rise in the number of colonial students who sought higher education abroad. In the United Kingdom alone they increased from 300 in 1939 to over 5,150 at the beginning of 1952. Others went to the United States, Canada and India.

(J. A. HU.)

COMMUNIST MOVEMENT. The world Communist movement in 1952 continued to be the instrument of general Soviet strategy except in so far as the Chinese People's government might be said to have provided an alternative centre of influence for the Asian countries. An analysis of the Communist demands in different parts of the world would, therefore, be little more than an analysis of the proclaimed objectives of Soviet foreign policy. It is interesting, however, to note that the number of organizations involved in spreading Communist propaganda in more or less disguised forms showed no signs of diminishing. Also a full survey of Communist activities would have to include not only separate Communist parties but also the so-called World Peace movement, the World Federation of Trade Unions, the World Union of Democratic Youth, the International Union of Students, the Women's International Democratic federation, the International Federation of Resistance Fighters and a number of other organizations.

The Soviet Union. The most important event in the history of the Communist movement in 1952 was the 19th congress of the Russian Communist party, which was held in Moscow, Oct. 5-14. It was preceded by a series of congresses in the separate republics, by considerable press discussion and, finally, by a long article by Stalin himself in the party journal, *Bolshevik*, which was his first major contribution for a considerable time to general Communist theory. Although the work of the congress was primarily concerned with internal Russian affairs such as the new Five-Year plan and the reorganization of the party machine, the presence at it of delegates from almost all the Communist parties of the world made it an international occasion, and the speeches made, both by the Soviet leaders and by these delegates, showed that the Soviet Union, despite its transformation into a great power, still regarded itself as the centre of a world movement. An interesting, if minor, feature of the decisions taken was the change in the name of the party itself from the All-Union Communist Party (of the Bolsheviks) to the Communist Party of the Soviet Union. Foreign observers were largely concerned to see what indications the congress gave of any plans that might have been made for the succession to the aging Stalin. In this respect, although V. Molotov retained his position as "number two" in the Soviet hierarchy, the advance of G. M. Malenkov, who undertook Stalin's prewar task of delivering the principal report to the congress, was certainly noteworthy.

Asia. The Chinese Communist party continued to dominate the national life of China and to transform its economy and outlook on strictly Communist lines. In Korea the deadlock continued and in French Indochina the struggle fluctuated indecisively, though the strain upon France greatly contributed to its weakness in Europe with considerable effects upon its policy there. In Malaya, on the other hand, the summer of 1952 showed an increasing efficiency in the security measures and the Malayan administration appeared confident that it had secured the upper hand over the Communists. In the Indian elections at the beginning of the year the Communists secured 27 seats in the lower house which made

it seem likely that they would form the core of the opposition to the Congress government. In certain southern provinces they revealed considerable strength. In Japan the elections in October saw the complete elimination of Communist representation from the Japanese parliament.

Western Europe. The role of the Communists in western Europe was largely dictated by the course of negotiations on the German problem between the Soviet Union and the western powers, and opposition to German rearmament and the European Defence community was the main preoccupation of the various Communist parties. In France this reached a head with the demonstrations against the new North Atlantic Treaty organization commander, General Matthew B. Ridgway, when he arrived in Paris late in May. The disturbances led to the arrest of Jacques Duclos, who was acting secretary-general of the French Communist party in the absence of Maurice Thorez, who was still under medical treatment in Russia. Duclos' arrest led to an appeal for mass strikes by the Communist-controlled unions; but these were unsuccessful and the fiasco led to an internal crisis of some dimensions in the French Communist party. This party was also declining in membership as was the Communist Confédération Générale du Travail (C.G.T.) The overhaul of the party's policy seemed to be turning it in a new "popular front" direction, since it was made clear that the chief duty of Communists was to enlist support for the peace campaign rather than for communism itself. This, in turn, led in the middle of September to the disgrace of two important French Communist leaders, the veteran André Marty and the resistance leader, Charles Tillon. They were obliged to recant their advocacy of more independent and active policy.

The turn in the direction of a "popular front" was not confined to France, and importance in this connection is probably to be attached to the meeting in July of Pietro Nenni, leader of the Italian left-wing Socialists, with Stalin. In Italy the local election results suggested that the Communists were holding their own better than in France.

Eastern European Satellites. The consolidation of the eastern European bloc under Soviet leadership proceeded and the evidence of strains imposed upon the economies of these countries in the interest of the Russians continued to appear. The main centres of political difficulty appeared to be Czechoslovakia and Rumania. In Czechoslovakia the fall of Rudolf Slanský at the end of 1951 was followed in 1952 by a purge of other prominent figures associated with him, or alleged to be associated with him. In Rumania the finance minister, V. Luca, and the foreign minister, Ana Pauker, were dismissed from their offices in the course of the spring and summer. In June the party secretary, G. Gheorghiu-Dej, became prime minister, while his predecessor, P. Groza, became president of the presidium of the National Assembly which, by Soviet analogy, was probably an office of no great importance. Despite continuous Communist pressure the Yugoslav Communist régime under Marshal Tito showed increasing friendliness towards the western powers.

Between Nov. 20 and 27 the trial was held in Prague of 14 leaders of an alleged conspiracy against the state. The accused, who were alleged to have been working under the direction of western espionage agencies, were accused of being "Trotskyite-Titoite, Zionist, bourgeois-nationalist traitors". The fact that 11 of the accused were of Jewish origin and the prominence given to Zionism and Israel in the trial caused much speculation as to the likelihood of Communism in eastern Europe increasingly adopting the old reactionary device of channelling popular discontent into anti-Semitic slogans. At the same time such incidents as the description in the Prague Communist newspaper of Israel as a base "directed against the enslaved Arab nations" might seem to herald a more vigorous utilization by the Communist movement of the forces of Arab nationalism.

The "Peace" Movement. The World Peace movement remained the principal instrument of Communist propaganda, and the characteristic feature of its activities in 1952 was the spreading of the accusation that the U.N. forces had used bacteriological weapons in the Korean war. This accusation was repeated, not only at meetings sponsored by the Peace movement, but also at the Red Cross conference held at Toronto in July, and through the activities of well-known sympathizers, such as the dean of Canterbury, in the western press and elsewhere.

In the first half of the year, the activities of the Peace movement were rather overshadowed by the Moscow Economic conference which met early in April. But the expectation that this would be used for a large-scale propaganda effort proved incorrect. In May, the churches and religious societies of the Soviet Union issued a peace appeal along familiar lines. The World Peace council itself met at Berlin in the first week of July and made preparations for an Asian and Pacific conference, which met at the beginning of October in Peking. It included not only Asian Communists but also representatives from the American continent and

TABLE I COMMUNIST PARLIAMENTARY REPRESENTATION IN EUROPE*
(Figures in brackets are those of the preceding election)

Country	*Party's official name*	*Date of last election*	*Votes obtained*	*% of total votes*	*Communists' seats*	*Total no of seats*
AUSTRIA	Kommunistische Partei Österreichs	Oct 9, 1949	212,651 (174,237)	5·0 (4·0)	5 (4)	165
BELGIUM	Parti Communiste Belge	June 4, 1950	234,325 (376,876)	4·7 (7·5)	7 (12)	212
DENMARK	Danmarks Kommunistiske Parti	Sept 5, 1950	94,495 (141,094)	4·6 (6·8)	7 (9)	151
FINLAND	Suomen Kansan Demokraatinen Liitto†	July 2-3, 1951	390,647 —	21·4 (20·0)	43 (38)	200
FRANCE	Parti Communiste Français	June 17, 1951	5,038,587 (5,489,288)	26·5 (28·6)	106 (190)‡	627
GERMAN FED REP	Kommunistische Partei Deutschlands§	Aug 14, 1949	1,360,443 —	5·6 —	15 —	402
GREAT BRITAIN	Communist Party of Great Britain	Oct. 25, 1951	21,640 (91,815)	0·08 (0·3)	0 (0)‖	625
GREECE	Enosis Dimokratikis Aristeras¶	Nov. 16, 1952	179,651 (180,324)	11·3 (10·6)	0 (10)	300
ICELAND	(United Socialist Party)	Oct 23,1949	14,077 —	19·5 —	9 (10)	52
ITALY	Partito Comunista Italiano	April 18-19, 1948	8,025,990** —	30·7 —	132 —	574
LUXEMBOURG	Parti Communiste Luxembourgeois	June 3, 1951	— —	— —	4 (5)	52
NETHERLANDS	Communistische Partij Nederland	June 25, 1952	328,571 (382,001)	6·1 (7·9)	6 (8)	100
NORWAY	Norges Kommunistiske Parti.	Oct. 10, 1949	101,666 (176,491)	5·8 (11·9)	0 (11)	150
SWEDEN	Sveriges Kommunistiska Parti	Sept. 21, 1952	165,182 (241,812)	4·5 (6·3)	5 (9)	230
SWITZERLAND	Partei der Arbeit—Parti du Travail	Oct 27-28, 1951	— —	— —	5 (7)	196

* Only European countries having a parliamentary system and free elections are included. Ireland is omitted because the only Communist candidate, Michael O'Riordan, chairman of the Irish Workers' league, scored at Dublin 300 votes.
† Communists and fellow travellers elected under the banner of the Finland's People's Democratic league (S K D.L.).
‡ Includes the Communist-controlled Union des Républicains Progressistes
§ Name used only in western Germany The party's title in eastern Germany is Sozialistische Einheitspartei Deutschlands (S.E D.)
‖ There were in 1951 only 10 Communist candidates compared with 100 in 1950
¶ E.D.A., or Union or the Democratic Left, is a cover name for the banned K.K.E (Kommunistikon Komma Ellados).
** This represents the number of votes obtained by the Democratic Popular front, that is, the Communists and the left-wing Socialists. Out of 183 deputies elected 132 were Communists.

TABLE II. ESTIMATED MEMBERSHIP OF THE COMMUNIST PARTIES

A. Communist-Controlled Countries

U.S.S.R. (Oct. 1, 1952)	6,013,259*	Hungary (1951)	862,114
China (1951)	5,800,000	Rumania (1951)	720,000
Czechoslovakia (1951)	1,518,144†	Bulgaria (1951)	278,000
German Dem. Rep (1951)	1,850,000	Albania (1951)	60,000
Poland (1952)	1,129,000		

* Excluding 868,886 candidates. † Excluding 159,299 candidates

B. Some Non-Communist Countries

Europe		*Asia*	
Italy (1952)	2,130,795	India (1950)	75,000
France (1951)	600,000	Japan (1950)	25,000
German Fed Rep. (1951)	200,000	Lebanon (1951)	12,000
Austria (1951)	100,000	Syria (1951)	10,000
Great Britain (1951)	40,000	Israel (1951)	8,000
Belgium (1951)	35,000	Iraq (1951)	3,000
Netherlands (1951)	33,000	Jordan (1951)	2,000
Sweden (1951)	33,000	*North America*	
Denmark (1951)	22,500	United States (1950)	54,174
Norway (1951)	14,000	Canada (1950)	15,000

fraternal delegates from Europe. The appeal issued by this body to the United Nations on Oct. 13 repeated the current policies of the Soviet and Chinese governments towards Korea and Japan. Plans for further "peace" conferences in Europe later in the year were made known shortly afterwards, and these were to culminate in a People's Congress of Peace, which met in Vienna from Dec. 12 to 19. By no means all of the advertised 2,500 delegates arrived, and the congress appears to have been a fairly colourless affair. The usual note of unanimity was slightly marred by questions raised by a few delegates from western countries as to why the Soviet government had rejected the Indian plan for a Korean armistice. The congress concluded with the passage of the usual resolutions in support of the principal theses of Soviet foreign policy.

In the main stream of Communist propaganda during 1952 it was possible to detect certain basic elements which appeared in different combinations on different occasions. The first was that of "peaceful co-existence" which was the keynote of the Economic conference, and was re-stated by Stalin on April 1 in answers to the questions of a group of U.S. editors. He then said: "The peaceful co-existence of capitalism and communism is fully possible given the mutual desire to co-operate, readiness to perform obligations which have been assumed, observance of the principle of equality and non-interference in the internal affairs of other states." The second was the assertion that the U.S.S.R. itself was a peaceful power and that the danger of war arose, in the first instance, from the inevitable quarrels of the capitalist states with each other. This was one of the principal themes of Stalin's October article. In the third place, came the attempt to stimulate such quarrels by concentrating propaganda against the United States, in particular. The hate campaign against the United States reached new heights both in the U.S.S.R. itself, and, even more markedly perhaps, in China. The withdrawal of the Soviet *agrément* from the U.S. ambassador, George Kennan, early in October, on the ground that he had criticized the treatment of foreign diplomats within the Soviet Union, was significant, more particularly since Kennan himself, although the author of the "containment" policy, was known to have very friendly feelings towards the Russian people.

Anti-Communism. Although the government in South Africa used its "suppression of communism" legislation for action against some opponents of its racial policies, and although charges of softness towards communism played an important part in the election campaign in the United States, there were no important developments in the general question of the correct attitude to be taken up towards Communist propaganda in countries outside the Soviet *bloc*. (*See* also ELECTIONS.) (M. BLF)

CONGO, BELGIAN: *see* BELGIAN COLONIAL EMPIRE.

CONGREGATIONAL CHURCHES. The Forward movement of the Congregational Union of England and Wales, initiated in 1950 for the quickening of the churches, entered its final year in May 1952. Campaigning for new members was then begun. Previous years had been marked by large public meetings; this third phase of the Forward movement was local and domestic. At its annual assembly meeting the union faced a serious financial crisis due largely to rapidly increasing costs of administration. It was decided that, in preparation for an extensive reconsideration of the whole structure of both the union and the county unions, certain immediate economies should be effected, including a drastic reduction in the staff at Memorial hall, the denominational headquarters.

The decision of the 1950 assembly to make some provision for retired ministers and their wives was implemented by the purchase and furnishing of a large house in Sussex. This was opened in May 1952 and was visited in July by Queen Elizabeth, the queen mother. The house, known as Fen Place, was soon fully occupied.

The chairman of the Congregational Union of England and Wales for 1952-53, the Rev. Leslie J. Tizard, minister of Carr's Lane church, Birmingham, took office in May. The Rev. S. Maurice Watts, a recent chairman of the Congregational union, took office during the year as chairman of the Free Church Federal council.

At the beginning of the year a new hymnbook was published under the title *Congregational Praise*. The previous hymnbook, *The Congregational Hymnary*, was issued in 1916 and plans for the new book had been in hand since before World War II. The standard of *Congregational Praise* was generally agreed to be very high. The book shows a tendency to return to the best of Isaac Watts and Philip Doddridge, the finest Congregational hymnwriters, as well as to include the best of the more recent hymns and tunes.

The London Missionary society, representing the foreign missionary concern of the Congregational Churches, having ceased its work in China, in 1952 took over a concern for both Hong Kong and Malaya in association with the Presbyterian Church. (R. F. G. C.)

United States. On Jan 1, 1952, the total number of Congregational Christian churches in the United States was 5,620 with a combined membership of 1,241,477. These figures indicate a decrease in the number of churches during the year and an increase (13,950) in the number of communicants. At the beginning of the year there were 5,789 ministers of whom 3,280 were pastors of churches. Those who were not pastors were for the most part engaged in Christian service in schools, colleges, the missionary field abroad, the military chaplaincy and organizations such as the Y.M.C.A. In 1951, 130 candidates were ordained, the largest number to enter into the Congregational Christian ministry since 1903.

The proposed union of the Evangelical and Reformed Church with the Congregational Christian Church received a new impetus. The appellate division of the Supreme court of the state of New York in the spring reversed the judgment of a lower court which had enjoined further procedure in the direction of union. This reversal freed the denomination to resume negotiations with the Evangelical and Reformed Church. (D. Ho.)

CONGRESS, U.S. The 82nd congress convened for its second session on Jan. 8, 1952, and adjourned on July 7. A new senator, F. A. Seaton, was admitted to take the place of the late Senator K. S. Wherry of Nebraska. Senator J. S. Bridges became the new Republican leader. The president's annual message requested the passage of a

considerable programme of rearmament and foreign aid; he also advocated some Fair Deal legislation, notably a strong anti-inflation law, revision of the Taft-Hartley Labour act and provision of a national system of health insurance. These domestic recommendations were ignored by congress, but on military and foreign affairs its legislation conformed substantially to the president's wishes. The president's budget proposals involved a total expenditure of $84,000 million, but congress thought this excessive and devoted much time and effort to reducing the total. Initially it seemed likely that foreign aid would be severely pared, but second thoughts prevailed and congress eventually authorized $6,000 million for the Mutual Security programme. As in previous years a combination of Republicans and Southern Democrats frequently thwarted the president's proposals. In May a notable controversy developed over the president's refusal to invoke the Taft-Hartley Labour act in the steel dispute and congress's refusal either to amend the act or to take alternative action to resolve the dispute The ensuing strike persisted until after congress adjourned.

Congress reluctantly extended many of the postwar economic controls—price controls for ten months and allocation controls for two years. Price supports for agriculture were to be maintained until the end of 1954 but rent controls were ended in many areas. Old-age pensions were increased and the housing programme was extended. In the armed services both pay and pensions were raised and veterans of the Korean war were given generous grants for education, housing and so forth.

Congress did not pass the universal conscription act requested by the military authorities. Instead it continued the selective draft law and created two reserve forces—a compulsory " ready reserve " of 1,500,000 men, and a " standby reserve " of 5 million. The total defence budget rose to over $57,000 million, out of a total budget of $77,900 million.

Despite the president's veto the McCarran-Walter bill was passed revising the existing immigration law; it retained the quota system but made it applicable for the first time to Asiatic countries. It also increased the facilities for the exclusion and the deportation of undesirable individuals. The congress passed legislation ratifying the peace treaties with Japan and the German Federal Republic; it also ratified the complements to these, the bilateral treaty with Japan and the protocol admitting the German Federal Republic to membership of the North Atlantic Treaty organization.

Committee investigations were less frequent than in 1951 Nevertheless, the senate subcommittee on internal security completed an extensive 18 months' investigation of the Institute of Pacific Relations with the production of a report charging it with having been under Communist control. After congress had adjourned it turned its attention to the United Nations secretariat and procured the dismissal of several American members whom it charged with disloyalty.

(H. G. N)

CONSERVATIVE PARTY: *see* POLITICAL PARTIES, BRITISH.

CONSUMER CREDIT. In contrast with the position in the United States and Canada, restrictive controls in the United Kingdom upon consumer credit before 1952 had either been operated indirectly by control of advances through the joint stock banks, or had been imposed only upon price-controlled articles to prevent overcharging on such goods. The year 1952 however saw, for the first time in Great Britain, the imposition of direct controls designed to restrict the flow of consumer credit. A series of statutory instruments were issued during the year, prescribing minimum down payments and maximum periods of repayment in credit transactions over a wide range of articles, which had previously been outside the scope of the original credit control orders. For nearly all goods, except bicycles, the terms imposed were one-third deposit and 18 months' maximum credit. For bicycles the requirements were one-fourth deposit and 12 months' maximum credit. The goods affected by these new controls included *inter alia* radio and television equipment (including radio gramophones), motor vehicles, cycles, office furniture and equipment, together with a considerable proportion of household appliances, such as washing machines, refrigerators, mixers and similar articles In announcing the restrictions, the government made it clear that the intention of the orders was first to counteract the inflationary tendency still apparent in the country's economy and, secondly, by reducing the demand on certain articles and industries, to release a greater potential for defence production.

At the same time as introducing these regulations, the government also considerably increased its pressure on banks to restrict monies made available for consumer credit purposes. In previous years the restriction had meant that, in general, advances should not exceed a predetermined level (usually the amount outstanding in early 1947): now however an actual reduction in balances was to be imposed. This control was in the nature of advice to the banks and, as in previous years, there was no legal directive that compelled bankers to comply. In the event, however, most of the various bankers' customers in this field were requested to reduce their outstanding balances by at least 10% by Sept. 1.

The partial " buyers' strike " apparent throughout the period made it difficult to assess the full effect of the new controls on consumer-credit transactions. Certainly turnover fell abruptly, especially in the radio industry. That this was not however entirely due to the restrictions was shown by the fact that even in goods unaffected by the control, a considerable decline in consumer credit was generally reported. As a result of this fall in turnover, the effect of the additional bank restrictions was far less than had been expected, and in many cases outstanding balances fell by a greater amount than that required by the banks.

Certain minor alterations were also made in the " price control " type of consumer-credit restrictions. These were made necessary since further removal of price controls had reduced the list of goods still affected to utility furniture, office furniture and linoleum A limited range of goods (principally in textiles and non-utility furniture) thus came outside the scope of any credit control, for the first time since it was imposed during World War II.

In an endeavour to overcome the increasing consumer resistance, traders began to offer the easiest possible repayment terms although the controls frequently made this very difficult. In the radio and television field, for instance, an intensive effort was made to persuade the public to rent their sets (since rental agreements were outside the scope of the control). In general the fear of being unable to meet repayments in an uncertain future, underlined by the constant increase in prices and the unemployment in certain areas, diminished public demand for credit facilities in the first nine months of 1952. By the year's end, however, increased confidence brought about a considerable revival of credit spending (C. McN. G.)

Canada. In Jan. 1952 a government order relaxed restrictions on credit buying by extending the time limit from 12 to 18 months, but the 50% down payment on cars and the 33% down payments on electrical durables was maintained. In May, however, with a drop in the cost-of-living index, the government removed all consumer credit restrictions. Electric stoves, refrigerators and similar instalment-plan durable

household goods were the clear leaders in sales. On July 1, 1952, Canadians owed $534 million to retail stores on instalment buying, which was up $56,100,000 from July 1, 1951, and up $85,400,000 from the total owed on April 1, 1952. (C. CY.)

United States. During 1952 the use of credit by consumers continued to occupy a normal place in the U.S. economy; regulation of consumer credit by the federal government again came to an end, and the study of this type of credit gained increasing attention.

In the year, credit sales to household consumers amounted to about 34% of the total volume of business done in retail stores. About two-thirds of such credit sales were made on open charge accounts, the remainder on instalment contracts. Consumers resorted to a somewhat greater extent than usual to making cash loans during 1952.

The increased volume of credit sales, resulting from the expansion of the general economy and from the greater use made of credit by consumers in 1952, produced outstanding debts amounting to about $21,500 million. This represented and increase of 11% over the debt outstanding during the previous year. The debt continued, nevertheless, to bear about the same relation to the disposable personal income of consumers, about 9%, that it had done.

Whereas during 1951 about 67% of outstanding consumer debt was of an instalment character, during 1952 that type of debt amounted to 70% of the total. During the latter year instalment debt increased 15% while total non-instalment debt increased only 4 5% The relatively small increase in non-instalment debt, which consisted largely of charge account debt, reflected the general expansion of the economy during 1952 The greater percentage increase in instalment debt during the year (12%) reflected in turn the greater variability of that form of credit, attesting the fact that during periods of prosperity people spend a proportionately greater amount on durable goods

On May 7, 1952, regulation W expired By congressional authority the Federal Reserve board had through this regulation prescribed minimum down payments and maximum payment periods for instalment sales and loans Originated as a wartime measure, this regulation had been prolonged after World War II as a tool of economic control.

During 1952 a new concept of consumer debt as " dynamic thrift " was advanced By this concept it was recognized that consumer debt, particularly instalment debt, represents the acquisition by consumers of the many and varied products of industry Consumer debt represents the exchange of individual earnings for desired commodities, most of which accumulate as personal property in individual estates and thus comprise an increase of individual as well as of social wealth. The term " saving " has commonly been applied only to the retention of balances earned and in excess of expenditures and to the increase of cash deposits and other highly liquid forms of investment. This new concept of credit held expenditures (usually made on credit) for durable personal assets to be not " spending " in the sense of dissipation of wealth, assets and equity, but rather the accumulation of goods, the enjoyment of which is one of the final ends of the economic process, and consumer credit was regarded as a laudable means to this end. (R. BA.)

CONTRACT BRIDGE. The 1952 European championship was played at Dun Laoghaire, Co. Dublin, and was won by Sweden. For the first time the competing teams were divided into two sections. Sweden and Italy qualified from section A, Austria and Great Britain from section B. In the semi-final round Italy beat Great Britain by 13 match points, and Sweden beat Austria by 29. Sweden beat Italy in the final by the extraordinarily narrow margin of 2 match points. In the play-off for third place Austria beat Great Britain by 5 points. The British team was: J. T. Reese and B. Schapiro, K. W. Konstam and L. W. Dodds, L. Tarlo and H. Franklin, Major G. Fell (non-playing captain) The ladies' championship was won for the third year running by Great Britain, whose team won every match. Norway was second. The British team was· Lady Rhodes and Mrs. R. Markus, Mrs. P. Williams and Mrs. H. R. Evans, Mrs F. Gordon and Mrs. A L. Fleming, E. Kempson (non-playing captain).

In Great Britain the winners of the principal competitions were: Waddington cup for masters pairs, L Tarlo and H. Franklin; Gold cup, J. T. Reese (captain), B. Schapiro, A. Meredith, H Leist, S. Booker and S. Lee, Crockford's cup, L. Ellison (captain), J. Whitby, R. Sharples and J Sharples.

The Camrose trophy was again won by England, who drew with Northern Ireland and won the remaining matches. (T. RSE.)

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CO-OPERATIVE MOVEMENT. In general the Co-operative movement throughout the world showed many signs of progress in 1952 There were marked differences, however, between western and northern Europe and the other continents. The well-established European co-operative movements all had to contend with the effects of the general rise in prices, even though the rise was here and there retarded or checked. Business turnovers rose, but expenses increased more than in proportion, financial liquidity became more difficult to maintain and dividends on purchases tended to be small. Outside Europe the greatest interest continued to be manifested by governments as well as by inter-governmental agencies in the development of all kinds of co-operative enterprise as a means of encouraging and accelerating progress in economically and socially backward territories.

The International Co-operative alliance removed its secretariat to a new headquarters in London in Sept. 1952. Throughout the year the meetings of its committees were marked by a less acrimonious tone in the exchanges between representatives from the U.S.S.R. and eastern European countries and those of western co-operative movements. The policy of rejecting applications for membership of the I C.A. from organizations under rigid state or party control was firmly maintained. The Co-operative unions of Byelorussia and the Ukraine, already indirectly affiliated through their membership of the Centrosoyuz (Central Union of Soviet Consumers' Co-operative Societies) of the U.S S R , were refused direct membership in their own right. Rumanian and Bulgarian organizations were not permitted to change their status from that of " individual " to " collective " members which would have increased their representation and voting power. The I.C.A. was not represented at the Economic conference held in Moscow in the spring

On the other hand, the Japanese Agricultural and Consumers' Co-operative unions, re-established after World War II, were admitted, as was also the National Centre of Co-operative Studies of Brazil. The I.C.A. now had affiliated bodies in 33 countries The central committee of the alliance held its annual meeting at Reykjavik where the Icelandic Co-operative union was celebrating its 50th anniversary The alliance was represented by its director at the first congress of the Indian Co-operative union which met at Bombay in February. A special auxiliary committee on co-operative housing was set up and confederations of co-operative housing societies in Germany and France were affiliated to the I.C.A.

In conformity with the resolution of the 1951 congress at Copenhagen on the dangers of monopoly, the I.C.A. secretariat was working in close contact with the *ad hoc* committee on restrictive business practices of the Economic and Social council. In collaboration with the United Nations' Educational, Scientific and Cultural organization a series of international study tours was made by groups of co-operative workers in Europe, and the International Co-operative school held its annual course at the U.N.E.S.C.O. centre of workers' education in France.

The International Co-operative Petroleum association which includes over 20 national co-operative wholesale societies handling oil products reported a successful year's trading. The International Co-operative Trading agency, however, suspended its activity in June.

The annual statistical returns based on 1950 showed an increase of eight million in the aggregate membership of the I.C.A.'s affiliated bodies, which now amounted to 106 million, covering 370,443 individual societies. The movement's trading sector had a turnover of £3,735 million and the value of its own production was £942·5 million. Co-operative banks and central unions carried out transactions involving £10,283 million and loans advanced by them and credit societies amounted to £780 million. The number of insurance policies running with co-operative insurance societies was 38 million. Excluding the U.S.S.R., over one million people were employed in the movement.

Great Britain. Membership of retail societies increased to 10,929,336 at the end of 1951, a net increase of 237,793 on the 1950 figure. Share capital of societies, standing at £223,410,028 showed a decrease of £8,298,793. This decrease, which affected almost all societies, was a matter of concern to the movement. Loan capital of retail societies totalled £63,884,014, a decrease of £350,540. Reserve and insurance funds at the end of the 1951 trading period were £24,595,325, an increase of £1,048,029. Total retail cash trade was £663,908,339, an increase of £50,143,119. This increase, however, was due entirely to price increases and inflation. The English Co-operative Wholesale society's trade rose from £321 5 million to slightly over £359 million and that of the Scottish C.W.S. from £68 million to £75 million. An important decision taken by the Co-operative Congress in June 1952 was to abolish the central board of the co-operative union. This step made the central executive the governing body of the movement between congresses (W. P. Ws.)

United States. In Nov. 1952 the executive director of the Co-operative League of the U.S.A. reported that 19 of the largest regional co-operatives, serving both farm and city consumers, had distributed $805 million worth of goods during the year, and reported savings on their purchases of $47 million, averaging 5 8%. These savings were passed on to individual members of local co-operatives associated with those regional organizations

The same 19 regional, or area-wide, co-operatives had distributed only $183 million worth of goods to their members ten years before. The ten-year increase was 440%. This four-fold increase, of course, was in part the result of an increase in prices of the commodities handled. The growth, however, was still impressive.

Production enterprises owned by consumer and purchasing co-operatives had an even more spectacular growth. In 1936 only 7 of the 19 regional co-operatives manufactured any of their own goods. These produced about $1 million worth in their own factories. By 1952 the regional co-operatives owned more than 200 factories, refineries and other production enterprises which produced $275 million worth of goods for distribution through co-operatives. The production of farm supplies was the largest item. The 20 co-operative oil refineries, however, were responsible for a very substantial part of the volume. The biggest new project of the co-operatives was a $16 million nitrogen plant which was to be built in Lawrence, Kansas, by the Consumers Co-operative association.

In the consumer goods field a number of new co-operative supermarkets were opened during the course of the year. The business volume of the 1,000 co-operative food stores was estimated at a little more than $100 million per year at the close of 1952. The biggest new unit of the year was a $1 million co-operative shopping centre built in Akron, Ohio, with sponsorship of the rubber workers and other organized trade union members. Business was already moving forward at a rate of $3 million a year. (W. J. CL.)

Other Countries. A special training school for Africans working in co-operative administrative departments in Tanganyika, Kenya and Uganda was opened at the Jeanes school, the adult education college near Nairobi. The Italian Co-operative movement suffered heavy damage through extensive floods in the Po basin and elsewhere and the I.C.A. raised a relief fund to assist the recovery of the societies. (W. P. Ws.)

See International Co-operative Alliance, *Report of the Eighteenth Congress at Copenhagen* (London, 1952), and *International Co-operative Alliance* (London, 1952)

COSMETICS: *see* SOAP, PERFUMERY AND COSMETICS.

COSTA RICA.

Central American republic lying between Nicaragua and Panama. Area: 19,238 sq.mi. Pop. (1950 census): 794,081, classified as about 80% white, 16% mixed, 3% Negro and less than 1% Indian. Language: Spanish. Religion: predominantly Roman Catholic. Chief towns (pop., 1950 census): San José (cap , 86,718); Alajuela (13,916), Cartago (12,915). Presidents in 1952: Otilio Ulate Blanco and (from Sept. 26) Alberto Flores Oreamuno.

History. Colonel José Figueres, who had led the pro-Ulate forces in the chaotic civil war of 1948, and was himself acting president for a time thereafter, drifted into political opposition against the government. On March 9, 1952, he announced that he would be a presidential candidate in the election scheduled for 1953. On Sept. 26 President Ulate resigned and was succeeded by the vice-president. (G. I. B.)

Education. Schools (1951) primary 1,139, teachers 4,821, pupils 116,157; secondary 24; technical 7 University of Costa Rica

Agriculture. Coffee production (1951-52) 351,049 bags of 132 lb. each (1950-51, 386,449 bags) In 1951, 228,488 bags were exported to the U S Costa Rica continued in 1951 to be the world's largest exporter of bananas, exporting 15,254,000 count bunches (50 lb. each), of which 11,712,000 bunches went to the U S. In 1951-52, 2,000 metric tons of abaca were produced and in 1950-51, 5,000 tons of cacao. Livestock (1950). 592,402 cattle; 112,156 pigs; 77,535 horses

Finance (million colones) Budget (1952 est) revenue 149 6, expenditure 149 1. Public debt (Dec 31, 1951) 367 0 Currency in circulation (Aug 31, 1952) 110 Monetary unit *colon* with official exchange rate of 5 62 to the U S. dollar and 15 74 to the pound

Foreign Trade. Exports in 1951 amounted to U S $39,287,464, imports, $55,740,518 Chief exports coffee 56%, bananas 27%, abaca 6%; cacao 5%. Main destinations of exports U S 75%, Canada 7%. Main sources of imports: U S. 66%, Germany 7%; U K 6%.

Transport and Communications. Railways· public 410 mi , private 250 mi. Roads (1948): 1,015 mi., incl. 926 mi all-weather roads. Motor vehicles (Jan 1, 1951) cars 4,645, lorries 2,308, buses 810.

COST OF LIVING.

Changes over time in the cost of living are measured by index numbers of retail prices paid by the group of consumers concerned. There are also changes in real income or consumption (*i.e.*, changes in the standard of living) shown by index numbers of the volume of consumption. The two factors—changes in price and in real income—combine to account for changes in consumer expenditure in terms of money. For example, according to official estimates, the expenditure of all consumers in the

United Kingdom increased from £8,392 million in 1948 to £9,880 million in 1951, an increase of about 17½%. The increase in real consumption or the standard of living was 3% and the increase in prices or the cost of living was 14%, the two combining to account for the increase in expenditure ($1{\cdot}175 = 1{\cdot}03 \times 1{\cdot}14$).

Of several types of index number in use for measuring price changes, the usual form shows changes over time in the cost of purchasing a certain fixed and specified budget. It makes some difference, though often small, what budget is fixed. A prewar budget for working-class families was generally used to show retail price changes in the early postwar years, but this was later replaced in most countries by a budget appropriate to some period around 1948. For changes in retail prices as paid by working-class families from 1948 to 1952, index numbers compiled by various countries are reasonably comparable; they are summarized in Table IV. The comparison is of changes over time in the cost of living in each country; it is in no sense a comparison of the level of the cost of living in one country with that in another.

TABLE I DISTRIBUTION OF CONSUMPTION, WORKING-CLASS AND LOWER-SALARIED FAMILIES, UNITED KINGDOM
(Valued at fixed prices at Aug 1951)

	Consumption of		
	1937-38	1947	1950
Rationed food	167	106	125
Other food	215	279	263
Total food	382	385	388
Rent and rates	75	76	75
Clothing	109	87	99
Fuel and light	65	64	64
Household durable goods	77	57	66
Miscellaneous goods	36	39	44
Services	75	99	92
Alcoholic drink	86	88½	80
Tobacco	95	104½	92
All items	1,000	1,000	1,000

Based on *Report on the Working of the Interim Index of Retail Prices* (Cmd 8481, H M S O, London, 1952).

Great Britain. Information is available on budgets or patterns of consumption in 1937-38 and (more roughly) in 1950, and index numbers of retail prices can be based on either as the fixed budget. Table I compares the two patterns of consumption (in real terms, at fixed prices) and also consumption in the intermediate year 1947 when modes of consumer spending were more unsettled. There are some differences in prewar and postwar spending; for example, more was spent in 1950 on services and on such items as newspapers and books, less on clothing, household goods, drink and tobacco. It is remarkable, however, how little change in the proportions of consumption of the main groups of items occurred in the long and disturbed interval from 1937-38 to 1950.

There are consequent differences in measuring changes in retail prices according to the fixed budget selected for the purpose, but again the differences are not great. If the 1937-38 working-class budget is used, the increase in retail prices from 1938 to Jan. 1952 is estimated at 117%; the figure is 113% if the postwar (1950) budget is taken. Table II shows this long-run comparison with the two different index numbers averaged. It also shows a comparison over the shorter-run 1947-52 in terms of the 1950 consumption pattern as a fixed budget; this is simply the month by month change in the cost of purchasing the amounts actually bought in 1950.

The dominant element in the increase in the cost of living after 1947 and particularly in 1951-52, was the rise in food prices, due partly to higher prices of basic foodstuffs and partly to reductions in food subsidies. In the longer-run

TABLE II RETAIL PRICES, WORKING-CLASS AND LOWER-SALARIED FAMILIES, UNITED KINGDOM

	Prewar Comparison*		Postwar Comparison†				
				1952			
	1938 Average	1952 Jan	1947 June	Jan	April	July	Oct
Food	100	209½	100	146	152	158½	158
Rent and Rates	100	120	100	109	111	112	112
Clothing	100	265	100	151	151	146	144
Fuel and light	100	194	100	138	140	139½	141
Household durable goods	100	298	100	140	139½	137	136
Miscellaneous goods	100	196	100	144	147½	149	148
Services	100	188	100	124	128	128	132
Alcoholic drink	100	253	100	110	110	111½	111
Tobacco	100	386	100	107	107	107	107
All items	100	215	100	132½	135	138	138

* Geometric average of index numbers with 1937-38 and with 1950 consumption as weights † Index numbers with 1950 consumption as weights
Based on R G D Allen, "Index Numbers of Retail Prices 1938-51," *Applied Statistics*, vol I, no 2 (London, 1952)

perspective, however, food prices in 1952 were higher than those in 1938 by no more than the average for all items of consumption. The relatively small increase in food prices from 1938 to 1947-48 was later offset by the more rapid rise.

Apart from drink and tobacco (where taxation largely determined price), the biggest price rises from 1938 to 1952 were in clothing and many household items, these prices were reduced in 1952 from the high levels reached in 1951. Smaller increases in prices from 1938 to 1952 were recorded for rents, fuel and light and for services such as travel and postage.

For all items of consumption together, the level of retail prices rose rapidly and fairly steadily from late in 1950 until the beginning of 1952. The rate of increase then slowed down and there was, in 1952, even a small seasonal decline in the late summer. These index numbers relate to working-class (and lower-salaried) families. For middle-class families, the increase in retail prices from 1938 has been greater, but the differential was reduced rather than increased in 1951-52.

The cost of living and the standard of living alike depend on the terms of trade between the U K. and overseas countries. Retail prices are quite largely influenced by prices of imported merchandise—the import "content" of retail prices was estimated at over 20% in 1949—and a rise in import prices relative to export and domestic prices tends to make consumers' prices rise relative to income available for spending. The relation of changing terms of trade to consumer spending

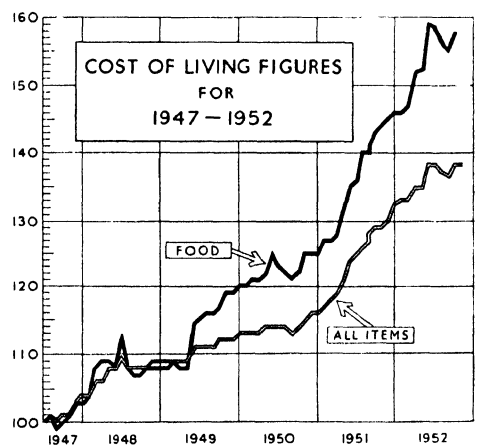


TABLE III USE OF GROSS DOMESTIC PRODUCT
(in real terms, £ million at 1950 factor cost)

	1950	1951	Increase(+) or Decrease(—)
Gross domestic produce	11,097	11,300	+203
Effect of terms of trade*	—	—195	
Deficit, balance of payments†	+147	+640	
Real resources available for domestic use	11,244	11,745	+501
Used on			
Personal consumption	7,772	7,685	87
Government current expenditure	2,013	2,165	+152
Gross domestic capital formation‡	1,459	1,895	+436

* Deflated value of exports subtracted from deflated value of imports of equal current value † Before taking in income from overseas ‡ Including physical increase in stocks
Based on *National Income and Expenditure 1946-51* (H M S O , London, 1952)

is complicated and in 1951 it worked itself out broadly on the lines indicated in Table III. Real domestic production increased by about £200 million from 1950 to 1951. The adverse terms of trade of 1951 absorbed practically all this increase since resources had to be diverted to exports to pay for dearer imports. An increased deficit (import surplus) in the balance of payments provided additional resources for home use, taken up by larger government spending on armaments and by building up stocks. On balance, there was probably a small decline in real consumption, or the standard of living, in 1951 The terms of trade improved in 1952 but there was no increase in real product and the overseas deficit was reduced, consequently higher government and capital expenditures, mainly on armaments, were made at the expense of a further fall in real consumption

Other Countries. The cost of living index numbers of Table IV generally represent the movements of retail prices of all items purchased by working-class families.

The course of retail prices in the United States was typical of one group of countries, namely those in which there was little or no currency devaluation in 1949. Between 1948 and mid-1950 there was no increase in the cost of living or even a small decline. There followed a rise of about 10% during the first year or more of the war in Korea and the maintenance of a stable level at the end of 1951 and during 1952. The increase in retail prices was generally quite as great as in wholesale prices. This group of countries included Belgium, Italy, Switzerland and Pakistan In Canada, the rise in retail prices was rather greater

TABLE IV COST OF LIVING INDEX NUMBERS, U K., U S AND CERTAIN EUROPEAN AND COMMONWEALTH COUNTRIES
(Average 1948 100)

	Mid-1950*	1951 June	1951 Dec	1952 March	1952 June
United Kingdom	106	116	120	123	128
United States	100	108	110	109	110
Europe					
Belgium	94	106	107	107	105
Denmark†	106	120	122	122	124
France (Paris)‡	111	129	143	148	143
German Fed Rep §	92	103	105	106	105
Ireland‖	101	110	114	115	116
Italy	100	111	112	113	115
Netherlands‡	108	121	119	120	119
Norway	105	124	127	130	131
Sweden	103	120	125	127	131
Switzerland	97	102	105	105	105
Commonwealth					
Australia¶	120	142	158	162	171
Canada	108	119	123	122	121
Ceylon (Colombo)	105	109	111	108	107
India (Bombay)	105	111	109	103	112
New Zealand¶	107	118	125	126	128
Pakistan (Karachi)	93	99	101	99	100
South Africa	108	116	121	123	125
Southern Rhodesia	114	121	125	131	133

* Generally July † July, Jan and April instead of June, Dec and March ‡ 1949=100 § Bizone, July-Dec 1948=100 ‖ May, Nov and Feb instead of June, Dec and March ¶ Quarters ending in month shown
SOURCE United Nations, *Monthly Bulletin of Statistics*

In contrast, there is a second group of countries in which the effects of currency devaluation (1949) and rearmament (after mid-1950) combined to raise the level of the cost of living. The extent of inflation is typified by the experience of the United Kingdom where retail prices in 1952 were some 25% to 30% higher than in 1948, a smaller increase than in wholesale prices Some countries (*e.g.*, Ireland) kept the increase within lower bounds while in others, such as the Netherlands, India and Ceylon, deflationary policies halted the rise in retail prices by 1951. In other countries, however, inflationary pressure was stronger and more continuous, two striking and diverse instances are France and Australia. The economic programme of A. Pinay in France was effective in 1952 and the cost of living was reduced by nearly 5% by the middle of the year (*See* also PRICES.)

(R. G. D. A.)

COTTON. Conditions in the United Kingdom cotton industry in 1952 showed a very distinct change from any year in the previous decade Severely adverse trading was experienced, especially in the early months of the year, and the mills were faced with stoppages, due to lack of orders, which resulted in widespread unemployment and short-time working

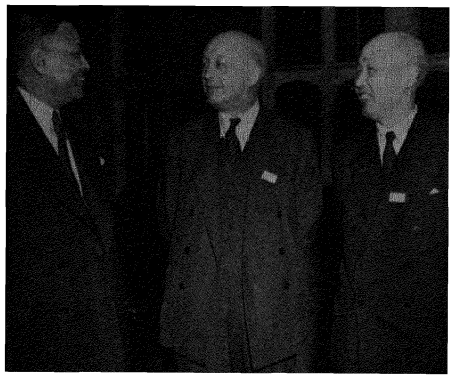
Yarn output was appreciably lower than in the previous 12 months, production reaching a total of 770,670,000 lb., as compared with 1,076,700,000 lb. throughout 1951. Cloth output was also affected by the depression, the total for the year being 2,291,740,000 linear yd , as against 2,960,100,000 yd. in 1951 The labour force was reduced from a peak of nearly 321,000 operatives in spinning, doubling and weaving to barely 260,000 in August, but later in the year a recovery to 272,000 in the available manpower occurred.

More abundant supplies of raw cotton were in evidence after the difficult conditions prevailing due to the small U.S crop in the 1950-51 season. World production of 34,500,000 bales was the second largest crop on record and an increase of 24% on the previous season. The new crop in the United States was estimated at nearly 15,000,000 bales, as compared with the final figure of 15,130,000 bales in the previous 12 months.

From the beginning of September the private importation of raw cotton into the United Kingdom was revived after a lapse of over 10 yr. The Cotton Import committee advised the government to permit private buying as well as purchasing by the Raw Cotton commission, which continued to provide cover facilities for all spinners. About 30% of the industry's mills elected to procure their raw cotton supplies privately.

Prices issued by the Raw Cotton commission kept in line with price movements in overseas producing countries during the year. Standard U.S.-type cotton, sold at 45 50*d.* per lb. in January, showed a steady decline, 40*d.* being quoted in April. In October the price was 32 65*d.* and 30·70*d.* in December. Egyptian Karnak cotton began the year at 89*d.* per lb , was reduced to 66*d.* in May and was quoted at 41·25*d.* in October, the December figure being 41·75*d.* per lb. Egyptian Uppers were quoted at 60*d.* per lb. in January, falling to 40*d.* in June, the latest quotation being 35·50*d.* per lb.

An important event during the year was the conference between representatives of the British, U.S., Indian, Japanese and west European cotton textile industries. Each country estimated its possible share of export markets and the British forecast was 1,350 million yd. in 1953. In view of the fact that at that time exports of cotton goods from the United Kingdom were only running at a level of 700 million yd. per annum, this estimate caused world-wide interest. Shipments of cotton cloth from Britain to overseas markets during the year were 710,803,000 sq.yd., as against 865,153,000 sq.yd. throughout 1951. Yarn shipments totalled 35,721,900 lb.,



Sir Raymond Streat, chairman of the Cotton Board, with two Japanese delegates to the International Cotton conference held in London and Buxton in September.

as against 65,494,700 lb. for the previous year. The decline in exports was largely attributed to reduced consumption in Australia, South Africa and New Zealand, due to drastic import restrictions.

The year opened with the granting of a longer paid holiday for British cotton operatives. In October a claim for a 10% increase in wages was submitted. Due to the depression in textiles there was considerable pressure for government assistance and part of the weaving belt was officially scheduled as a development area in October.

The International Cotton federation estimated world spindleage at 127,890,000, an increase of nearly 3 million spindles in 12 months, mainly the result of expansion in Asian countries.

In the final quarter of the year activity in the United Kingdom cotton industry began to revive. Home trade buying became much more extensive after the earlier abstention from purchases by customers. The ending of the utility scheme and new tax arrangements brought their problems but replacement sales took place which enabled spinners and manufacturers to re-start idle machinery (F. W. TA.)

United States. *Manufacture.* A year of recession in U.S. cotton spinning appeared to have ended in the early summer of 1952. Early in the year production of cotton textiles was about 15% below that for 1951, and New England had about one-tenth of its textile workers unemployed. In April the industry operated at only 114·5% of capacity on a two-shift, 80-hr. basis. By September the industry was operating at 135·1% of capacity on a two-shift, 80-hr. basis, as compared with 128·1% in August and 127·8% in Sept. 1951. Producers were completely booked on fourth-quarter denim goods and there were delivery problems regarding sheets and pillow cases. Price ceilings on most textiles had been suspended in May. Autumn prices were firm, some strong; some yarns were three to five cents per pound above spring levels. The New England group continued to press for equalization of the minimum wage level with southern mills.

Exports of cotton piece goods were not expected to be more than 600 million sq.yd. for 1952, as compared with 802 million sq.yd., valued at $468 million, in 1951.

Production. The estimated U.S. 1952 cotton crop of 14,413,000 bales was a short-fall of the official goal of 16 million bales and the 1951 crop of 15,144,000 bales, but exceeded the 1941-50 average of 11,775,000 bales. Acreage in cultivation on July 1 was indicated at 26,051,000 ac., about 7% less than in July 1951 and much below the 28 million ac. official goal. This was interpreted unofficially as indicating a crop of about 14·5 million bales. The official indication on Aug. 1 was 14,735,000 bales, but widespread drought and high temperatures after mid-June retarded growth and caused extensive shedding. The estimate on Sept. 1 was reduced to 13,889,000 bales, after which there was some recovery and excellent harvest weather. Acreage for harvest was estimated at 24,639,000 ac., and the lint yield per harvested acre at 280·2 lb., as compared with 271·9 lb. in 1951 and an average for 1941-50 of 267·6 lb.

Prices fluctuated rather sharply with changing crop and demand prospects during the year. The ceiling price of 45·39 cents per pound was suspended in May. The average price support rate for 1952-crop middling 7/8 in. upland cotton was set at 30·91 cents per lb., as compared with 30·46 cents per lb. for the 1951 crop. Purchase agreements were made available to cotton producers for the first time, as well as loans already used. The price declined somewhat after the more favourable crop report in October, and producers were advised officially to restrict their marketings until prices settled. In October it was announced that there would be no restricting acreage allotments or marketing quotas on the 1953 crop, whether of upland or extra long staple type.

World Production. World cotton production for 1952-53 was estimated tentatively at 34·2 million bales, as compared with 35·3 million bales in the previous year and 31,689,000 bales average pre-World War II. However, the world supply was tentatively forecast at 48·7 million bales, 1·9 million bales higher than a year earlier, because of an increased carryover on Aug. 1, 1952 of 3 million bales. World cotton consumption in 1951-52 was about 32·2 million bales, as compared with 33 million bales during the preceding year. World trade in raw cotton amounted to about 12 million bales in 1951-52, only 100,000 bales more than in the previous year when supplies were much scarcer.

In general 1952 was a year in which foreign cottons lost much of their previously high premiums over U.S. cotton. (*See* also TEXTILE INDUSTRY.) (J. K. R.)

COUNCIL FOR MUTUAL ECONOMIC AID.

Formed in Moscow in Jan. 1949 by a conference attended by representatives of Bulgaria, Czechoslovakia, Hungary, Poland, Rumania and the U.S.S.R., the Council for Mutual Economic Aid (*Soviet Ekonomicheskoy Vzaimnoposhchi*) had the task of making more efficient the use of member nations' economic resources, facilitating the exchange of goods, building a basis for mutual credit agreements and, in general, replacing bilateral trade by multilateral. On Feb. 22, 1949, it was announced that Albania had been admitted to the C.M.E.A. and admission of the German Democratic Republic was announced on Oct. 1, 1950.

According to a study published in *News from Behind the Iron Curtain* (New York, Sept. 1952), a publication of the U.S. National Committee for a Free Europe, the general assembly of the C.M.E.A. had been called into session only once, in Aug. 1949, at Sofia. After that the council's functions were taken over by the executive committee. Work was divided into the six departments of planning, investments, foreign trade, labour, finance and raw materials. The fundamental purpose of the C.M.E.A., sometimes described as "Comecon" or as the Molotov plan, was to integrate eastern European industry into the Soviet economy and in so doing to create a *bloc* of economic power which would increase production and eventually provide a surplus with which to enter the world market. It was also a means of establishing a forward military, political and economic bastion for the Soviet empire. The offices of the C.M.E.A. were partly in the Kremlin and partly in Kitaygorod, the

old section of Moscow, and 70% of its 2,000 employees were Russians drawn from the Ministry of Foreign Trade, from the economic department of the Ministry of State Security, the Soviet Central Planning committee and the Soviet State bank. (*See* also EASTERN EUROPEAN ECONOMIC PLANNING.)

COUNCIL OF EUROPE. An institution of consultative character founded on May 5, 1949, in London, and inaugurated on Aug. 10 of the same year at Strasbourg, its permanent seat. It consists of a committee of ministers (composed of the foreign ministers of member countries) and a consultative assembly (delegations from the several parliaments), the former providing for the development of co-operation between governments, the latter a means through which the aspirations of the European peoples may be formulated and expressed. Every member government 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" From 1949 these countries were full members of the Council of Europe· Belgium, Denmark, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, Norway, Sweden, Turkey and the United Kingdom. Iceland joined the council on March 7, 1950, the German Federal Republic became an associate member on July 13, 1950, and a full member on May 2, 1951. From May 13, 1950, the Saar was also an associate member, sending its representatives only to the consultative assembly. President of the assembly, François de Menthon (France, elected on May 25, 1952); secretary-general, Jacques-Camille Paris (France).

History. In 1952 the Council of Europe as the vehicle of "European Union" appeared to have stopped in its tracks The second part of the third session of the consultative assembly (Nov. 26-Dec. 11, 1951), following upon the joint informal debate with representatives of the U.S. congress, had cast a revealing light upon what E. E. Cox, a representative of Georgia, had described as the "chasm" between the "French" and the "British" schools of thought, *i.e.* the champions of a closely knit supranational European polity and the supporters of a looser conception of European unity not going beyond intergovernmental co-operation Paul-Henri Spaak, who had been the assembly's president from the beginning, had resigned (Dec. 10, 1951) in protest against what he alleged to be the timid counsels prevailing and the atmosphere of frustration resulting from the unresolved conflict of federalists and functionalists. Projects of functional federation like the European Coal and Steel community (*q.v.*) or E.C S.C. and the European Defence community (*q.v.*) or E D.C., then under negotiation, had, necessarily, taken root outside the Strasbourg institution.

The frustration was more apparent than real. For the committee of ministers at its eighth session (May 2-4, 1951) had included among the texts of a statutory character, designed for later inclusion in a revised statute, a whole chapter on specialized authorities as one possible technique of advance; and at its ninth session (Aug. 3, 1951) had approved the expedient of "partial agreements" which gave the green light to member states so disposed to go ahead and institute a political authority. So the ground was cleared for sundry assembly recommendations along these lines, envisaging, in terms of the Washington declaration by Dean Acheson, Herbert Morrison and Robert Schuman of Sept. 14, 1951, a European continental community with which the British government (heading the group of nations which declined to go beyond intergovernmental co-operation or voluntary partnership) would "establish the closest possible association at all stages of its development".

When the committee of ministers met in Paris on March 19, 1952, to consider the assembly's recommendations there was, then, no question of blocking the path. Anticipating to some extent one of the assembly's requests for a sort of "college" of ministers for European affairs, the committee at once sanctioned proposals for delegation of authority to deputies who should meet frequently, taking over the functions of the ministers' advisers, with power to take decisions. Thanks to an initiative on the part of the British government, moreover, the ministers came to grips at once with the major political question of relations between the Council of Europe and the developing "restricted communities". Anthony Eden presented a constructive alternative to the draft new statute elaborated by the assembly's political committee—which was unacceptable, he said, because it would transform what was a purely consultative body into a quasi-federal institution. He saw a more promising future for the Council of Europe in a remodelling of the organization in order that its organs could serve as the ministerial and parliamentary institutions of the various restricted communities.

This two-tier structure, with a committee of ministers and assembly, meeting at times on a six-power, at other times on a 15-power, basis, was the original conception of what came to be called the Eden plan. A memorandum explaining the British government's ideas was studied by the deputies the following month, and at its 11th session in May the committee of ministers gave its formal approval in principle to the notion of "organic liaison" between the restricted communities and the council. At the same time it decided to request the opinion of the assembly on the best means of giving effect to these proposals

The assembly in a brief session (May 26-30) likewise signified its approval and made certain suggestions for implementation of the proposals. Taking wings, it proceeded to set up its own *ad hoc* committee to prepare a draft statute for the European political community envisaged in the E.D.C treaty. (The standing committee went a step further and invited a study group of jurists to supply the necessary expertise)

Considerations and exigencies of high policy supervened, however, during the ensuing months, to upset these best-laid schemes. The ministers of "the six", responsible for setting into operation the E C.S.C., established the high authority at Luxembourg (temporarily), thus setting aside the idea which had gained currency that Strasbourg *qua* seat of the Council of Europe might be the seat of all the E.C.S C. institutions and those of similar communities; and then invited, not the consultative assembly, but the E.C.S.C. assembly to assume responsibility for drafting the statute of the proposed European political community. The members of the latter, it is true, interpreted this invitation as applying to them in their individual capacity and formed themselves into an *ad hoc* assembly for the purpose, and both assemblies did in fact meet in Strasbourg, availing themselves of the physical facilities of the House of Europe. But the prospects of "organic liaison" appeared to have receded, and, for example, the notion of a common secretariat, which was among the desiderata of the consultative assembly (and was implicit in the Eden plan) was not adopted on this occasion.

When the consultative assembly met on Sept. 15 for the second part of its fourth session, then, the impression prevailed in some quarters that the Council of Europe was on the way to being eclipsed, at any rate in the political field, by the new six-power bodies; and that the realization of the Eden proposals was unlikely. Before the session had gone far, other counsels had prevailed; the members of the *ad hoc* assembly had themselves agreed to the attendance as observers of representatives of the non-federalizing states, and, in practice, that assembly enjoyed the assistance of members of the Council of Europe secretariat. Furthermore, the ministers acceded to a request from Spaak (elected president of the E.C.S.C. assembly) that the latter should maintain its seat at Strasbourg. During the last three months of the year the constitutional committees of the *ad hoc* assembly set to work to design the

desired European political community, with the help of secretariat staff from Strasbourg, and the three assemblies—that of the E.C.S.C., the *ad hoc* and the consultative (in extraordinary session) were convened for Jan. 1953.

So much for the specifically political sphere of activity of the council In the economic field the chief event of the year was the framing by the assembly, on the basis of a careful study, of proposals for a large economic area comprising Europe plus its associated overseas territories and the Commonwealth countries, in which trade expansion by various means might be hoped to go a long way towards solving the problem of the dollar gap In the legal field must be recorded the signature by the ministers, at their March meeting, of the protocol to the European Convention on Human Rights: delay over ratifying the convention attracted some criticism at the assembly's meeting in September. (Norway, Sweden and the United Kingdom alone had ratified it) With the assistance of the International Labour office experts the council completed two draft interim agreements on social security, and a convention on social and medical assistance. (Thus the provisions of the five-power Brussels treaty were extended to the 15 member states of the council.) By the end of the year they had not actually been signed, because the German Federal government objected to the inclusion of the Saar (the "15th member") among the signatories Formal and continuous relations were established in the course of the year with the principal international organizations, such as I.L.O and O.E.E.C. (W. H. CTR)

COUNTRY LIFE. The old order of the countryside was certainly changing very fast in the 1950s but "While the earth remaineth, seedtime and harvest, cold and heat, summer and winter, and day and night shall not cease." The most striking changes in country life after World War II had been brought about by mechanization, scientific farming and the spread of education, but the quotation from Genesis still held good. Moreover, before any of the fruits of the land could be harvested the craftsman had to make the necessary tools. Craftsmen were still essential because the machine could no more take the place of the individual than an education authority can replace home influence. Courses of instruction for country blacksmiths in the overhaul and repair of combine harvesters were inaugurated this year. In 1953, it was expected, these would be continued and courses on pick-up balers added. The services of instructors were supplied free of charge by the Rural Industries bureau, Wimbledon. Efforts were being made in schools and juvenile employment bureaux to encourage boys to become blacksmiths.

The countryman's work is mainly seasonal, in spite of the fact that science has made certain operations possible all the year round and retailers continue to demand foodstuffs before their normal time The early part of 1952 was mild and there was the promise of a humid spring—which did not materialize—to bring on the crops. However, the season as it was suited willow growers and underwood workers, but unfortunately there was not much sign of a return to the activity in the woods that there used to be when there were more private estates. As the estates were broken up farmers had to buy their land, which sometimes included woods or spinneys. Many of them had to sell the timber to help pay for the farms, but the trees were often felled before the underwood had been cut, thus ruining this valuable secondary growth. The hedges around the coppices were now no longer kept up and the cattle got in, so that what was once an attractive feature, affording shade and shelter, and supplying peasticks, faggots, fencing stakes, poles, spargads* and firewood, was now an unsightly wreck. But underwood was still in demand for wattle hurdles, not so much now for sheepfolds, but for windscreens round gardens.

The disastrous floods in August in north Devon—especially at Lynmouth—and in west Somerset brought bereavement, and distress that was nation-wide But the immediate aid brought to the unfortunates by their fellow townsmen and by their neighbours in surrounding districts, as well as the national response to the relief-fund appeal, showed a wonderful spirit of comradeship in adversity.

Sudden changes of temperature were perhaps the most noticeable features of the summer, but the autumn and early winter were mild except for a short cold spell in October. The autumn tints seemed more lovely than ever this year, then in November winter came abruptly and in earnest.

The change in the appearance of villages as a result of housing schemes was very noticeable this year. Sometimes these schemes were creditable where an effort was made to retain traditional style in architecture and to use local materials which harmonized with the surroundings, but unfortunately this was not always the case Too often urban influence dominated and utility was allowed to have its way, and the result was not pleasing. Ordered formations took the place of the old haphazard siting of cottages that was the charm of English villages The question was: must aestheticism always give way to economy and the individual to the mass, even in dwellings?

The impact of the use of combine harvesters on the countryside continued to be shown in the uprooting of hedges and the filling-in of ditches to make larger fields for the combines to work in. The wisdom of this policy was doubtful, for while it was true that in rainy seasons the combine enabled corn crops to be harvested that might otherwise be lost, the countryside suffered in the matter of shelter and drainage. Also, because of the use of the combine harvester, thatching straw was becoming scarce and expensive because thatchers had to make it worth the farmer's while to have corn specially harvested and threshed so that the straw was not damaged. However, thatchers on the whole had a good season in 1952 as the weather was suitable for their work. This grand old craft was being maintained at a high standard, and there were young men following it, though not so many as there should have been. It is strange that thatch is not used more for roofing now that the old fear of fire can be eliminated by soaking the reed in a solution before it is laid. Thatch is picturesque, warm in winter and cool in summer, and it is a home product, and rough home-grown timber or poles can be used for the roof structure; thus the roof, which represents roughly one-third of the cost of the house, did not count towards the permissible ceiling price of the building. If the ridge is looked after, a well-thatched house-roof will last for 40 years.

The year saw a great move throughout the country to repair and improve England's lovely village churches. Here was an opportunity to encourage local craftsmen. One of the charms of English churches is that each has its individuality This is largely because the craftsmanship in them was local, and in the 1950s there were still craftsmen in most country districts to carry on this tradition. The modern woodworker, smith and stonemason, and even the weaver and the potter, were all making their contributions to these treasure houses of craftmanship and art. By the method of reconstituting and pre-casting any particular stone the carver was enabled to get straight on to his skilled job and so save much of the expense of preparation. Mechanical aids could now be applied to other crafts to enable them to compete with mass production, thus preserving for posterity buildings and articles which would live because, despite the modern aids in their production, they were still the expression of individuals. Many hoped that the rising generation might be brought to a

* stakes of hazel or willow suitable for splitting into "spars", the springy sticks used to fasten down thatch

realization of the glory of the English heritage and the dignity and satisfaction of labouring for the essentials of the community in the countryside that God had entrusted to their care. (*See* also AGRICULTURE; BEEKEEPING; FIELD SPORTS; ORNITHOLOGY; WILD LIFE CONSERVATION.) (J. A. GN.)

CRICKET. Ever since the victorious tour of the West Indians in England in 1950 the prospect of their visit to Australia had aroused the keenest anticipation. In the event the test matches played between the two teams in the winter of 1951-52 proved disappointing. The margin of four matches to one in Australia's favour rather flattered the winners who had little enough to spare in the first and third " tests ", but at no time did the cricket of either side recapture the brilliance that had been seen when the Australian and West Indian teams had last visited England. In the highly charged atmosphere of the test matches the crises, when they came, seemed to reveal something lacking in the leadership and temperament of the West Indians, whilst the Australian batting still appeared to be missing the lead given to it for 20 years by Sir Donald Bradman.

A. L. Hassett proved himself an astute captain and the most consistent batsman on either side, but the vital blows were often struck by K. R. Miller who fully maintained his reputation as the greatest all-round cricketer in the world. In bowling Miller had fine support from W. A. Johnston and R. R. Lindwall but, except for Hassett, none of the Australian batsmen advanced his reputation.

For the West Indies the great and decisive disappointment was the failure of S. Ramadhin on faster wickets and against quicker-footed batsmen to command the form that had so dominated the test matches in England; his 14 wickets in the test matches cost nearly 50 runs each. Without his support A. L. Valentine bowled bravely and accurately but the burden was too heavy. F. M. Worrell and J. B. Stollmeyer each made a fine century in a test match but never recaptured their 1950 form, whilst E. D. Weekes and C. L. Walcott were but shadows of what they had been on that tour. The fine all-round cricket, stamina and spirit of G. E. Gomez won wide acclaim.

The great match in the series was the fourth when the West Indians came within an ace of making the tally two all. Having set Australia 260 to make in the last innings, they had, in spite of 100 by Hassett, got nine men out for 220 but some brave hitting by D. Ring loosened their grip and the final tension proved too much for them.

Of the two test matches which the West Indians played in New Zealand, they won the first by five wickets and were in an unassailable position in the second when rain intervened. In the Sheffield Shield tournament in Australia, New South Wales achieved their 26th success.

With some of the leading English players feeling an imperative need for rest after five years of almost unbroken cricket since the end of World War II, the M.C.C. side which, under N. D. Howard, visited India was far from representative and did well enough to hold their opponents to a drawn rubber. The first three test matches were all drawn and at times the rate of scoring by both sides fell to a level so low as to constitute almost a parody of the game. England won the fourth match by eight wickets, thanks to the fine bowling of M. J. Hilton and R. Tattersall who together took 17 wickets for 213 runs. But in the fifth match India recorded the first " test " victory of its cricket history, by an innings margin. P. Roy made his second century in the series and P. Umrigar made 130, but the chief architect of victory was V. Mankad with 12 wickets for 108; his figures for the five games—34 wickets for 16 apiece—speak for themselves. The Indian batting averages were headed by their captain, V. S. Hazare.

Apart from the success of Hilton and Tattersall in the fourth match the M.C.C. bowling lacked penetration, while of their batsmen only T. W. Graveney and A. J. Watkins increased their reputation. Of the two games which they played against a representative Pakistan XI the first produced a draw after high scoring, but the second Pakistan won deservedly by four wickets, a success which paved the way to their admission to the Imperial Cricket conference in the following summer. In the final of the Ranji trophy, Bombay beat Holkar by 531 runs.

In the summer of 1952 the fifth Indian touring team to visit England found that, in spite of fine weather, their lack of experience was a fatal handicap. Their record against the counties was mediocre, against England disastrous. With the exception of their captain Hazare, whose nerve never failed to meet successive crises in the test games, their batting was sadly lacking in stability and determination, whilst their attack had little real penetration, whether by pace or spin. In the first match at Leeds, Hazare, 89, and V. L. Manjrekar, 133, redeemed a sorry start, only to see the last 7 wickets fall for 29 more runs England too began poorly but established a lead of 41. The start of the second Indian innings was sensational, four wickets falling before a run had been scored, and though Hazare and D. G. Phadkar battled bravely, England won comfortably by seven wickets. In the second match at Lord's, India were reinforced by Mankad, released from his engagement in the Lancashire league, and never had a cricketer performed more heroically in a losing cause. Going in first, he at once challenged the modern test match mood by playing attacking strokes, but only his captain could give him real support to produce a modest total of 235. He then entered upon an astonishing bowling marathon which brought him, in 72 overs, 5 wickets for 196 runs. The opening English batsmen were tightly pegged down and though L. Hutton (*q.v.*) accelerated in the later stages of his 150 it was left to Graveney and T. G. Evans to bring real life into the game, Evans only just failing to reach his 100 within the two hours before lunch on the third day; England's total was 535. Mankad then immediately returned to the field to play another magnificent innings of 184. With Hazare again giving him valiant support the score at one time read 270 for 2 wickets and the English attack seemed verging on the innocuous, but once again the later batting broke down and 80 minutes were left on the fourth evening for England to get the 77 runs needed. Hutton made no attempt to win the match that night and, though victory by eight wickets came early next morning, there was widespread criticism of his policy.

1952 COUNTY CHAMPIONSHIP FINAL PLACINGS

	P.	W.	L.	D.	Tie	First innings lead in match, No dec	First innings lead in match, L.	First innings lead in match, D	Pts.
Points Awarded	—	12	—	—	8 or 4	—	4	4	—
SURREY	28	20	3	5	0	0	0	4	256
YORKSHIRE	28	17	2	8	0	1	0	5	224
LANCASHIRE	28	12	3	11	1	1	1	8	188
DERBYSHIRE	28	11	8	9	0	0	2	6	164
MIDDLESEX	28	11	12	4	0	1	0	1	136
LEICESTERSHIRE	28	9	9	9	0	1	1	5	132
GLAMORGAN	28	8	7	13	0	0	2	6	130
NORTHAMPTONSHIRE	28	7	8	12	0	1	3	8	128
GLOUCESTERSHIRE	28	7	10	11	0	0	4	6	124
ESSEX	28	8	4	13	1	2	1	4	120
WARWICKSHIRE	28	8	10	8	1	1	0	4	120
HAMPSHIRE	28	7	11	9	0	1	4	3	112
SUSSEX	28	7	12	6	1	2	0	2	96
WORCESTERSHIRE	28	6	11	10	0	1	1	3	90
KENT	28	5	15	8	0	0	2	4	84
NOTTINGHAMSHIRE	28	3	11	13	0	1	2	7	72
SOMERSET	28	2	12	13	0	1	1	4	44

Warwickshire and Lancashire records include eight points for first innings lead in match tied. Sussex and Essex records include four points for tie without first innings lead. Glamorgan and Worcestershire records include two points for tie on first innings in match drawn.

Manchester lived up to its tradition of rain and England's first innings of 347 for 9 occupied more than two days of " broken time ". Hutton again made a century (104). In the next 3¾ hr. of play India were bowled out twice for 58 and 62 and the match was over. The wicket was uncomfortable, the young Yorkshire bowler F. Trueman bowled fast and with far more accuracy than at Lord's and the catching of a very close-set field was superlatively good. Trueman's first-innings figures of 8 for 31 in 8·4 overs were some of the most remarkable in test history, and in the second innings A. V. Bedser and J. C. Laker were very accurate.

Although the rubber was decided, a fine crowd greeted the opening of the last match at the Oval but the game was ruined by the weather, only 10½ hr. in all being possible for play. On an easy-pace wicket Hutton and D. S. Sheppard made only 58 runs in the two hours before lunch; Hutton's 89 occupied four hours and Sheppard's 104 two hours longer. At the close of a rather tedious day the score was 264 for 2. Next morning an attempt to force the pace met with little success and four more wickets had fallen for an additional 62 runs when Hutton declared. Rain held up play till five o'clock and then on a lifting pitch India lost their first six wickets to Trueman and Bedser for five runs. A brave innings by Hazare averted utter catastrophe, but after a blank Saturday the 70 minutes for which alone play was possible on Monday saw the innings finish for 98; on the last day not a ball could be bowled.

So ended a tour which underlined the great difference between the playing strength of India in their own country and in England. Certainly it provided little evidence of England's potential ability to face the much sterner tests of an Australian visit in 1953. In the county championship Surrey won " by the length of a street ", their total of 256 points being the highest ever obtained on the present scoring basis. Well led by W. S. Surridge, they were an admirably balanced side; their batsmen were ready and able to force the pace and their bowlers to make decisive use of any wicket that helped them or, when it did not, to wage war by the attrition of length. In support, the fielding was first-rate. Yorkshire and Lancashire were runners up, but perhaps the feature of the season was the greatly improved form of Derbyshire and Leicestershire and a general levelling-up among the majority of the sides.

True to tradition, the Gentlemen *v.* Players game produced a splendid finish, the Players winning by 2 runs in the last over of the day. Led by 119 on the first innings, the Gentlemen were set 322 to win. They started indifferently, but a classic 127 by C. H. Palmer, aided by brave hitting by F. R. Brown and D. J. Insole, brought them within an ace of victory. Never had the dice seemed more loaded in Cambridge's favour for the University match. Against their test match players, Sheppard, P. B. H. May, J. J. Warr and the South African C. N. McCarthy, with R. G. Marlar, the best amateur spin bowler, to support them, Oxford could field only one player of approximately equal class in M. C. Cowdrey. Fighting dourly, their batsmen achieved a first innings of 272, Marlar taking 7 wickets. But Cambridge, led by their captain, Sheppard, 127, were able to declare before lunch on the last day at 408 for 8. With Oxford losing 6 wickets for 94 all seemed over, but A. L. Dowding (52) played admirably and A. Coxon challenged fate with rare courage and effrontery; a catch or two was missed and the clock won. Harrow beat Eton by seven wickets, their first victory in the two-day match since 1938. For this result they owed almost everything to D. J. Hulbert whose lively and accurate bowling accounted for 8 Eton wickets for 36 runs in the first innings and 12 in the match; the Eton batting was undistinguished. Of other schools Radley and Highgate had outstanding records.

Not for very many years had two amateurs headed the first-class batting averages as Sheppard and May did this season; they and Hutton each averaged over 60 for more than 2,000 runs apiece; no one else averaged 50. Trueman had the best bowling figures (61 wickets for 841 runs),



The final test match at the Oval between England and India. F. S. Trueman (Yorkshire) is bowling to V. S. Hazare. The fielders, left to right, are J. C. Laker (Surrey), J. T. Ikin (Lancashire), A. V. Bedser (Surrey), L. Hutton, captain (Yorkshire), and T. G. Evans, (Kent).



Surrey players who helped to win the 1952 county championship. Standing (left to right), A. Sandham (coach), G. A. R. Lock, A. F. Brazier, R. C. E. Pratt, T. H. Clark, G. J. Whittaker, E. A. Bedser, J. C. Laker, P. J. Loader, G. N. G. Kirby, A. J. McIntyre, D. F. Cox, H. Strudwick (scorer), J. Tait (masseur). Front row, D. G. W. Fletcher, A. V. Bedser, L. B. Fishlock, W. S. Surridge (captain), P. B. H. May, J. F. Parker and B. Constable.

followed by Bedser (154 for 2,530), but J. H. Wardle of Yorkshire captured most wickets—177.

In the winter of 1951 the M.C.C. Youth Cricket association had been created, with area youth councils in many counties. Its object was to help all boys in the country to get more and better cricket. In the spring of 1952 the M.C.C. published for the first time in their history an official manual on coaching. (H. S. A.)

CRIME. International. The most important event in the international sphere in 1951 was the European Seminar on the Medico-Psychological and Social Examination of Delinquents held in Brussels during Dec. 3-15, at the invitation of the Belgian government under the auspices of United Nations and the World Health organization, in which delegates from 19 countries participated.

Great Britain. *England and Wales.* In 1951 the number of persons found guilty of offences of all kinds was 723,320 (against 688,650 in 1950), of whom 132,817 had committed indictable offences, 584,454 non-indictable offences and 6,049 offences against defence regulations, an increase of 16,796 and 19,610 and a decrease of 1,736 respectively as against the figures for 1950. Of those found guilty of indictable offences 117,004 were males (against 100,948) and 15,813 females (against 15,073),which showed that male offenders had been responsible for nearly the whole of the increase. The age group distribution remained practically unchanged. Among the indictable offences that contributed to the increase were larceny (+19%), breaking and entering (+5%), receiving (+22%) and sexual offences (+13%), whereas cases of robbery went down by 23%.

The number of murderers of 116 persons aged one year or over was 104; in five other cases the murderers remained undetected. Sixty-three persons were arrested in murder cases involving 65 victims. Nineteen of them were found unfit to plead, 9 found guilty but insane and 7 acquitted (one still awaiting trial). Of the 27 who were sentenced to death, 18 were executed, 5 reprieved, 2 certified insane after sentence and removed to Broadmoor institution, one conviction was quashed on appeal and one case was still awaiting final disposal. The percentage of executions of those sentenced to death rose, therefore, from 48 in 1950 to 66 in 1951. (For the period 1900-48 the percentage of executions was 52.) Thirty-nine murderers or suspects committed suicide before arrest. Suicides declined from 4,324 to 4,282 (2,675 males and 1,607 females), attempted suicides from 4,676 to 4,524 (2,255 males and 2,269 females). Among the more notable murder trials of 1951 were that of H. L. Mills, found guilty of the murder of Mrs. M. Tattershaw at Nottingham, who first, in a statement to a newspaper, made a confession which he subsequently withdrew.

Other trials which aroused considerable interest were that of a foster-mother in London for causing grievous bodily harm to two of her foster children and that of a regional electricity board and its chairman for overspending the amount allowed by a building licence.

The number of persons found guilty of traffic offences, accounting for 51·7% of all non-indictable offences, increased from 357,932 to 370,912; the number of those found guilty of drunkenness from 45,533 to 51,239, *i.e.*, by 13%; and prostitution offences from 6,843 to 7,872, *i.e.*, by 15%. Persons found guilty of cruelty to, or neglect of, children numbered 30 on indictment (+20%) and 1,046 dealt with summarily (+10%).

The total increase in indictable offences was from 461,435 to 524,506, mainly accounted for by an increase in simple and minor larcenies and larcenies from unattended vehicles. Robberies went down from 1,021 to 800 cases. The percentage of indictable offences that were cleared up by the police remained 47.

In the Metropolitan Police district the number of indictable offences known to the police rose from 100,304 in 1950 to 111,091, *i.e.*, from 11·9 to 13·3 per 1,000 inhabitants, and the number of arrests from 26,862 to 30,068. Robbery was one of the few categories of offences to show a decline (from 256 to 214 cases, the lowest figure since 1942). Pocket-picking and handbag-snatching also declined (from 1,087 to 950) in spite of 98 cases occurring at the Festival gardens, Battersea, during the Festival of Britain. Inside the South Bank exhibition 379 alleged crimes were investigated and 44 arrests made. The percentage of crimes cleared up declined from 32·4 to 31·5.

Scotland. The number of persons against whom a crime or an offence was proved was 99,950 in 1951 as against 96,271 in 1950, an increase of 3·8%. The percentage of male offenders was 91·8, as compared with 91·7% in 1950; there were no changes in their age distribution. The number of crimes and offences known to the police was 184,756, an increase of 6·4% against 1950; 58% of them were committed in the four counties of cities where the number of crimes was 24·8 per 1,000 of the population, as compared with 19·2 in the ten large burghs with separate police forces (13·0 in 1950) and 9·4 in the 19 counties or joint police areas. Only 9 cases of murder became known to the police against 21 in 1950; of the seven persons proceeded against, one was convicted of murder and executed.

Europe. *Germany.* For the first time since the end of World War II criminal statistics for the German Federal Republic began to appear. Information was published for the first six months of 1950 for adult offenders and for the whole of 1950 for juvenile delinquents. The number of adults found guilty of offences against the criminal code was 69,128 in the first and 63,453 in the second quarter of 1950, of whom 40 and 35 respectively were found guilty of murder. The total for juveniles, *i.e.*, persons between 14 and 18, found guilty of offences against the criminal code was 20,650. (H. MM.)

United States. The nation-wide crime reports compiled by the Federal Bureau of Investigation showed that there was an increase in nearly all crimes during the first half of 1952 to a general level that was 6·4% higher than that recorded in 1950. Thus for the fourth successive year the nation's general crime trend continued upward. These general patterns affected both cities and rural areas in 1952. The largest increase in the first half of the year was in robbery, which jumped 13·8%. Other notable rises were burglaries, 8·7%, car thefts, 8·8%, and assaults with a lethal weapon, 9·3%.

Completed data for 1951 showed that 58% of all robberies were committed on the highway, with 31% directed against commercial establishments. Commercial premises were also the favoured objects of attack in burglaries, 90% of which occurred during the night.

For the limited list of offences for which national records are kept, more than 1 million were committed in the first six months of 1952. Since the F.B.I. recorded more than 423,000 arrested persons whose fingerprints had been taken during the same period, it was believed that the annual total of all major offences must be close to 5 million, not including minor offences for which state laws do not permit the police to use fingerprints. Of all persons arrested and fingerprinted during the first half of 1952, 15% were under 21 years of age. An additional 14·3% were between 21 and 24 years of age. The largest number of fingerprinted arrests was recorded for age 18, with ages 23, 21, 22 and 24 following so closely as to place them all in a single outstanding category.

Sixty-four serving police officers were killed during 1951, showing a heavy increase (78%) over 1950. (BR. S.)

Cases in 1952. Crimes that aroused most public interest in Britain in 1952 included the murder of a five-year old girl by John Thomas Straffen who had escaped from Broadmoor institution (where he had been detained since 1951 after murdering two children at Bath) and the murder in August of Sir John and Lady Drummond and their 12-yr. old daughter, Elizabeth, who were on a camping holiday in the French Maritime Alps. Late in the year their murderer had still not been traced. On Oct. 9, in a shooting incident at Knowsley hall, Lancashire, home of the Earl of Derby, a 19-yr. old footman, Harold Winstanley, shot dead two butlers and slightly wounded the Countess of Derby. On Nov. 2, a Croydon policeman, Sidney Miles, was killed by Christopher Craig (16) in a roof-top chase. An outstanding robbery of the year was one made in the early hours of May 21, when a post office mail van was raided off Oxford street, London, by seven masked men who escaped with £200,000 worth of soiled currency notes. This episode gave rise to discussions in parliament, when greater security measures were urged. In the United States occurred the murder, under circumstances indicating criminal retaliation, of Albert Schuster, a tailor's apprentice. He had recognized Willie (The Actor) Sutton, a much-wanted, resourceful bank robber, in a subway train, and this had led to Sutton's arrest and conviction. (*See* also JUVENILE DELINQUENCY.)

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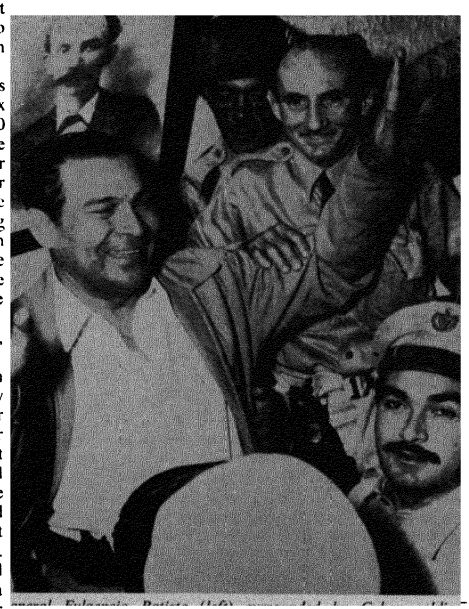
CUBA. Island republic in the Caribbean sea. Area (incl. the Isle of Pines and other minor islands and keys): 46,748 sq.mi. Pop.: (1943 census) 4,778,583, (mid-1952 est.) 5,523,000. Racial distribution is officially calculated at 75% white (about one-third of this group is mulatto), 24% Negro and 1% Asiatic (largely Chinese). An estimated 200,000 Spaniards live in Cuba. Language: Spanish. Religion: predominantly Roman Catholic. Chief cities (pop., 1952 est.): Havana (cap., incl. suburban districts, *c.* 1 million); Santiago (170,000); Camagüey (100,000). Presidents in 1952: Carlos Prío Socarrás and (from March 10) Fulgencio Batista (*q.v.*).

History. The 1952 sugar crop, largest in Cuba's history, exceeded 7 million tons. The U.S. congress extended the Sugar act of 1948 to Dec. 31, 1956, in order that the amount of sugar purchased by the U.S. government as a reserve could be increased. Cuba pressed for international consideration



General Fulgencio Batista (left) surrounded by Cuban soldiers during the revolution in March when he seized power.

of the working draft intended to be substituted for the Sugar agreement of 1937. A meeting of delegates from countries participating in the 1937 conference took place in London (Sept 30-Oct. 1), with observers from other countries. It was agreed to request all governments represented in the United Nations to aid in bringing about a new negotiating conference in the spring of 1953, to pass on the working draft and policies involved.

On March 10, a military rising led to the resignation and exile of President Prío Socarrás. Batista, a former president, assumed power, his provisional régime being recognized promptly by most foreign powers. An election was announced for 1953. An extensive investigation of public accounts led to a report from the ministry of finance (June 6) involving both previous administrations (Ramón Grau San Martín and Prío Socarrás) in the malversation of public funds in excess of $96 million. Unrest in labour circles, particularly in Havana, continued to stimulate efforts to deal with housing problems and mounting price levels. The rapid concentration of population in the metropolitan area of the capital aggravated the strain on transport facilities.

Diversification of industry and agriculture alike was a particular concern of the Batista administration. A livestock census was decreed, to be taken in 1952, with a view to increasing the production of meat in the republic. Surveys of new mineral and manufacturing possibilities were undertaken. A maritime commission was established with instructions to devise a plan for building a fleet of small-tonnage ships for trade and passenger service. The perennial problem of high transit costs into and out of Havana was tackled The government approved the outlay of $2 million on ferry boats to carry tourists from Florida, with their motor cars, from Key West to Havana (C. McG.)

Education. Schools (1944-45) primary and secondary, state, pupils 498,300, private, pupils 72,000, teachers' training colleges 6, commercial schools 6 Universities 3, including the Catholic University of Villanova (Havana)

Agriculture. Production of sugar in the 1951-52 season reached the record figure of 7,963,689 short tons (1950-51 6,348,660 tons) and that of molasses 397 9 million gal Main crops (1951-52) rice (milled) 166 million lb , maize 398 million lb., henequen fibre 18,000 short tons, tobacco 39,000 tons, beans 46 million lb , coffee (1950-51) 547,000 bags of 132 lb. each Livestock (1950-51, '000 head) cattle 4,116, sheep 154, pigs (1947) 1,700

Industry. Mineral production (1951, ores, long tons) metallurgical manganese 143,039; chemical manganese 8,618, copper concentrates 59,218 (metal content 32%), refractory chromite 77,816, nickel 14,406 (metal content 1 35%) Cement production (1951) 422,000 short tons

Finance. Budget (1952-53 est) balanced at $234,069,756 On Dec. 31, 1951, the funded national debt amounted to $217 7 million Currency circulation (Dec 31, 1951) $918 million of which $569 million was in U S dollars Gold reserves (June 30, 1952) $318 million. Monetary unit *peso*, officially pegged at par with the U S dollar

Foreign Trade. (1951) Exports $766 million, imports $640 million Chief exports sugar 82%, molasses 5%, tobacco and products 5%. Main destinations of exports· U S. 54%, U K 14%, Japan 5%. Main sources of imports U S. 77%, U K 3%

Transport and Communications. Railways (1949) 3,017 mi of main line, 7,870 mi of industrial trackage Roads (1949) paved highways 1,720 mi , improved highways 600 mi Motor vehicles (Jan. 1, 1952). cars 86,464, lorries 37,215, buses 4,930 Merchant marine (June 30, 1949) 34 steamers and motor ships (100 tons and over) aggregating 36,135 gross tons (J. W. Mw.)

CURAÇAO: *see* NETHERLANDS OVERSEAS TERRITORIES.

CYCLING. In 1952 the National Cyclists' union decided to run massed-start races on public roads; the first race was held on June 29. This change of policy resulted from the success of the British League of Racing Cyclists which since 1942 had held road races.

Australia, Belgium and Italy each won two of the six Olympic events. R. Mockridge (Australia) won the time trial and the tandem sprint (with L. Cox). Cox was second to E. Sacchi (Italy) in the sprint. The road race was won by A. Noyelle (Belgium) who also led his team to victory (*see* OLYMPIC GAMES).

The world championships were organized by Luxembourg, where the road races were held. The track events were at Paris. The first German to win a title after World War II was H. Mueller, who won the professional road race. L. Ciancola (Italy) won the amateur road race. R. Harris (Great Britain) lost his professional sprint title to O. Plattner (Switzerland). E. Sacchi (Italy) retained the amateur sprint title. S. Patterson (Australia) won the professional pursuit. A. Verschueren (Belgium) won the motor-paced pursuit.

For the fourth consecutive year K. H. Joy (Medway Wheelers) won the British Best All-Rounder competition in 50-mi., 100-mi. and 12-hr. events, with a record average speed of 23 830 m.p.h.; V. A. Gibbons was second; for the fifth time Medway Wheelers won the team competition. Joy set up new records of 4 hr. 6 min. 52 sec. for 100 mi., and 264·87 mi. for 12 hr. The 25-mi. title went to S. Higginson, who had earlier set up a new 25-mi. record in 57 min. 8 sec. G. K. Bentley retained his 50-mi. title with a new record of 1 hr. 57 min. 46 sec., a week later he rode the same distance 63 sec. faster. The 100-mi. title was won by K. R. Whitmarsh in 4 hr. 18 min. 53 sec. G. A. T. Laws won the 12-hr. title with 250·57 mi., and broke the 24-hr. record with 463 mi. 493 yd. In the championship E. Mundy raised this to 467·5 mi. A. Papillon (France) won the Isle of Man road race. The N.C.U. massed-start title was won by G. J. Vines and the B.L.R.C. title by Ian Steel of Glasgow. The 1,470-mi. Tour of Britain under B.L.R.C. rules was won by K. Russell; the B.S.A. team won the team award. In the 1,265-mi. Warsaw-Berlin-Prague race Britain won the team event; I. Steel was the individual winner.

The amateur sprint champion was C. Peacock. A. Bannister and L. Wilson won the tandem title. East Midlands Clarion retained the team pursuit title, the individual pursuit being won by G. K. Bentley.

Eileen Sheridan broke 10 road and 5 track records. Her road records included: London-Bath-London (10 hr. 41 min. 22 sec.); Liverpool-Edinburgh (10 hr. 8 min. 20 sec.), 100-mi. (4 hr. 16 min. 1 sec.); London-York (10 hr. 28 sec.); 233 mi. (12 hr.) and Land's End-London (16 hr. 45 min. 47 sec.). The women's Best All-Rounder contest was won by Christina Brown with an average speed over 25, 50 and 100 mi. of 22·289 m.p.h.

S. F. Cowsill and A. E. Denton established new tandem records for Land's End-John O'Groats and 1,000 mi. Laws set up new figures for London-Bath-London of 9 hr. 50 min. 7 sec. and R. J. Maitland rode from Land's End to London in 13 hr. 6 min. 31 sec.

A. Strom and R. Arnold (Australia) won the Wembley six-day race. Fausto Coppi (Italy) won the Tour of Italy and the Tour of France. The Tour of Switzerland was won by P. Fornari (Italy). W. Van Est (Netherlands) won the Tour of Holland and the Bordeaux-Paris race. The amateur Route de France was won by A. Bernard (France). A British team finished third in the Tour of Mexico; the winner was Angel Romero (Mexico). R. Van Steenbergen (Belgium) was first in the Tour of Argentina.

CYPRUS. British island colony in the eastern Mediterranean. Area: 3,572 sq.mi. Pop.: (1946 census) 450,114; (1951 est.) 492,000. Language: Greek 80·3%, Turkish 17·8%; 10% also speak English. Religion: Greek Orthodox 80·4%, Moslem 17·9%. Chief towns: Nicosia (cap., 36,806); Larnaca (15,364); Limassol (24,462); Famagusta (17,973). Administration: governor; executive council, 4 official and 2 (incl. 1 Moslem) unofficial members. Governor, Sir Andrew Wright.

History. With increasingly disturbed conditions in the middle east in 1952, the strategic value of Cyprus became much more important than its *enosis* movement for union with Greece. On one occasion *enosis* meetings were prohibited by the governor to prevent disorder. The church continued to lead the agitation but without noticeable success. The people were more interested in taking advantage of the presence in the island of a large garrison and many troops on leave from the middle east, whose presence did much to make up for the falling-off in the tourist trade brought about by the same general insecurity. Early in 1952 more than 4,000 Cypriots went as volunteers to work in the canal zone to replace the Egyptian labour force which had deserted, and large quantities of vegetables and other products from the island were sold to the garrison in the zone.

The Dekhelia power station was opened and the new grid system came into operation in September. A large cement factory was in the planning stage, and mineral production showed an increase over the previous year. In September the building was started of a cantonment to house 10,000 servicemen and their families. (K. G. B.)

Education. Primary schools (1951) 705, attendance 63,000. Other schools secondary 52, agricultural 2, trade 1, teachers' training colleges 2.

Finance and Trade. Monetary unit *piastre* (180 *piastres* = £1 sterling). Budget (1952 est.). revenue £5,855,880; expenditure £5,572,782 Foreign trade (1951) imports £19·25 million, exports £15·3 million Main products citrus, seeds, vine products, carob, wool and copper

See Patrick Balfour, *The Orphaned Realm* (London, 1952).

CYRENAICA: *see* LIBYA.

CZECHOSLOVAKIA. People's republic of central Europe, bounded W. and N.W. by Germany, N. and N.E. by Poland, E. by the U.S.S.R., S. by Hungary and Austria. Area: 49,354 sq.mi. Pop. (1950 est.): 12,340,000. Language (1948 est.): Czech 67%, Slovak 25%, German 3·5%, Hungarian 3·5%, Polish 0·7%. Religion (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., 922,284); Brno (273,127); Moravska Ostrava (180,960); Bratislava (172,664); Plzeň (117,814); Olomouc (58,616); Košice (58,089). President of the republic, Klement Gottwald; prime minister, Antonin Zápotocký.

History. The main problem in Czechoslovakia was labour shortage and resistance by the working class to the general economic policy, designed both to subject the Czechoslovak economy to the Soviet economy and to reduce the Czechoslovak standard of living to the Soviet level. Official propaganda unceasingly emphasized the need to work harder and urged the trade unions to remember their duties to the state before all else. The main resistance to government wage policy and speed-up methods came from the Ostrava mining area. Labour shortage was a particularly serious problem. In the first two Five-Year plan periods in the Soviet Union, some at least of the difficulties were overcome by drafting into industry vast numbers of unskilled labourers from the villages. The surplus of rural labour was to some extent an advantage to the Soviet economy at this stage. In Czechoslovakia however there had never been a surplus of rural labour on this scale. The only part of the country where it had existed was the most backward part of Slovakia, whose population was not large. But even in Slovakia the planners had difficulty in 1952. The plan of labour recruitment for heavy industry in Slovakia was achieved in 1951 to the extent of only 66%. In the Czech lands the labour surplus did not exist. The prospects of releasing Czech farmers for industrial labour were not good, for those branches of agriculture which required a relatively large labour force were being encouraged. The only hope in the Czech lands was therefore to increase the output per worker for the same wage, that is, to lower his standard of living. Among the forms of resistance which this had encountered was the phenomenon of "flitting", well-known in the Soviet Union during the 1930s. According to the official organ of the trade unions, of May 22, the rate of change of jobs was one million workers a year.

The climax of the struggle between government and workers came at the plenary session of the Trade Union Central council of July 17-18. Zápotocký, a trade union veteran himself, told his audience that though the visible enemy, the former bosses, had been crushed, the struggle had by no means been won against the hidden enemy, "the remnants of the capitalist bourgeoisie and their servants, capitalist prejudices and outlived views, which still exist in the ranks of our own working people." Trade Unions had neglected socialist competition and other means of extracting higher output from the workers. They had failed to unmask and eliminate malpractices of the managerial staff. The unions ought to maintain closer contact with the ministries, and not let themselves be preoccupied with petty issues. At the same time the premier insisted that the party must not interfere in the management of the unions.

To impress the unions and the working class, two sabotage trials were staged in the Ostrava mining area. A group of engineers, technicians and trade union officials from the mines, and a group of managers and foremen from the Kunčice foundry received severe prison sentences. Two members of the first group were sentenced to death on July 20.

Collectivization of agriculture continued. According to Vilem Široky, the vice-premier, at the end of August 25% of the arable land in Slovakia was collectivized. In June it was stated that there were 7,669 collective farms in the whole republic, comprising 19% of its arable land. With the land held by state farms, this probably brought the "socialist sector" up to nearly 30%. A government resolution of April 19 provided for stricter discipline on state farms, and stressed the part to be played by the Communist party's political departments attached to the farms. At the beginning of the year there was a serious meat shortage. A government statement of Feb. 19 attributed this partly to insufficient attention to livestock by collective farms and partly to defects in the meat processing industry. In April a trial was held of a group of *kulaks*, one of whom had been before 1938 a member of parliament for the Agrarian party. They were accused of sabotage of government agricultural policy and of conspiring with the International Peasant union in exile.

In August the minister of security, Karel Bacilek, announced the creation of an auxiliary security police force. Its tasks would be to safeguard state property and to unmask saboteurs. There had been too little vigilance in the factories against saboteurs. Another step was taken towards the stalinization of justice when Stephen Rais, the minister of justice, announced that a bill would be introduced to remodel the institution of procurator, to make it, as in the Soviet Union, independent of the courts.

On May 30 Jan Ševčik, leader of the rump of the Slovak Rebirth party and a vice-premier in the central government, was purged from government and party, on the ground of "continued violations of the policy of the National front". The same fate overtook the secretary of the same party, Jan Valek.

On Feb. 27 Václav Kopecký, minister of information, in a speech to an ideological conference of scientific workers, held in Brno, attacked the memory of Thomas G. Masaryk and Edvard Beneš. Both men, he declared, had been sworn enemies of the Soviet Union. "Under the spell of the cosmopolitanism of Masaryk and Beneš, the Czechoslovak

bourgeoisie had despised its own tradition and culture." However, "the most important sections of the nation had remained loyal to their people's roots, sentiments, manners, national tradition and culture, patriotism and their love for the great fraternal Russian nation, love for the Soviet Union and comrade Stalin "

Quite unexpectedly, on Nov. 20, a trial of 14 senior Communist leaders charged with spying for the west, industrial sabotage and anti-Soviet propaganda began at Prague. All the accused pleaded guilty and some even asked to be hanged On Nov 27, 11 of them were sentenced to death and 3 to life imprisonment. Among the former (all hanged on Dec. 3) two were described in the indictment as being of Czech origin (Josef Frank and Karel Švab), and one as Slovak (Vladimir Clementis, former minister of foreign affairs, *see* OBITUARIES). All the other persons convicted were officially described as Jews. The more prominent among those Jews executed were: Rudolf Salzmann (Slanský; *see* OBITUARIES), former secretary general of the Czechoslovak Communist party, General Bedřich Reičin (Fritz Reizinger), former deputy minister of national defence, Bedřich Geminder, former head of the international department of the central committee of the party, Ludwig Frejka (Freud), former head of the economic department of the president's chancery; and André Simone (Otto Katz), a former editorial writer of *Rude Pravo*. (*See* also COMMUNIST MOVEMENT, EASTERN EUROPEAN ECONOMIC PLANNING.)

(H. S.-W.)

Education. Schools (1951-52) elementary 12,433, pupils over 1,000,000; higher grade 2,280, pupils 473,000, secondary 292, pupils 75,000; technical 1,243, pupils 96,000, institutions of higher education 17, students 54,900.

Agriculture. Main crops ('000 metric tons, 1934-38 average, 1950 in brackets) wheat 1,513 (1,540), barley 1,109 (1,062), oats 1,212 (818), rye 1,568 (1,140), maize 173 (235), potatoes 9,635 (7,500) Sugar, raw value 597 (880) Livestock ('000 head, 1938; latest estimates in brackets) cattle 4,376 (1951, 4,100); pigs 3,538 (1951, 3,700), sheep 533 (1950, 480); horses 662 (1950, 640) Food production ('000 metric tons, 1934-37 average; 1949 in brackets) milk 4,346 (2,618), butter 66 6 (30), factory cheese 9·9 (13 9), meat 426 (290) of which beef 207 (104)

Industry. Persons employed in manufacturing industries (Nov 1949) 1,477,700. Fuel and power (1937, 1950 in brackets) coal (million metric tons) 16 9 (18 5), lignite 18 0 (27 5), crude oil ('000 tons) 18 (275), electricity (million kwh.) 7,050 (9,120) Raw materials ('000 metric tons, 1937, 1950 in brackets) pig iron 1,675 (1,800), steel ingots and castings 2,315 (2,900) Manufactured goods ('000 metric tons, 1949) cement 1,740; sheet glass 135 5, cotton yarn 75 8, wool yarn 35 4, rayon filament yarn 5 5, rayon staple fibre 20 5 Production of motor vehicles (1949). 29,500

Finance. Budget (million Kč, 1951 est., 1952 est. in brackets) revenue 166,520 (324,282); expenditure 166,100 (323,529) including 111,200 (217,499) invested in the national economy Monetary unit *koruna*, with official exchange rates of Kč 12 50 to the rouble, Kč. 140 to the pound sterling and Kč. 50 to the U.S. dollar

Foreign Trade. (Million U.S. dollars, f.o.b., 1938; 1950 in brackets) Imports 262 (653), exports 358 (800) Main sources of imports (1950) U.S.S.R. 29 4%, Poland, Rumania, Hungary and Bulgaria 26 0% Main destinations of exports U.S.S.R. 28 0%, four other eastern European countries 21 1%

Transport and Communications. Roads (1946) 43,969 mi. Licensed motor vehicles (Dec. 1950) cars 165,000, commercial 65,000. Railways (1947) 8,161 mi. Air transport (1949). flights 16,833; mi. flown 4,884,000. Telephones (1950) 380,000 Wireless licences (1949) 2,280,000.

DAHOMEY: *see* FRENCH WEST AFRICA.

DAIRY FARMING. After a period of continuous expansion over several years the number of dairy cattle in the United Kingdom had decreased in 1951, but in 1952 this decline almost came to a halt. The decline in cows and heifers in milk and dry cows between June 1951 and June 1952 was only 61,000 head (1·7%) while heifers in calf showed an increase over the same period of 46,000 head (5·3%). The relevant figures are given in the table.

The economic conditions for dairy farming improved in 1952 as a result of increases in milk prices and the assurance of the government at the February price review to prevent any further increases in the prices of feedingstuffs until March 1953. The price to producers for milk in 1951-52 was about 37 0*d.* per gal. and the price for 1952-53 was about 2 2*d.* per gal. higher than at Feb. 1951.

COWS AND HEIFERS IN THE UNITED KINGDOM
(thousand head)

	Cows and heifers in milk	Cows in calf but not in milk	Heifers	Total
1939	2,841	480	564	3,885
1950	3,139	628	862	4,629
1951	3,043	610	823	4,476
1952	3,015	577	869	4,461

SOURCE *Monthly Digest of Statistics* (H.M.S.O., London, Sept 1952)

During the spring and summer the entire cattle industry in the United Kingdom was harassed by foot and mouth disease and the resulting restriction of cattle movements, purchases and sales Nevertheless 1,811 million gal. of milk were sold by farmers between Sept. 1951 and Aug 1952, which was 7½% more than in the corresponding period of the previous year.

Expansion occurred in the number of herds milked by machine and in England and Wales it was estimated that over half the herds were machine-milked in 1952. Two of the most significant developments in relation to the dairy industry during the year occurred in machine milking and artificial insemination. A new milking machine known as the "cow-to-churn" system, which was put on the market for less than £100, offered immense possibilities for mechanizing milking in small herds.

The results of experiments undertaken at Cambridge university and published during 1952 suggested that the keeping period of semen for artificial insemination could be considerably extended by the deep-freeze method. It was expected that the adoption of this storage technique would give farmers a greater range of types and breeds of bulls to choose from and might also open up new possibilities in progeny testing.

(O. T. W. P.)

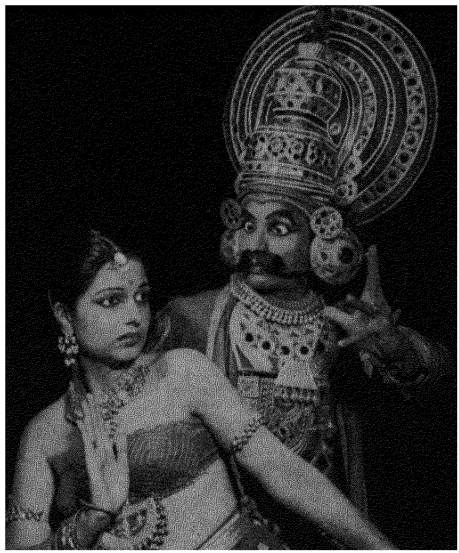
United States. Total U.S. milk production for 1952 was estimated at 114,800 million lb., only 99% as much as in 1951. Fresh milk used as fluid milk and cream was in demand and more than half of the total production was so used. This amounted to about 400 lb. per person, against 395 lb. in 1951. Of the 110,600 million lb. of milk utilized (other than as feed for calves), 27,738 million lb. were used for butter, as against 29,270 million lb. in 1951. This gave an estimated 1952 production of 1,380 million lb. of farm and factory butter, 95% as much as in 1951. Civilian consumption *per capita* in the U.S. was estimated at 8·7 lb. (9 6 lb. in 1951), as against 7 7 lb. of margarine. Condensed and evaporated milk required 5·9% of the 1952 production, or 6,505 million lb., the smallest amount in recent years.

Exports of dairy products in 1952 dropped to the lowest level since 1940. Imports were up to the highest level since 1937. Embargo on imports of butter, butter oil and non-fat dry milk was discontinued and import quotas were in effect on American cheese, several foreign cheeses and casein.

(J. K. R.)

DANCE. There were two main features in the dance in 1952; a clearly expressed doubt as to whether its popularity was not waning and a high quality of performance with little of creative importance.

Early in the year a number of writers, among them Tyrone Guthrie and Alan Dent, expressed the opinion that the popularity of ballet had reached its peak and that the craze would be succeeded by something else. There was, however, no real evidence for this assertion; on the contrary. During



Shirin Vajifdar and Krishna Kutty who performed a series of Indian dances at the Comedy theatre, London, in July.

a difficult year in the theatre the best in ballet played to its usual packed houses, more books than ever were published on the subject and, most important of all, a record number of children (35,000), went in for the children's examinations of the Royal Academy of Dancing. This last fact needs stressing because it assured for future years a well-informed public. Moreover, the manner in which the popular press took up the pros and cons of ballet's popularity and the extent of the correspondence left little doubt that it was as popular as ever.

The general level of performance was higher than it had ever been but, as in the previous few years, in fact since the choreographic début of Roland Petit immediately after the war, the whole focus was on the dancing rather than on décor, music, drama or choreography.

The Sadler's Wells ballet at Covent Garden was, during the absence of Margot Fonteyn and Moira Shearer, able to produce no less than four Auroras in the classically testing *Sleeping Beauty*—Beryl Grey, Violetta Elvin, Nadia Nerina and Rosemary Lindsay—as well as changes of cast in the other roles. The performances were of a very high quality and showed throughout that there was now a real school behind England's national dance.

The outstanding creation was Frederick Ashton's original choreography to Délibes' *Sylvia*. It was a *tour de force* to have created a full evening's ballet round music that was both familiar and dated and yet not to have presented a lifeless pastiche. In his grand *pas de deux* Ashton added to the short anthology of classics that contains the *Swan Lake*, *Sleeping Beauty* and *Casse Noisette* adagios, and the dance arranged to the hackneyed pizzicato showed real inspiration. The costumes and décors by the Ironsides were lavish in the grand manner, as they should be, but, a common fault in English décor, they did not always add up to a harmonious whole, and costumes and scenery were sometimes at variance. Margot Fonteyn had a role worthy of her technical and artistic prowess, and, though owing to ill-health she did not dance much, 1952 was her *annus mirabilis*.

Andrée Howard produced a new ballet, *Mirror for Witches* (Covent Garden, March 4), with music by Denis Apivor and décor by Norman Adams. The story, based on a novel by Esther Forbes, dealt with witchcraft in New England during the time of the notorious Cotton Mather. It had moments of great strength and was always handled with taste. Painter, composer and choreographer worked admirably together. Where it failed to reach the dramatic heights that the subject demanded was in the use of an unnecessarily restricted repertoire of movement. In the romantic ballet witchcraft was a convention, today we expect a more subtle approach. It has become more difficult to make our flesh creep.

The other Covent Garden creation was John Cranko's *Bonne Bouche*, his début at London's opera house, with costumes and décor by Osbert Lancaster and music by Arthur Oldham. This was quite definitely an Osbert Lancaster ballet, almost a solo effort, and the aspidistra-cum-South Kensington-cum-Albert Memorial joke was very good fun indeed, for a short time and at a first viewing. The burlesque, however, was conveyed with good solid craftsmanship by Cranko; the story was always clear in action and many of the movements were amusing in themselves. It seemed a mistake, though, to have put on such a costly joke on the vast stage of the Royal Opera house. Its true home was in a Cochran revue and Cochran would have compressed it into ten hilarious minutes. The company, led by Alexander Grant, adapted itself brilliantly to the clowning involved and never forced the laughter.

The Sadler's Wells Theatre ballet returned from a very successful coast-to-coast tour of the United States and Canada. This left little time for important additions to the repertoire. At the Edinburgh festival it presented *Reflection*, a new ballet by John Cranko with music by John Gardner and scenery by Keith New. This was an interesting work but with a tendency to be over-literary.

The Festival ballet under the artistic direction of Anton Dolin gave summer and Christmas seasons at London's Festival hall as well as going on a long autumn tour of Italy. It had in its three years established itself as the " Promenade concert " of the ballet-lover, with a faithful and enthusiastic public, discriminating rather where dancing is concerned than for ballet as a whole. Unfortunately Alicia Markova, the ballerina around whom the company was originally founded, had left to dance as guest artist in New York's Ballet theatre and other companies. It maintained however a very high level of performance, especially among its male dancers; John Gilpin, Vassili Trunoff and Oleg Briansky. It also offered an opportunity of watching such visiting ballerinas as Tamara Toumanova and Yvette Chauviré, whose Giselle set a very high standard of interpretation. Its modern repertoire was limited but it had kept alive in the repertoire such Diaghilev classics as *Scheherazade*, *Petrouchka* and the *Polovtsian* dances from *Prince Igor* splendidly revived by the maître de ballet, Nicolas Beriosoff.

The New York City ballet under the artistic direction of Georges Balanchine made a long European tour, playing for several weeks in Paris and for a record season, for a visiting company, at the Royal Opera house, Covent Garden. Its most sensational creation, Jerome Robbins' *The Cage*, was a success in Paris but failed to rouse much interest in London. The works that received universal acclaim were those by Balanchine himself, the so-called " abstract " ballets, visual evocations of music; *Concerto Barocco* (Bach), *La Valse* (Ravel), *Bourrée Fantasque* (Chabrier), *Symphony in C* (Bizet), *Serenade* (Tchaikovsky), and *Caracole* (Mozart). Whilst it was felt that there were too many of these works in the repertoire for perfect balance and that the lack of scenery detracted from them, it was clear that Balanchine was a master of neo-classicism, sensitively musical and original with no striving

after effect His narrative ballets, the familiar *Prodigal Son* with Georges Rouault's masterly décors and Serghey Prokofiev's score, and *Orpheus* (Stravinsky) showed that he could handle this type of ballet with equal certainty. The company, led by Maria Tallchief, Melissa Hayden, Tanaquil Leclerc, Patricia Wylde, Janet Reed and Diana Adams, was the perfect instrument for Balanchine. The lack of male interest in these ballets as compared with other present-day companies was striking and took one back a half-century.

In Paris, as in London, there was little that was really creative in ballet-making though there was much that was good in actual dancing The Danish maître de ballet, Harald Lander, came as guest choreographer and put on some of his works with great success The *clou* of the Paris season was Jean-Philippe Rameau's opera-ballet *Les Indes Galantes*, a lavish spectacle of the Châtelet type, with ballets by Serge Lifar, Lander and Albert Aveline.

Among the year's promotions that excellent dancer Madeleine Lafon was nominated *étoile* and, to quote the director of the Theatres lyriques, Maurice Lehmann, " those two great hopes of the French dance ", Josette Clavier and Claude Bessy were promoted *premières danseuses*.

Outside the Opéra, apart from a new company promoted by Janine Charrat, there was complete stagnation. Films and music hall had claimed Roland Petit, Renée Jeanmaire, Colette Marchand and Jean Babilée. The company at the Opéra Comique was disbanded for reasons of economy. Yvette Chauviré headed a new company that failed to survive a Paris season. This wastage of an exceptional generation of French dancers was a severe blow to the art of ballet.

The year saw the death of Agrippina Vaganova, Russia's great teacher of the classical dance, of Catherine Littlefield, a pioneer of American ballet and, with her Philadelphia ballet, the first transatlantic visitor to Europe, and of two promising young dancers in accidents; Xavier Andrean, *premièr danseur* of the Opéra, and Harriet Toby of the Marquis de Cuevas ballet.

British television continued to experiment with ballet. Apart from the successful educational series " Ballet for Beginners ", Christian Simpson attempted to translate two classics, *Sleeping Beauty* and *The Swan Lake*, into terms of television. These translation were only partially successful; the drama was stressed but often at the expense of musical and choreographic line. The small screen and small angle of the camera makes a long and complex ballet somewhat wearisome to the eye.

In the films, Peter Brinson used the new stereoscopic film to show us Beryl Grey and John Field in the Black Swan sequence from *The Swan Lake*. This was effective and suggested great possibilities for the future.

Among some 30 volumes on ballet, mostly designed for the " fan ", the most important were Deirdre Priddin's *The Art of the Dance in French Literature* (London) and Cyril Beaumont's study, *The Ballet called Swan Lake* (London).

Dancers from Bali gave a short season in London, and their dance and their gamelan orchestra were admired. Earlier, a state company from Yugoslavia had presented a programme of national dances in traditional costumes There were fewer " exotics " than in previous years. Katherine Dunham presented a familiar repertoire in Paris and London, a new Spanish company, *Caravane Espagnole*, gave what has now become a traditional programme of cabaret tit-bits. Rosario and Antonio repeated their now familiar virtuoso act, perhaps for the last time because they announced a separation.

The " exotics ", like the classical choreographers, require fresh inspiration. They have the added difficulty of translating their type of dance into terms of theatre; they have no classicism upon which to rely. (A. L. Hl.)

United States. Lew Christensen replaced Lincoln Kirstein as administrative director of the New York City ballet, Kirstein becoming general manager of the entire City Centre of Music and Drama. The company toured Europe. Ballet theatre toured the United States and at the Metropolitan Opera house, New York, produced *The Harvest According*, with choreography by Agnes de Mille, music by Thomson, and *Triptych*, choreography by Edward Caton, music by Brahms. *Graduation Ball* was revived.

The Sadler's Wells Theatre ballet made its New York début, presenting ballets choreographed by Frederick Ashton, Ninette de Valois, John Cranko, Celia Franca and Andrée Howard. The Ballet Russe de Monte Carlo toured the United States and South America with Nina Novak, Leon Danielian, Gertrude Tyven and Yvonne Chouteau as stars. The Ballet Russe de Monte Carlo Concert company was organized to tour smaller communities.

The Mia Slavenska-Frederic Franklin ballet was organized, and toured the United States and Canada with Alexandra Danilova as guest artist.

The Jacob's Pillow Dance Festival company, directed by Ted Shawn, toured extensively. Choreographers' Workshop presented ballets choreographed by Robert Joffrey, Bill Hooks and Duncan Noble.

The fifth American Dance festival was held at New London, Connecticut. New works included *The Queen's Epicedium*, with music by Henry Purcell, and *The Visitation*, music by Arnold Schonberg, both choreographed by José Limòn; *Snow Queen*, choreographed by Sophie Maslow, with music by Serghey Prokofiev; *Family Portrait*, choreographed by Jane Dudley to music by Meyer Kupferman; an abstract work by Doris Humphrey to music by Mozart; and solos by Ronne Aul.

The Dancers of Bali made their American début. Choreographers' Workshop and Theatre Dance, Inc, produced experimental works and the Dance Film society presented *Fifty Years of the Dance on Film*.

Robert Alton received the Antoinette Perry award for Broadway choreography. The 1952 grant of the dance section of the University of International Education (Rockefeller and Ford foundations) was awarded to Haruhi Yokoyama of Japan.

For the first time, a dance script (Hanya Holm's *Kiss Me, Kate*, in Laban notation) was accepted by the register of copyrights of the Library of Congress. (Ln. M.)

Ballroom Dancing. The tango continued its steady rise in popularity. Rumba was represented in its syncopated version known as mambo. The popular rumba tunes of 1952 were all of mambo tempo and style. Thus, rumba dancers continued to adapt syncopated jitterbug or swing step patterns in order to fit the mambo music. Fox trot and waltz showed little change. There were no outstanding new samba musical compositions, but the dance held its popularity with the public. This was partly because of the infectious gaiety of the music and partly because it was the easiest of all the Latin dances to learn. Square dancing maintained and even increased its established popularity during the year.

(A. Mu.)

DEATH STATISTICS: *see* VITAL STATISTICS.

DECORATIONS AND MEDALS. At Queen Elizabeth's first investiture on Feb. 27, she presented the Victoria Cross to Private William Speakman for service in Korea. The awards were announced of the George Cross to G. A. Taylor, an Australian volcanist, for bravery when Mount Lamington, Papua, erupted in Jan. 1951, and to 15-yr.-old John Bamford, of Newthorpe, Nottinghamshire, who rescued two of his brothers in a fire at their home in Oct. 1952.

Korean War. New decorations were created by Belgium, Luxembourg, the Netherlands, France and the Philippines. The Belgian award, *Médaille Commémorative des Théâtres d'Opérations Extérieurs*, was made of bronze with the arms of Belgium on the obverse, and the United Nations' emblem surrounded by a wreath of laurel leaves on the reverse. A bronze bar " Corée-Korea " is worn on the ribbon. In Luxembourg a campaign ribbon was given to volunteers for service in Korea. The French award was created on Jan. 8, 1952, but the design of the medal had not then been approved. The Philippines *Korean Campaign Medal* had on the obverse the Temple of Heaven, Seoul, and on reverse the U.N. and Philippine flags, the seal of Korea and the mountains of Korea.

Many British and Commonwealth servicemen in Korea received United States decorations—up to November, South Africans serving in Korea had received more than 350 awards. The Greek, French and Colombian battalions were decorated with the United States *Presidential Unit Citation*. The grant of the British *Korea Medal* was extended to war correspondents, non-combatants and to the merchant navy.

The South Korean government instituted the *Police Meritorious Service Medal*. On similar lines to the U.S. award, South Korea created the *Presidential Unit Citation*, in two parts, one to divisions and the other to brigades. An *Order of Military Merit* and a *General Service Medal* were created.

Egypt. The regency council awarded a *Liberation Medal* to all officers and men serving in the army at the time of the military *coup d'état* on July 23. The ribbon is red, white and black—red for revolution, white for the purge and black for corruption.

France. Two identical medals for World War II were created, with a difference in the design of the ribbons. They were the *Medal for Interned Resistants* and the *Medal for Deported Resistants*.

Hungary. The *Mátyás Rákosi Medal for Scholastic Merit* was created.

South Africa. In April the minister of defence announced the creation of nine South African decorations, which were intended to supplement the British decorations previously awarded. The highest award was the *Cape of Good Hope Decoration*—a gold five-pointed star, representing the outline of the castle of Good Hope, surrounded by a moat. The obverse depicts the arrival of Jan van Riebeek in Table bay on April 6, 1652. The decoration was hung from a sea-green ribbon worn around the neck. The *Van Riebeek Decoration* was for distinguished service in the field. The *Cross of Honour* was awarded for gallantry in action against an enemy. For greatest heroism in saving life the *Louw Wepener Decoration* was created. The *Star of South Africa* was instituted for meritorious service in peace or in war. For long service there were the *John Chard Decoration* and the *John Chard Medal*. The other two awards were the *Southern Cross Medal* for outstanding devotion to duty and the *Union Medal* for 18 years' service in the South African Permanent force.

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DE GASPERI, ALCIDE, Italian statesman (b. Pieve Tesino, Trentino, April 3, 1881), studied at the University of Vienna, was elected to the Austrian parliament as an Italian minority representative in 1911, and after the union of his native province with Italy was elected to the Italian parliament in 1921. He opposed Mussolini's dictatorship and in 1926 was sentenced to imprisonment for anti-Fascist activities. When released in 1931 he became an official of the Vatican library. During World War II De Gasperi took part in the resistance movement in Rome and in June 1944 he joined the first Ivanoe Bonomi cabinet as minister without portfolio. Minister of foreign affairs in the second Bonomi (Dec. 1944) and Ferruccio Parri (June 1945) cabinets, he was elected leader of the reconstructed Christian Democratic party and on Dec. 9, 1945, became prime minister. In July 1951 he again reconstructed his cabinet; it was the eighth and similar to its predecessor except that De Gasperi himself succeeded Count Carlo Sforza (*see* OBITUARIES) at the Foreign Office. On Jan. 25, 1952, he went to Paris for talks on the European army, and on Feb. 22 was in Lisbon for defence discussions. On April 15 he spoke at Vinci at the opening of the national celebrations on the quincentenary of the birth of Leonardo. On May 27, in Paris, he signed the European Defence Community treaty. On Aug. 31 he spoke at a rally at Bredazza, Bolsena, to celebrate his 40 years of active political life. He arrived in Bonn on Sept. 21 on his first official visit to the German Federal Republic. On Sept. 24, at Aachen, he was awarded the Charlemagne prize for outstanding service to the cause of European unity. In a speech in Rome, on Oct. 21, he charged that Stalin's pledge of Soviet support to Communist " shock troops " in foreign lands was an open threat to aid anti-democratic revolution in Italy.

DEMOCRATIC PARTY, U.S.: *see* POLITICAL PARTIES, U.S.

DENMARK. Constitutional monarchy of north central Europe composed of the peninsula of Jutland and 100 inhabited islands, the largest being Zealand (Sjalland) and Fyn (Funen). Area, excluding Faeroe Islands (*q.v.*) 16,576 sq mi. Pop. (1950 census): 4,281,275. Language: Danish. Religion: Lutheran, with small Roman Catholic and Jewish minorities. Chief towns (pop., 1950 census): Copenhagen (cap., including Frederiksberg and Gentofte, 974,901); Århus (116,167); Odense (100,940); Ålborg (79,806); Esbjerg (48,205). Ruler, King Frederik IX; prime minister, Erik Eriksen.

History. In accordance with the military plans of N.A.T.O. Danish rearmament went on during 1952, including preparations for the extension of active military service from 12 to 18 months as approved by the Rigsdag on Dec. 12, 1951. In the autumn, however, it was evident that the construction of barracks, procurement of equipment and training of officers had not kept pace with plans, and the coming into force of extended military service, originally planned for May 1, 1953, would be delayed.

In July the United States protested to Denmark against the proposed delivery to the Soviet Union of the new tanker " Apsheron " (13,200 tons), which had been built at a shipyard in Copenhagen under a contract placed in 1948. It was pointed out that the delivery of the tanker to the Soviet Union might compel the U.S. government to cut off all economic and military aid to Denmark. On July 7 the Danish government decided, with the approval of the leaders of the principal parties, to reject the U.S. protest because delivery of " Apsheron " constituted the fulfilment of a normal business contract under the Danish-Soviet trade agreement. The tanker was handed over to the Soviet minister in Copenhagen later the same day and left on July 8. Using his authorization to grant exemptions from the Battle act, President Truman on July 25 directed that U.S. aid to Denmark should be continued stressing that its termination would weaken N.A.T.O. and be detrimental to the United States.

On Oct. 1, the Soviet government handed to the Danish

minister in Moscow a note protesting against the possible stationing on Danish soil in peacetime of foreign armed forces belonging to members of N.A.T.O. Ole Bjørn Kraft, foreign minister, stated on Oct. 2 that the only question the government had considered was the stationing in Denmark of air forces from other N.A.T.O. countries; that, however, no decision had yet been taken; and that any such decision would be reached only in consultation with the Rigsdag. On Oct. 30 a note was sent to Moscow declaring the Danish government's wish to maintain friendly relations with the Soviet Union and emphasizing that Danish defence preparations did not threaten the Soviet Union or any other country.

Renewing earlier protests to the Soviet Union against the unilateral extension of its territorial waters in the Baltic to 12 nautical miles, the Danish government on June 8 again proposed that the dispute should be submitted to the International Court of Justice, but the Soviet Union rejected the proposal. Protests were handed to Bulgaria and Rumania on July 2 against the unilateral extension of their territorial waters in the Black sea to a distance of 12 nautical miles.

As a contribution to closer Scandinavian co-operation, passport restrictions were removed for Swedish, Finnish, Norwegian and Icelandic citizens visiting Denmark as from July 12, these countries giving the same facilities to Danish citizens. A set-back to Scandinavian co-operation occurred, however, on Feb. 6, when the projected scheme for large-scale transmission of electric power from Norway to Denmark via Sweden was abandoned, partly because of the impossibility of obtaining E.R.P. allocations to finance the scheme and partly because of a subsequent disagreement about the necessary guarantees concerning minimum consumption and prices.

Denmark's economic position improved during 1952. Import prices showed some decline, the index being 420 in Oct. 1952 as against 471 in Oct. 1951 (1935=100). Export prices also declined, but to a lesser degree (333 in Oct. 1952 as against 342 in Oct. 1951). This, in connection with reduced imports, due to higher taxes, a raised bank rate, restrictions on investments and a slowly growing unemployment (from 6·8% in Oct. 1951 to 9·2% in Oct. 1952), caused an improvement of the balance of payments. Against a deficit of Kr. 231 million in Denmark's foreign exchange balance by Oct. 1951, the Danish National bank by Oct. 1952 accumulated Kr. 233 million. The liberalization of Danish trade with the O.E.E.C. countries was brought up to 75% in November. Coffee and sugar rationing was abolished, leaving coke as the only commodity still rationed.



King Frederik and Queen Ingrid leaving St. Katherine's church, on May 11, after its re-opening as the Danish Church in London.

The death penalty, abolished in 1930, was reintroduced in May for grave cases of high treason committed during time of war or enemy occupation.

The 100% eradication of bovine tuberculosis was reached on June 1, Denmark thus becoming the first country in the world to guarantee complete freedom from T.B. infection of all its milk and dairy products.

The Danish research vessel " Galathea " returned to Copenhagen on June 29 after a deep-sea voyage of exploration round the world lasting nearly two years. The expedition's researches in the Philippine deep had shown that primitive forms of life were able to resist pressures at 35,000 ft. below sea-level, nearly 10,000 ft. deeper than previously supposed. (H. LN.)

Education. Schools (1950-51): elementary, middle and secondary 4,107, pupils 532,184; technical 371, pupils 60,224; commercial 208, pupils 32,680; agricultural 27, pupils 2,721. Teachers' training colleges 21, students 3,603. Universities 2, professors and lecturers 275, students 5,683; other institutions of higher education 8, students 5,465.

Agriculture. Main crops ('000 metric tons, 1951, 1952 in brackets): wheat 275 (250); barley 1,730; oats 780; rye 269 (290); potatoes 1,952; sugar, raw value 350. Livestock ('000 head, July 1952): cattle 3,057, including 1,473 dairy cows, sheep 51, pigs 3,632, horses 423, goats (July 1949) 3,820, poultry 23,411. Dairy products ('000 metric tons, 1950; 1951 in brackets): milk 5,412 (5,232), butter 178·8 (168), cheese 61·2 (74·4). Meat production ('000 metric tons, 1951) total 603, of which beef and veal 207, pork 395. Index of livestock production (on basis of 1949=100, 1951): 123. Fisheries (1951): total catch 292,450 metric tons.

Industry. Industrial establishments (June 1948): 102,303; persons employed 684,939. Fuel and power (1951; 1952, six months, in brackets): coal, distributed ('000 metric tons) 10,762 (7,509); lignite ('000 metric tons) 1,536 (761); manufactured gas (million cu.m. 386·4 (195·4); electricity (million kwh. 2,137·2 (1,132·3). Cement production ('000 metric tons, 1951; 1952, six months, in brackets): 987·6 (540·8). New dwelling units completed (number, 1951; 1952, six months, in brackets): 21,538 (8,100). Index of total industrial production (1948=100; 1951; 1952, six months, in brackets): 120 (116).

Finance and Banking (million kroner). Budget :(1951-52 est.) revenue 2,569, expenditure 2,573; (1952-53 est.) revenue 2,511, expenditure 2,507. Real Public debt (1951): 4,970·4. Currency circulation (Aug. 1951; Aug. 1952 in brackets) 1,561 (1,643). Bank deposits (Aug. 1951; Aug. 1952 in brackets) 5,765 (6,135). Gold and foreign exchange (million U.S. dollars, July 1951; July 1952 in brackets): 93·0 (110·0). Monetary unit: *krone*, with an exchange rate of Kr. 19·34 to the pound sterling and Kr. 6·92 to the U.S. dollar.

Foreign Trade. (Million kroner, 1951; 1952, six months, in brackets.) Imports 6,976 (3,425), exports 5,784 (2,856). Main sources of imports (1951): U.K. 26%; Germany 14%; U.S. 11%; Sweden 8%; France 6%. Main destinations of exports: U.K. 38%; Germany 15%; Sweden 5%; Norway 4%. Main imports: coal, petroleum and products 18%; textiles 15%; machinery and vehicles 11%; wood, paper and manufactures 9%. Main exports: dairy products 27%; meat and products 24%; machinery 8%; live meat animals 7%.

Transport and Communications. Roads (1952): 53,405 km. Licensed motor vehicles (Dec. 1951): cars 189,288, of which commercial 73,407. Railways (1951): 4,770 km.; passenger-km. 3,301 million; goods, ton-km. 1,310 million. Shipping (merchant vessels of 100 gross tons and over, Dec. 1951): 767; total tonnage 1,389,000. Air transport (1951): passenger-km. 596 million; cargo, ton-km. 76 million. Telephones (1951) 723,443. Wireless licences (1951): 1,162,154.

See *Denmark 1952*, published by the Danish Ministry for Foreign Affairs (Copenhagen, 1952); Peter Manniche, *Living Democracy in Denmark* (Copenhagen, 1952).

DENTISTRY. The most important event in dentistry of 1952 was the 11th International Dental congress in London. This, the first full international congress to be held since the

end of World War II, was attended by some 3,000 dentists from 70 countries.

In his opening address, the president of the congress, E. Wilfred Fish, said that the ultimate purpose of all their endeavours was to establish dental health by the prevention of disease. Later, he said " Dentistry will have to find less laborious, less expensive, less time-consuming and more effective means of preventing and curing dental disease than those already at our disposal " (*British Dent. J.*, vol. 93, no. 3, London, 1952.) This was the main theme of the congress during which every aspect of dental science and practice was discussed in 20 reports on the progress made during the preceding five years in various branches of dentistry. These were presented by experts from ten different countries.

In addition, there were over 200 demonstrations of the latest advances in practice. An important innovation was that some of these were televised and projected on to a large screen in the telekinema, thus making it possible for the details of the operations to be seen by a much larger audience than would otherwise have been possible.

During the congress, there was a public exhibition illustrating the methods adopted in different countries to promote dental health through propaganda and preventive treatment. This aroused considerable interest, much of which centred round the rapid increase in the number of communities in the United States which had adopted plans for adding fluorides to their water supplies with a view to reducing the incidence of dental caries. During the year, an official British mission visited the United States to study these schemes and field experiments on similar lines were inaugurated in Canada and also at Kilmarnock in Scotland.

Important papers dealing with the causes of dental caries, published during the year, included R. G. Kesel and D. A. Wallace, " The Etiology of Caries ", *International Dent. J.*, vol. 2, no. 4 (London, 1952), and J. L. Hardwick and E. B. Manley, " Caries of the Enamel—II. Acidogenic Caries ", *British Dent. J.*, vol. 92, no. 9 (London, 1952).

On the technical side, considerable advances were made towards perfecting the new plastic resin filling materials. Articles dealing with these were published by J. W. McLean and I. R. H. Kramer, " A Clinical and Pathological Evaluation of a Sulphinic Acid Activated Resin for Use in Restorative Dentistry ", *British Dent. J.*, vol. 93, no. 10 (London, 1952), and R. Cutler, " Progress in Development of Conservative Quick-setting Acrylics ", *British Dent. J.*, vol. 92, no. 3 (London, 1952). (B J. W.)

DERMATOLOGY. Psoriasis is a disease that afflicts thousands of persons and interests thousands more because of its tendency to be familial. In 1952 recent study of the genetics of psoriasis, based on information obtained from 464 consecutive patients with the disease, showed: (1) a predominance of male patients essentially the same as the predominance of males in these families; (2) no relation between the sex of the patient and that of his or her affected parent or sibling; and (3) no relation between birth order and the occurrence of psoriasis. The incidence of psoriasis among patients with non-psoriatic parents was 2 45%, with one psoriatic parent 9%. There were no patients in the group with two psoriatic parents. The incidence of psoriasis among the patients' parents was 5·9%. The data indicated the presence of a hereditary component in the causation of psoriasis, a minimum of two genes.

Estrogenic substances had been used with success for the treatment of such widely different diseases as hereditary haemorrhagic telangiectasia, diseases affecting the sebaceous glands (especially senile sebaceous adenoma) and some fungal infections.

Persons with hereditary haemorrhagic telangiectasia, because of the presence of tiny dilated capillaries in the skin and mucous membranes, suffer from repeated nosebleeding and occasionally from rectal bleeding, haemorrhagic spots on the lips, tongue, etc. In one patient, because there was an apparent relationship between the recurrent haemorrhages and the menstrual cycle, treatment with estrogenic substances was instituted and effected control of the bleeding. Similar treatment then was used successfully in four other patients, two of them men who required concomitant treatment with male sex hormones to combat feminizing side effects of the estrogens. All of the patients were in their 40s or 50s. In all of them there was an apparent restoration of normal texture to the nasal mucous membrane and a tendency for the dilated capillaries to disappear during treatment.

The use of estrogenic substances to ameliorate cancer of the prostate in two men led incidentally to the development of chemically related compounds for the treatment of blastomycosis, a higher type fungal infection which sometimes resists treatment stubbornly. The first two patients both had inoperable cancer of the prostate and chronic blastomycosis. Treatment with diethylstilbestrol was instituted for the carcinoma and it was noted later that in both cases the blastomycosis without " specific " treatment apparently had been eradicated. Two other patients with the systemic type of blastomycosis (without carcinoma) then were treated with stilbamidine, which is not a hormone but which is related chemically to diethylstilbestrol These two patients also responded dramatically and apparently were cured. All four patients previously had failed to respond to orthodox treatment. The mode of action of the drug was not known, although *in vitro* studies indicated the effects to be chemotherapeutic and not hormonal. There also was a case of actinomycosis which was treated successfully with stilbamidine. What effect this group of drugs would have upon other fungal infections was not known by the close of 1952, although preliminary studies indicated that the spectrum of effectiveness probably would be narrow.

It appeared that ringworm of the scalp might occur in adults more often than was generally realized. This had always been considered a disease of childhood which was cured spontaneously with the onset of puberty. The infections produced a variety of bizarre clinical pictures which often mimicked other inflammatory diseases of the scalp so that the diagnosis could be determined only by recovering the organisms from infected scalps and by culture studies. Examination with Wood's light was unreliable as a diagnostic procedure. (H. RA.)

DIABETES. Convincing substantiation of the thesis that control of diabetes prevents, lessens and defers complications multiplied during 1952, from various sources and in many ways. One of these was the growing number of diabetics who after 20 to 25 years of the disease had given birth to healthy children.

The word " cure " entered upon the diabetic horizon when it was found that hyperglycaemia could be counteracted in an experimental animal by a low diet, by insulin or by phlorhizin. Treatment of the disease within the first three months, but not later, resulted in the restoration, recovery and regeneration of the islands of Langerhans of these animals. This had been known for several years but was more recently applied with some success by R. F. Ogilvie to the persistent alloxan diabetes of rabbits. The improvement consisted in the replacement of a marked hyperglycaemia and glycosuria by an almost or completely normal blood sugar and urine reaction, which, however, was of temporary duration. Such animals treated with anterior pituitary extract experienced enlargement and budding and a suggestive growth of new islands from the ducts. The mechanism of this action

was obscure, but it was thought it might take place through stimulation of the thyroid gland and ovaries.

A knowledge of the insulin content of the blood in diabetes obviously would be of great value. Determinations had been attempted, but without marked success, because of the small content of insulin present. However, J. Bornstein and his collaborators, in Australia and England, devised a new technique for the analysis. They used for this work, as sensitive test animals, alloxan-diabetic, hypophysectomized, adrenalectomized rats. From results already obtained with known amounts of injected crystalline insulin, Bornstein reached the conclusion that the method was sufficiently sensitive to determine from 1/20,000 to 1/2,000 unit. From studies on humans, Bornstein and R. D. Lawrence attempted to differentiate two types of diabetes; namely, those with and without available plasma insulin. Those in the first group were characterized by hyperglycaemia, together with ketosis and weight loss, and in the second group were those often controlled without insulin after weight is reduced. This work opened up possibilities for research into the nature and aetiology of diabetes.

Another diabetic mystery apparently was solved by the discovery that cobalt destroys the alpha cells of the islands of Langerhans in a fashion similar to that in which the alloxan destroys the beta cells. It had formerly seemed strange that, when the pancreas was removed after the beta cells were destroyed with alloxan, less rather than more insulin was needed to control the experimental animal. It had been suspected that the alpha cells might exert a diabetic, anti-insulin effect and that they were responsible for the temporary rise in blood sugar when certain types of insulin were injected. C. A. Vuylsteke, Cornelis and C. de Duve attacked the problem and reported that the daily subcutaneous injection of 30 mg. of cobalt chloride into male guinea pigs produced after six days not only histological lesions of the alpha cells of the pancreatic islands but also a significant decrease in the content of the hyperglycaemic factor.

The term "triopathy" had been applied to a growing number of diabetic patients who had shown evidences first of involvement of the nervous system, then of retinitis and finally of nephropathy or diabetic glomerulosclerosis. In a group of 70 such patients more than one-half were patients whose diabetes began under the age of 20 years; about one-third had diabetes which began between the 20th and 40th year; in the remainder, diabetes began shortly after the 40th year of age. Among the latter, diabetes had been characteristically of the more severe type found in younger patients. The neuropathy had consisted chiefly of the development of acute, painful neuritis involving the legs, but in some cases had also caused the typical diabetic diarrhoea and in a few patients the typical pseudo-Charcot joints. The nervous involvement usually did not occur until diabetes had been present for from 5 to 15 years, but occasionally it was found at nearly the same time as the retinitis. At the same time or soon after were discovered albuminuria, oedema and hypertension of diabetic glomerulosclerosis. Death from uraemia resulting from renal failure occurred in nearly one-half these patients. (*See* also ENDOCRINOLOGY.) (E. P. J.)

DIAMONDS. The demand for rough diamonds, both gem and industrial, continued firm in 1952. Sales during the first nine months totalled £53,701,619, of which £19,271,031 was for industrial stones and £34,430,588 for gems, as compared with £49,964,216 in the corresponding period of 1951. The total was £11,356,346 less than the record value of £65,057,965 in the whole of 1951.

Diamonds were being used more extensively in industry than ever before and played a vital part in a very large number of manufacturing processes. Owing to their hardness and strength, industry finds a use for all rough diamonds not of gem quality. Although a gem stone lasts for ever, the industrial diamond, being a consumable material, needs constant renewal, which provides a sound basis for this important trade. The largest consistent demand for diamonds continued to come from the United States.

TABLE I. DIAMOND SALES, 1947-52
(£ million)

	1947	1948	1949	1950	1951	1952*
Gem	20 1	26 8	19 9	38·3	46·8	34·4
Industrial	4 4	11 3	8 5	12 6	18 3	19·3
Total	24 5	38 1	28 4	50 9	65 1	53 7

* Figures for nine months only.

TABLE II U.S. DIAMOND IMPORTS, 1951-52

	1951		1952*	
	Carats	Value	Carats	Value
Uncut gems	697,981	$48,704,819	380,576	$26,106,885
Cut gems	480,516	$61,858,003	190,296	$23,462,672
Industrial	12,225,380	$46,739,991	7,429,477	$29,847,875
	13,403,877	$157,302,813	8,000,349	$79,417,432

* Six months only.
SOURCE. *National Jeweler*, Chicago, and *Jewelers' Circular Keystone*, New York.

Exports from the Belgian Congo, the largest producer of industrial diamonds, for the first six months of 1952 amounted to B. Fr. 395·5 million, an increase of 36% over the corresponding period of 1951. Exports of diamonds from Tanganyika were renewed in 1952 as a result of a new agreement being entered into between Williamson Diamonds, Ltd., and the Diamond Corporation, Ltd.

During the year, prospecting by De Beers Consolidated Mines, Ltd., continued in the Union of South Africa. Sampling was carried out at many mines and various properties and alleged diamond discoveries were investigated and reported on. A new conveyor belt system for the disposal of waste tailings was installed at the Premier (Transvaal) mine at Kleinzee, and at Jagersfontein mine and seemed likely to prove both efficient and economical. (*See* also GEMS.) (X.)

DISASTERS. During 1952 loss of life and property occurred in the following disasters:

Air

Jan. 10 Near Bettws-y-Coed, Caernarvonshire. An Aer Lingus Dakota crashed on the slopes of Moel Siabod; 23 persons were killed.

Jan. 19 Near Sandspit airport, British Columbia. A plane returning from Japan and Korea with U.S. ex-servicemen fell into the Pacific. 36 were killed and 7 rescued.

Jan 22 Elizabeth, New Jersey Twenty-nine people were killed (and one died later) when an air liner hit a block of flats while trying to land at Newark airport.

Feb. 4 Near Kikwit, Belgian Congo. A Belgian Sabena air liner crashed, killing 15.

Feb. 7 Near Vokota airport, Japan. A Superfortress bomber crashed, killing 13 of U.S. crew and 3 or more Japanese passengers.

Feb 11 Elizabeth, New Jersey. An air liner taking off from Newark airport crashed into a block of flats, fatally injuring 33.

Feb. 16 Near Burgio, Sicily. A British air liner hit a mountain: all 31 passengers were killed.

Mar. 3 Nice, France. An Air France air liner crashed after engine failure· 38 persons were killed.

Mar. 22 Near Frankfurt, Germany. A K.L M. air liner crashed while landing: 45 of the 48 on board were killed.

Mar. 24 Gao, French Sudan. Sixteen people were killed when a Lockheed C-60 of Société Aeroafricaine crashed during take-off

Mar 26 Moscow, U.S.S.R. According to an unverified report, about 70 were killed when an air liner collided with an air force plane over Tula airport.

April 9 Oshima Island, Japan The first accident after the resumption of Japanese civil aviation in Dec. 1951 caused the deaths of 37 people when an air liner crashed into Mihara volcano.

April 11 San Juan, Puerto Rico. A U.S. air liner fell into the harbour after taking off 52 were killed, 17 survived.

April 18 Near Los Angeles, California. The crash of a chartered air liner killed 29 people.

April 29 Near Lago Grande, central Brazil. A Pan-American Airways stratocruiser bound for New York city crashed into the jungle: all 50 people aboard were killed.

June 5 Off Den Helder, Netherlands. A Dutch jet fighter crashed into a British minesweeper during N.A.T.O. naval exercises: the pilot and 14 aboard the ship were killed.

June 24 Near Lakenheath, Suffolk. The crash of a U.S. bomber killed 11 members of its crew.

July 23 Off Praia do Pina, near Recife, Brazil. Eighteen people were missing after a collision over the sea between a military B-17 aircraft and a trainer.

Aug. 12 Near Goiânia, Brazil. The crash of a Brazilian air liner killed 24 people.

Aug. 26 Near Jhelum, Punjab, Pakistan. All 18 occupants were killed when a Royal Pakistan Air Force Bristol freighter crashed.

Sept. 6 Farnborough, Hampshire. A DH 110 jet fighter disintegrated at the Society of British Aircraft Constructors' display: a falling jet engine plunged into the crowd of spectators and 30 people, including the pilot John Derry and his observer Anthony Richards, were killed and 60 injured.

Oct. 8 Off Tarbat Ness, Ross and Cromarty. Fourteen airmen in an R.A.F. Shackleton aircraft were posted missing, believed killed, when the plane crashed into the sea and exploded.

Nov. 7 North of Anchorage, Alaska. A United States Air Force C-119 "flying boxcar" crashed into a mountain, killing all 19 on board.

Nov. 15 Between Anchorage and Kodiak, Alaska. A U.S.A.F. C-119 flying boxcar was missing with a crew of 6 and 16 passengers.

Nov. 22 Between Middleton Island and Anchorage, Alaska. A U.S.A.F. C-124 Globemaster was reported missing with its crew of 11 and 41 passengers.

Dec. 21 Moses Lake, Washington. A C-124 Globemaster crashed and burned while taking off, killing 86 U.S. servicemen.

Dec. 25 Near Tehran, Persia. An Iranian Airways plane crashed in fog, killing 23; there were two survivors.

Fires and Explosions

Jan. 7 Longyear City, Spitsbergen. Six Norwegian miners were killed and three injured in an explosion at Longyear City No. 2 coal mine.

Jan. 7 Ny Ålesund, Spitsbergen. Nine miners were killed in an explosion at the Kingsbay mine; three others were injured.

Jan. 14 Stellarton, Nova Scotia. A coal mine explosion killed 19.

April 19 Near Zwickau, Germany. An explosion in a coal mine killed 47.

May 23 Tahlequah, Oklahoma. Fire caused by lightning killed nine children and one adult.

Aug. 31 Salamis, Greece. An explosion at the naval base killed 14 people and injured over 40.

Sept. 5 Welkom, Orange Free State. A truck loaded with dynamite exploded, killing 12 people.

Oct. 31 Hillsboro, Missouri. Fire in a nursing home killed at least 18 persons; about 20 were injured.

Dec. 22 Nagoya, Japan. A fertilizer plant blew up, killing at least 30 people and injuring 500: the fire, which had started in ammonium sulphate, spread to a hydrogen tank.

Natural

Jan. 3 Around Hasankale, Erzerum province, Turkey. Sixty-two people were killed and 250 injured in an earthquake.

Mar. 4 Hokkaido Island, Japan. An earthquake followed by tidal waves killed 30 and injured about 200.

Mar. 21-22 Judsonia, Arkansas. More than 45 people were killed when the town was almost completely razed by tornado. During the same period tornadoes killed almost 250 and injured about 2,500 in Missouri, Arkansas, Tennessee, Kentucky, Mississippi and Alabama.



Lynmouth seen from a bridge over the river Lyn after torrential rains on Aug. 15 had caused the river to break its banks and change its course through this small north Devon resort. The floods caused 31 deaths and made 900 persons homeless.



Harrow and Wealdstone station, Middlesex, after three passenger trains had crashed on Oct. 8; 112 persons were killed or died later and 200 were injured. Only on one previous occasion, on May 22, 1915, had a British railway accident taken a greater toll of life.

April 3-30 Missouri-Mississippi valleys, U.S. Flooding of the Missouri and Mississippi rivers and tributaries caused damage estimated at more than $300 million in ten states.

April 24 Menton, France. Twelve people were killed in floods and landslides that destroyed more than 20 houses.

July 2-3 Philippine Islands. About 85 persons were reported dead and more than 100 missing in typhoons; 10,000 were left homeless.

July 6-12 Western Japan. Eighty-four persons were reported killed, 92 missing and 94 injured as a result of storms and landslides.

July 21 Tehachapi, California. An earthquake with its epicentre near here killed 12 people and injured several hundred.

Aug. 15-16 Lynmouth, Devon. As a result of heavy rains the Lyn, normally a small hill stream, changed its course during the night and swept as a raging torrent across the residential area of this small resort: 31 people were killed, 33 houses demolished and 42 others partially demolished; 95 cars, some badly damaged, were later recovered from the sea. There was also extensive damage in neighbouring districts of north Devon and Somerset.

Aug.-Sept. Southeastern Mexico. Floods caused the deaths of more than 100 people and over £8 million worth of damage.

Sept. 6 Near Chamba, Himachal Pradesh, India. A post-monsoon storm in the Himalayas was reported to have killed 350 religious pilgrims.

Sept. 21 Tebessa, Algeria. Floods caused about 25 deaths.

Oct. 15 Tabasco state, Mexico. More than 40 people were reported to have been killed in floods.

Oct. 20-22 Indochina. Typhoons and a tidal wave killed more than 500 people on Indochinese coast; about 350 of casualties were in Panthiet.

Oct. 21-22 Philippine Islands. A typhoon struck the central Philippines, killing more than 400; over 350 more people were missing.

Oct. 22 Around Adana, Turkey. An earthquake killed at least 18.

Nov. 30 Albertynsville, Transvaal. Twenty people were killed and 150 seriously injured when a tornado swept across this African township.

Dec. 22 Near Langen, Vorarlberg, Austria. Twenty-three people were killed when a bus was overwhelmed by an avalanche.

Rail

Mar. 4 Near Rio de Janeiro, Brazil. The collision of two trains 20 mi. from the Brazilian capital was reported to have killed about 120 people.

Mar. 10 Between Pnom-penh and Battambang, Cambodia. Eighty-five passengers were killed when a train fell into a ravine as a result of sabotage.

May 17 Near Adana, Turkey. A train derailment caused the deaths of 26 people.

May 18 Near Bikaner, India. A train crash killed 45 people and injured 35.

May 28 Madrid. A trolley plunged into a river, killing about 30 and injuring 50.

July 9 Near Rzepin, Poland. An unconfirmed report said that about 160 Soviet soldiers were killed when a train plunged down an embankment into a lake.

Oct. 8 Harrow and Wealdstone station, Middlesex. A Perth-London express ran into the back of a Tring-London semi-fast local train standing in the station; immediately afterwards a Euston-Manchester express crashed into the wreckage that had been thrown on to the adjacent track; 112 were killed or died later and 200 were injured.

Oct. 15 Near Ibadan, Nigeria. More than 35 people were killed when a runaway crane ran into a passenger train.

Oct. 20 Heavitree, near Ladysmith, Transvaal. Derailment of the Durban-Johannesburg night mail killed 21 Africans.

Road

Jan. 26 Near Puebla, Mexico. A bus crashed into a ravine, killing 49.

April 8 Near Catemaco, Mexico. A truck carrying holy week pilgrims plunged into a ravine, killing 40 or more.

May 25 Near Chonomas, Mexico. More than 25 people were killed when a truck turned over.

Aug. 4 Near Waco, Texas. Two passenger buses crashed head-on, killing 28.

Aug. 31 Aachen, Germany. Thirteen people were killed and 27 injured when a racing car ran into spectators.

Sept. 2 Near Chiclayo, Peru. A truck fell into a ravine; more than 20 persons were killed.

Nov. 13 Springs, Transvaal. Ten children and the bus driver were killed in a collision at a level crossing between a train and a school bus.

Sea and River

Jan. 9 Pacific ocean, *c.* 465 mi. northwest of Vancouver Island. The U.S. freighter " Pennsylvania " was abandoned by its crew of 45. There was no trace of ship or crew.

Jan. 10 Off Lizard Point, Cornwall. The U.S. freighter " Flying Enterprise " sank. (See *Britannica Book of the Year 1952.*)

Mar. 8 Between Norway and Orkney. Seventeen people were drowned when the German trawler " Thor " sank in a storm.

April 5-6 North of Jan Mayen island, Arctic. Five Norwegian whale catchers with a total of 76 men on board were lost in storms.

April 21 Off northeast Korea. An explosion of ammunition on the U.S. cruiser " St. Paul " killed 30 seamen.

April 26 Atlantic ocean. The U.S. aircraft carrier " Wasp " collided with the minesweeper " Hobson " during night exercises: the " Hobson " sank with the loss of 176 men, including the captain; 61 were rescued by " Wasp ".

Aug. 1 Boulogne. Eleven men were killed in the explosion of a torpedo brought up by the dredge " Pas de Calais II " which was cut in half and sunk.

Sept. 3 Near Lucknow, India. About 80 were reported to have died when an overloaded boat capsized in the Ganges.
Sept. 9 Belgrade, Yugoslavia. Ferryboat on Danube capsized; 74 persons were drowned.
Sept. 23 Mid-Atlantic. The Portuguese motor ship " João Costa " sank with the presumed loss of 80 of the 92 people on board.
Sept. 24 Between Cannes and Porquerolles islands, France. The French submarine " La Sibylle " failed to surface after anti-submarine exercises in the Mediterranean; its crew of 48 was lost.
Oct. 22 Off Puerto Quintero, Chile. The Chilean naval tugboat " Brito " exploded after running aground; 21 of its crew died.
Dec. 22 Off Beirut, Lebanon. Seventeen people were killed in the wreck of the French liner " Champolion " (12,546 tons).

Miscellaneous

April 9 Caracas, Venezuela. Panic in a church following a false fire alarm killed 53.
May 10 Belle Ville, Argentina. A wall of a sports arena collapsed; more than 25 were killed and 100 injured.

DISPLACED PERSONS: *see* REFUGEES.

DISTILLING: *see* SPIRITS.

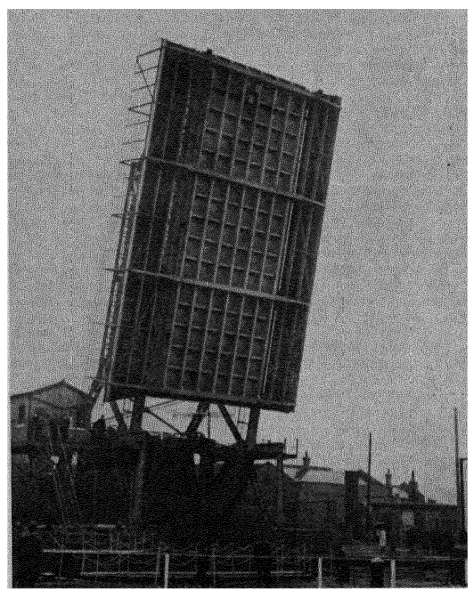
DIVORCE: *see* MARRIAGE AND DIVORCE.

DOCKS AND HARBOURS. The fourth annual report of the British Transport commission, covering 1951, was published in July 1952 and, for the first time, a financial surplus on port working was recorded. It amounted to £817,241 (before deducting such contributions to central charges as interest on capital debt), as against deficiencies of £54,847 in 1950, £824,053 in 1949 and £1,329,484 in 1948. The surplus was achieved by a favourable result of about £1,141,000 at the northeastern, southern and southwestern undertakings, against which had to be set an adverse balance of £324,000 at the Scottish, northwestern, Humber, south Wales and some smaller docks. The net improvement was partly accounted for by a large increase in the volume of imports, by the 10% increase in charges from April 16, 1951, and by the full effect of the increase in charges, imposed in 1950. Inward cargoes increased but outward business declined. Outward coal traffic alone went down by 2·8 million tons. Oil and spirit largely accounted for the increase in imports. Complete traffic and revenue totals for the commission's docks for 1951 (1950 in brackets) were: traffic, inward 27,667,000 tons (23,291,000 tons), outward 36,193,000 tons (37,597,000 tons); gross receipts £14,867,486 (£12,497,706), working expenses £14,050,245 (£12,552,553). Heavy deficits were incurred at certain fishing ports, notably Fleetwood, and at most of the south Wales ports, where profitable operation at Swansea was more than offset by deficits at Cardiff, Barry and other places. The traffic at these latter ports had changed, the formerly dominant overseas coal traffic being virtually extinguished. The Plymouth (Millbay) docks were placed under the local administration of a docks manager responsible to the docks and marine manager, Southampton.

National Dock Labour Board. In June 1952, the board published its fifth annual report and statement of accounts for the calendar year 1951. The total of workers registered in the last quarter of 1951 was 82,360, of which 76,911 men were on the live register. Gross weekly earnings of daily workers averaged £9 16*s.* 6*d.* in 1951, as compared with £8 12*s.* 10*d.* in 1950. The proportion of men who attended control points without finding work was 6% of the register; for 1952, however, the board first budgeted on an average of 8·3% but were compelled to raise their estimate towards the end of the year because of increasing under-employment in some of the principal U.K. ports. To meet the heavier call upon the guaranteed wages fund the board increased the surcharges upon wages, payable by employers in the industry, from 18·75% to 22·5% (daily workers in foreign trade) and from 12% to 15% (daily workers in coastal trade), but left the percentage relating to weekly workers at 7%—all with effect from Nov. 1, 1952.

Employment in the docks during 1951 was higher than in any of the ten years since dock labour schemes were first set up. In certain ports the supply of suitable candidates for admission to the register was insufficient to meet the combined authorized additional recruitment and replacement of losses due to normal wastage. Local boards made increasing use of temporary registers to deal with abnormal traffic. The average age of registered workers was 45½ years in 1951, as compared with 46½ years in 1950. The board's operational costs were about £60,000 lower in 1951 than in the previous year. Annual holidays with pay cost £460,551 as compared with £393,189 in 1950; public holidays with pay cost £385,788 as compared with £333,744. There was a higher percentage of sickness because of an influenza epidemic at the beginning of the year. Strikes and other stoppages during 1951 involved an average of 1·5% of the workers' register as compared with 0·5% in 1950. The number of man-days thus lost amounted to 339,878, of which over 330,000, or 98%, were lost in London, Liverpool and Manchester. Occasionally port employers were left short of labour, but it was decided that periodic shortages could not be avoided except at a prohibitive cost to the industry and by unjustifiable inroads on the national manpower.

United Kingdom Ports. In the Alexandra system at Liverpool work was completed on the equipment of six berths with sheds of postwar design; and the supply of new cranes—15 in all—was well advanced at the north side of Branch Dock no. 3 for use by the Clan line. The Pacific Steam Navigation company was provided with new shed accommodation in Canada Branch Dock no. 1. The quay apron at the west side of Harrington dock (1,248 ft.) was widened by nearly 8 ft. In the Huskisson Branch Dock no. 3 an installation for the discharge of bulk sugar was completed:



A new rolling lift bridge at the entrance to the Surrey Commercial docks which was opened on March 7.

it would reduce discharge time by half. At Belfast the east quay of Abercorn basin was re-fronted and similar work was begun at the south quay where five-ton travelling grab cranes were to be installed for the discharge of coal. The Musgrave shipyard delivery wharf was reconstructed to improve the discharge of iron and steel direct into the Harland and Wolff works. The modernization of the Spencer dock entrance, to permit the passage of larger vessels, was well advanced. Graving docks and lighting were also overhauled and modernized. The commissioners proposed to construct a coal discharging wharf to serve the new corporation generating station on the West Twin. At Barry, Glamorgan, the widening (from 56 ft. to 78 ft.) and extension (from 867 ft. to 940 ft.) of a dry dock were completed, at a cost of over £250,000, enabling it to accommodate vessels up to 18,000 tons

A scheme was approved for the expenditure of £1,750,000 upon the reconstruction of Riverside quay, Hull. At King George dock the rebuilding of no. 12 quay was in hand. At Alexandra dock, a new shed costing £30,000 was erected. An additional shed for perishable goods was completed on the river pier at a cost of £20,000. At Victoria dock, the construction of no. 1 shed and quay cost £42,000.

At Sunderland work was continued upon the deepening of the Hendon dock junction and the river widening above Wearmouth bridge. The new shore radar station, sponsored experimentally by the Ministry of Transport, was acquired by the port authority and brought into regular operation. A plan was made for the installation of a radio beacon service. A new dry dock was opened having a length of 675 ft , an entrance width of 87 ft. 6 in. and a depth of 27 ft. 4 in. over the cill at mean high water springs. A second dry dock was lengthened by 50 ft , making it 565 ft , and a repairing quay was lengthened by 210 ft. A number of shipbuilding berths were re-aligned and considerably lengthened to provide for the construction of vessels of 26,000 tons deadweight. At Tyne Dock, South Shields, further progress was made with the construction of the new iron ore discharging berth designed to accommodate vessels up to 20,000 tons capacity and to handle 1 million tons of ore in a year. At Whitehill Point work on new coal shipping staiths—particularly intended for the loading of washed coal—was further advanced. Improvements were begun at the passenger terminal in North Shields. Extensions to three dry docks were begun and a shipyard was to be re-designed to permit larger construction. A 40-ton electric travelling crane was erected in the south pier blockyard. Plans for the projected new docks at Lackenby (on the Tees) were finally completed. A scheme was made for a new Shell installation at Teesport. The reclamation work at Seal Sands was finished; and it was decided to transfer the plant for further reclamation work at the South Bank. The Tees Conservancy commissioners celebrated the centenary of their constitution.

At Coryton on the Thames the deep-water jetty was enlarged to accommodate 28,000-ton tankers discharging into the new oil refinery. In the port of London generally,

MOVEMENTS AT BRITISH PORTS, 1951
(Thousand net tons)

	Foreign Trade		Coasting Trade		Total
	Arrivals	Departures	Arrivals	Departures	
London	18,695	18,010	9,620	10,406	56,731
Liverpool	12,478	12,063	3,508	3,963	32,012
Southampton	11,291	11,230	3,037	3,066	28,624
Tyne ports	2,821	3,588	4,811	4,079	15,299
Glasgow	4,205	4,434	1,856	1,593	12,088
Belfast	808	704	5,192	5,356	12,060
Hull	4,446	4,197	1,048	1,241	10,932
Swansea	3,180	3,633	1,857	1,317	9,987
Bristol	2,397	2,612	1,722	1,954	8,685
Manchester	3,717	3,274	651	946	8,588
Cardiff	1,648	2,114	2,388	1,904	8,054

progress was made with war damage repairs and the modernization of storage facilities and handling equipment. Work was completed upon the restoration of 5,000 sq.yd. of the Town quay at Southampton, damaged by bombs in 1940.

Europe. At Dublin further progress was made with the £4 million port improvement scheme, and at Cork work was advanced on the £1·25 million programme. A new ferro-concrete wharf with four electric cranes was constructed at Waterford, providing berthage at all states of tide for vessels drawing 22 ft. At Arklow progress was made with dock construction. At Dun Laoghaire passenger handling facilities were improved. In addition to that at Galway development schemes were in hand at Drogheda, Dundalk, Killybegs, Rathmullan, Sligo, Wexford and Wicklow.

At Le Havre, France, the transatlantic jetty was lengthened by 200 ft and it was intended soon to lengthen it farther to nearly 1,500 yd. in all. At Antwerp, Belgium, a new 123-ac. petroleum harbour was opened: it was intended to serve the two powerful oil refineries recently built there. Progress was made with a maritime lock 1,181 ft. long and 147 ft. wide, designed to handle part of the traffic now passing through the Kruischans lock (885 ft. long, 114 ft. wide).

At Harstad, Norway, a new dry dock was brought into service. It cost about 5 5 million kroner and could accommodate vessels up to about 7,000 tons deadweight.

Africa. At Dakar, French West Africa, a new installation was opened for the reception of bulk bitumen from tankers through a steam-heated pipeline into a 3,000-ton tank. The development plan for Takoradi, Gold Coast, was further extended with the result that work upon it was to continue into 1954 The colony's legislative council approved the allocation of £20·75 million for the construction of a new port and town at Tema. The plan arose out of the Volta river scheme and the possible development of a large-scale aluminium plant. In the Belgian Congo navigation was improved by important dredging operations, especially on the lower reaches of the Congo river between Matadi and the Atlantic. A new lighterage wharf, 228 m. long, was brought into use at Boma for fruit coasters. The wharf at Leopoldville was lengthened from 390 m. to 660 m., suitable cranes installed and an additional 4,160 sq.m. of warehouse space provided. At Stanleyville the wharf on the right bank was extended to 350 m. and, on the left bank, the railhead was widened over a length of 210 m.

Development and construction work was continued at Dar-es-Salaam and Mtwara, Tanganyika; the latter port, though still unfinished, was brought to a state of partial usefulness. The port of Nacala, Portuguese East Africa, was opened and the Union-Castle liner " Durban Castle " was the first caller.

Asia. The Cyprus government decided to undertake extensions and improvements at Limassol and Famagusta. The projects included a new lighter basin and better handling facilities, costing £165,000, at Limassol; and an additional 62,000 sq.ft. of storage space at Famagusta. The Aden Port trust and the Aden government accepted a harbour development plan estimated to cost about £2 million.

Work was completed upon the development of Chalna anchorage, Pakistan, to enable it to handle 500,000 tons of cargo a year; the anchorage had been established on the Pussar river, 80 mi. from the sea. Two sets of moorings were added in 1952 to the three already laid. From Jan. 1, 1952, to Sept. 30, 1952, 104 ships visited the port (Dec. 1950-Dec. 1951: 58), the export and import figures being 154,347 (169,914) and 168,145 (71,863) tons, respectively. The port of Chittagong development scheme was completed, raising the port's capacity to 2·5 million tons of cargo a year. Work on the construction of seven new berths by Braithwaite and

Company, Engineers, Ltd., London, was in progress. Arrangements were made at Karachi for the construction of a dry dock to cost Rs. 16·4 million. A new deep-water quay, 1,242 ft. long, designed for ocean-going cargo ships was nearly completed at Colombo, Ceylon. Good progress was made with the preliminary work for the proposed 3,000-ft. four-berth customs quay. The construction of an oil dock and improved accommodation for coasters was also proceeding.

A plan was drawn up for three deep-water wharves at the North Klang straits, Malaya, about 25 mi. from Kuala Lumpur and 5 mi. from the existing coastal wharf at Port Swettenham. The harbour and wharves of Fiji were severely damaged in a hurricane in Jan. 1952 and extensive repairs were put in hand.

Australasia. A scheme was approved for a vast dredging and land reclamation programme at Newcastle, New South Wales· it was intended to bring into use 6,000 ac. of islands in the Hunter river. At Geelong, Victoria, progress was made with the new £8 million oil refinery, and the increased shipping requirements were to be met by a £4 million harbour development scheme. (A. H. J. B.)

North America. In the United States construction was executed on 170 regular river and harbour projects in 1952; of these 15 were completed. Maintenance was carried out on 351 projects. The River and Harbours act, passed July 11, 1952, provided $236,888,800 for maintenance and improvement of U S rivers and harbours. During the fiscal year ending June 30, 1952, $192,657,613 of federal funds was expended for new work and maintenance of river and navigation projects and inland and coastal harbours (G. HB)

At Savannah, the new state docks of the Georgia port authority were opened, having cost about $6 million to construct. (A. H. J. B.)

The Canadian Department of Transport announced improvements to Quebec harbour to be started early in 1953. Improvements were also announced for Montreal harbour to handle the enlarged flow of traffic expected from the projected deepening of the St. Lawrence seaway. (C. Cy.)

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DOMINICA: *see* WINDWARD ISLANDS.

DOMINICAN REPUBLIC. West Indian republic covering the eastern two-thirds of the island of Hispaniola or Haiti. Area: 19,129 sq.mi. Pop. (1950 census): 2,121,083. Racial distribution is estimated at 13% white, 68% *mestizo* and mulatto and 19% Negro. Language: Spanish. Religion: Roman Catholic. Capital: Ciudad Trujillo (pop., 1950 census, 181,000). Presidents in 1952: Generalissimo Rafael Leónidas Trujillo y Molina and (from Aug. 16) Héctor Trujillo y Molina (*q.v.*).

History. More than two decades of uninterrupted rule by Rafael Leónidas Trujillo formally ended in 1952 with the election of his younger brother, General Héctor Trujillo, as president on May 16, for the five-year term beginning on Aug. 16. The new president had served many years as minister of war, navy and aviation.

Agricultural prosperity continued unabated. Again, large sugar and coffee crops were sold in Europe; and Dominican-European trade continued to grow more rapidly than that between the Dominican Republic and the United States. Foreign investments in commercial industry went on increasing. The management of the public finances followed the pattern of previous years—namely, the avoidance of indebtedness, the accumulation of cash reserves and a moderate tax policy.

The foreign relations of the Dominican Republic in 1952 were marked by no unpleasantness with neighbour states. The fall of Carlos Prío Socarrás in Cuba, in March, terminated years of tension that had begun in 1944. The return to power in Cuba of General Fulgencio Batista was expected to assure accommodation in Caribbean affairs. Relations with Haiti continued cordial. (C. McG.)

Education. Schools (1951) elementary and secondary, state 2,749, state-aided 107, private 95, total pupils 262,499 University, students 2,254, teaching staff 172

Agriculture. Production and main crops (1951-52) sugar 658,000 short tons, blackstrap molasses 26,559,000 gal., coffee *c* 400,000 bags of 132 lb each; cacao 30,000 short tons, rice 66,000 tons, tobacco (1951) 22,550 tons. Sugar exports (1951, almost entirely to the U K) 531,713 tons Livestock (1950, '000 head) cattle 887, pigs 1,140.

Finance. Budget (1952 est.) revenue $82,796,500, expenditure $82,749,503 Internal debt (Dec 31, 1951) $22,987,361, there was no external debt Currency circulation (Aug 31, 1952) $26,940,000, gold reserves $12,100,000 Monetary unit *peso*, officially pegged at par with the U S dollar

Foreign Trade. (1951) Exports $108,454,681, imports $51,200,000 Chief exports sugar 47%, coffee 16%, cacao 15%, tobacco 5% Main destinations of exports U K 46%, U S 43% The U S was by far the main source of imports

Transport and Communications. Railways (1951) state 170 mi., operated mainly by sugar companies 650 mi Surfaced highways (1949), *c* 500 mi Motor vehicles (1948) cars 3,124, lorries 2,390 (J W Mw.)

DONATIONS AND BEQUESTS. Among big public appeals opened during 1952 the most important was the King George VI National Memorial fund, launched by the lord mayor of London and the prime minister on Oct. 4. In a broadcast appeal Winston Churchill said the memorial would take the form of a statue and of a scheme to benefit both young and old. Donations immediately began to pour into the Mansion house, many from overseas, and within four days over £100,000 had been received.

On June 19 the Church assembly launched an appeal for £4 million for the preservation of historic churches. Appeals were also launched during the year for vital repairs to Gloucester and Ely cathedrals. The Pilgrim trust decided not to grant money during 1952 for the repair of parish churches, but gave £71,875 for the preservation of secular buildings. Chief beneficiaries were Eton and Winchester colleges. Grants were also made to Manchester and Worcester cathedrals.

Response to the national appeal for the Lynmouth flood relief fund in August far exceeded the £250,000 expected; when the appeal closed over £1·3 million had been received. In the same month it was decided to discontinue the Bernard Shaw memorial fund, opened in Nov. 1951. Less than £1,000 had been contributed towards a target of £250,000 to help young playwrights, authors and musicians, to encourage presentation of Shaw's plays and to maintain Shaw's Corner, his home at Ayot St. Lawrence, Hertfordshire.

On June 6 an appeal was made for £120,000 for a Braille centenary fund to expand the production of books for the blind. On June 20 a cheque for more than £150,000 was presented to Cambridge university, the proceeds of the Field Marshal Smuts memorial appeal for the endowment of Commonwealth studies. During the year Oxford university received £4,000 from an anonymous donor to encourage the study of the history of the near east. Because the sum of money he would have wished to leave would be so much depleted by death duties the donor hoped others would give money for the same purpose.

Death duties continued to present a problem to the executors of large estates. It was expected that the estate of the football club chairman and timber merchant, Albert

Gliksten, who left over £1 million, would become bankrupt to pay duties. On Aug. 1 judgment given for the commissioners of inland revenue estimated the duty to be paid on the £3 million estate of the Duke of Devonshire, who died in 1950, at £2,400,000. The judge expressed concern that it might be necessary to disperse the family treasures at Chatsworth, the Duke of Devonshire's seat in Derbyshire In June the executors of Lord Leconfield, one of the richest landowners in Great Britain, announced that much of his land would have to be sold to meet duties. In March Ernest E. Cook, of Bath, formed a trust to devote the incomes of seven of his estates to educational purposes, and also gave the National Trust the largest sum it had ever received. In the United States Max Fleischmann, the "yeast king", left almost his entire fortune of £26,000,000 "for the betterment of mankind"

Grants to British institutions from the Rockefeller foundation totalled nearly £90,000; grants were also made to 12 other European countries. The Ford foundation made a grant of $93,000 to the Institute of Social Research in Oslo. John D. Rockefeller gave more than £3,500,000 to the Metropolitan Museum of Art in New York. It was announced in the 7th report of the Nuffield foundation that over £1,500,000 had been allocated in the previous three years

DRAMA: *see* THEATRE

DRAWING AND ENGRAVING. In 1952 the quincentenary of the birth of Leonardo da Vinci was celebrated. In London, during the spring, a magnificent collection of his drawings was on view at Burlington house. This exhibition, one of the dominant events of the year, excited a high degree of interest and admiration It was obvious that contemporary preoccupation with research promoted a sense of close affinity with Leonardo's engrossment in sustained and penetrating investigations into the nature of all things. The drawings, absorbing evidence of his ceaseless curiosity, seemed moreover to revive a concept of good drawing, a concept which, in spite of neglect and denial, still had complete validity. In this exhibition, Leonardo's draughtsmanship appeared as a criterion by which all drawing might be judged; and even the word "draughtsmanship" seemed to have acquired a refreshed significance.

In May Londoners were offered delightful entertainment with exhibitions of drawings by Sir Max Beerbohm (*q v.*) and Saul Steinberg. Steinberg's linear burlesques were not only irresistibly funny in content, but most agreeable in their decorative qualities. In the summer, the Arts Council of Great Britain honoured the memory of Charles Keene with an exhibition of over 80 drawings, ranging from the robust originals of his *Punch* contributions to sensitive and incisive studies of figures and landscapes. The tribute was overdue and well deserved; for Keene, in spite of his narrow limitations, excelled many of his more famous contemporaries with his gift for quick, perceptive observation. Towards the end of the year, the Royal Academy arranged an exhibition of the works of Sir Frank Brangwyn. His enormous output was illustrated by a representative collection of paintings, lithographs, etchings, woodcuts and drawings, "wonderful drawings", as Sir Gerald Kelly described them in his preface to the catalogue. There were many examples of Brangwyn's fluent and assured draughtsmanship and, among them, some bird, animal and plant studies which have rarely been surpassed.

During 1952, an interest in engraving, which had been revived in previous years, was kept glowing by such societies of artists as La Jeune Gravure Française and the International Guild of the Friends of Engraving. The latter, since their formation in Geneva in 1948, had sponsored the publication of 150 different prints which included engravings and etchings by such varied artists as Raoul Dufy, Hans Fischer, Anthony Gross, William Hayter, Houplain, André Jacquemin, Edouard Wuirall and Roger Vieillard. In England, the Golden Cockerel press published Phyllis Hartnoll's *The Grecian Enchanted* with eight extremely accomplished aquatints, etched and engraved by John Buckland-Wright; and from the same press came six remarkable colour-engravings by Dorothea Braby as illustrations to a new prose version of the mediaeval poem *Sir Gawayne and the Grene Knight*.

It was evident throughout the year that lithography was more widely practised than any of the other autographic processes. Certainly, no other craft offered a more direct approach or a more sympathetic surface for the personal idioms and diverse mannerisms of modern artists. A particularly fascinating show of lithographs from 16 countries was presented in London by the Arts Council during August. Among the many prints, there were admirable examples by Folmer Bendtsen (Denmark), Picasso and Henri Laurens (France), Bernard Schultze (Germany), Marino Marini (Italy), Valdemar Elenbaas (Holland), Guy Krohg (Norway), Acke Oldenburg (Sweden) and Graham Sutherland (England). Other notable lithographic prints exhibited during the year were Antoni Clavé's "The Holy Family", Jean Lurçat's "Blood and Life", Hans Erni's "The Sahara" and Zao Wou Ki's "The Tea-pot".

The beautifully produced English quarterly, *Image*, in its eighth and, unhappily, final appearance, reproduced some distinguished architectural drawings by Gordon Cullen, a draughtsman of great ability and creative vision. In the same issue, there was a group of George Mackley's wood-engravings, amongst which "The Deserted Farm" was a conspicuously successful print. (*See* also ART EXHIBITIONS.)

(F. W W.-S.)

DRESS: *see* FASHION AND DRESS.

DRUGS AND DRUG TRAFFIC: *see* NARCOTICS.

DYESTUFFS. The dyestuffs manufacturing industries of most countries in 1952 were affected by the recession in consuming trades, particularly textiles, and the decline in sales was aggravated by earlier events. Consumers had previously bought in excess of requirements and when their own trades began to fall off they preferred to draw on their accumulated reserves rather than to buy further stocks of colour. Towards the end of 1952, however, the dyestuffs manufacturers began to share in the general improvement in trade, although there were many doubts about the permanence of the revival. One interesting indication of changed circumstances was the decision of the British government in September to abolish most of the restrictions on the export of dyes, imposed in 1948. Another factor influencing trade in dyestuffs was the increasing competition from western Germany. Exports of dyes from the German Federal Republic increased from 12,700 metric tons in 1950 to 20,300 metric tons in 1951, and from U.S. $40 7 million to U.S. $69 6 million in value.

Perhaps the most important event in the world dyestuffs industry in 1952 was the opening of a large-scale manufacturing plant in India. India had not hitherto manufactured dyestuffs to colour its output of yarns and fabrics, except on a very small scale and from imported intermediates. It had therefore been a highly lucrative market for the dyemakers of Europe and the United States. Germany was at one time very prominent in the Indian trade and latterly the U.S., the United Kingdom and Switzerland had done good business. From time to time it was reported that Indian and European or U.S. industrial and financial interests were planning to

establish an Indian dye-manufacturing industry, but nothing came of these proposals until March, when a factory was opened at Bulsar, mid-way between Bombay and Ahmedabad, with the aim of producing enough of the country's 20-25 most-used dyestuffs to meet the demand of textile, paper and other industries. The range of dyes would be enlarged as the need arose. It was estimated that at the outset the plant would save India $500,000 in foreign exchange. Production at the start was to be 4 million lb. of dyes a year. The nominal capital was equal to U.S. $3 5 million. It was reported later in the year that the Industrial Advisory Committee for Chemicals in Pakistan was considering the establishment of a dyestuffs industry in that country.

An International Dyeing association, with headquarters in Paris, was founded in May. The inaugural meeting was attended by representatives of the industry from Austria, Belgium, France, western Germany, Italy, the Netherlands and Switzerland. (L. E. Ms)

EAR, NOSE AND THROAT, DISEASES OF.

During 1952 increasing attention was directed toward the effects of environmental and industrial noise on hearing acuity. Meyer S Fox discussed the medical, economic and social aspects of industrial noise in 1952. It was learned that the factors which influence the degree of hearing loss are: (1) the intensity and loudness of the noise; (2) the frequency spectrum of the noise; (3) the period of exposure; (4) individual susceptibility to acoustic trauma; (5) age of the subject; (6) previous ear disease; (7) the character of the surroundings in which the noise was produced, (8) distance from source, (9) position of each ear with respect to sound waves.

Measures being taken for the control of industrial noise included: (1) surveys of noisy industrial areas, (2) pre-employment audiometric and otologic studies of employees; (3) audiometric studies of employees exposed to hazardous noise, (4) the establishment of quantitative standards for evaluating hearing loss; (5) the use of pre-employment selectivity tests to discover noise-susceptible persons; and (6) the development of procedures to reduce or eliminate noise, by redesigning machines and tools, by creating noiseless industrial processes or by the use of earplugs and ear defenders.

The Dizzy Patient. Numerous classifications of the different types of vertigo had been formulated. It had been classified on a physiological or pathophysiological basis (spontaneous, re-active, experimental, vestibular); based upon the underlying pathology within the vestibular system (labyrinthine, peripheral, central); based upon the dominant psychic impression (sensory, tactile); in terms of the organ which was presumed to be the primary source (aural, cardiac, gastro-intestinal); in accordance with general pathologic conditions where dizziness is a rather common accompanying symptom (arteriosclerotic, neurasthenic, hysteric); etc.

Dizziness is not merely a symptom but a varied multiplicity of sensations and impressions. Definitions and classifications are indispensable in the study of the phenomenon but are of little help in understanding and, therefore, assisting the dizzy patient. Nicholas Torok believed that the concept concerning dizziness as a clinical complaint should be widened. In the final analysis, the dizzy sensation is a psychic phenomenon. The dizzy reaction is under the influence of the whole personality and variations of behaviour may be manifested accordingly. The most significant approach to the understanding of dizziness is through personal contact with the sufferer. The history is as important in the evaluation of the complaint as all the possible objective findings.

Obviously, treatment is based upon a correct diagnosis, with removal of the cause and alleviation of the symptom being the prime objectives. In some cases immediate symptomatic treatment is desirable to alleviate severe vertigo and associated symptoms. Other cases may require more vigorous medical or surgical approaches to achieve a cure

Cancers of the Head and Neck. Cancer of the head and neck comprises from 12% to 14% of all cancers of the body. If cancer of these areas is observed, identified and treated early, the outlook or prognosis compares favourably with that of any other malignant growth. According to Daniel S. Cuming and Fredrick M. Turnbull, early recognition and accurate diagnosis are of paramount importance. A complete examination calls for visualization of the nasal passages, mouth, cheeks, nasopharynx (back of the throat and nose) and larynx, aided by X-rays of the head and neck and biopsy (microscopic) study of any suspicious tissue for early positive diagnosis. The biopsy or tissue proof of a disease is the final procedure in diagnosis. A negative biopsy does not mean that the patient is free from carcinoma but that the specimen submitted to the pathologist did not show cancer.

Cancer of the lip usually occurs on the lower lip and is seen from the fifth decade on, but may occur earlier The biopsy and the removal of the entire lesion may be done at the same operation. A simple V excision through the whole lip about 1½ cm. away from the lesion usually suffices to cure early cancer of the lip, or irradiation may be effectively employed. If the submental glands are involved, a bilateral supraomohyoid neck dissection is indicated.

The buccal mucosa not only takes in the area over both cheeks, but includes all the mucous surface of the mouth. This means that the inspection for cancer of the buccal mucosa should include the cheek, the floor of the mouth, soft and hard palate, the buccal alveolar region and the gums. Recognition of oral leukoplakia and its importance is a paramount responsibility on the part of the dentist. Realization of the possible seriousness of outcome should be tactfully impressed upon the patient in order to secure maximum co-operation in the plan of treatment. Initial treatment of oral leukoplakia involves elimination of all possible local and general irritating factors. This should be followed by specifically indicated topical medication. Surgical or irradiation measures are called for if the affected area does not respond to medication or if clinical appearance and biopsy indicate the lesion is assuming malignant qualities.

Cancer of the tongue occurs mostly in men, but is seen occasionally in women. The treatment consists of adequate surgery, occasionally including the mandible.

Cancer of the larynx also occurs most commonly in the male. Any case of a patient complaining of hoarseness should be investigated. A biopsy is obtained by special techniques of direct laryngoscopy. X-ray or removal of one cord in early lesions and the complete extirpation of the larynx when the disease is more advanced are recommended.

Lesions in the area of the nasopharynx, pharynx and hypopharynx may not be suspected until a developing mass appears in the neck. These types of tumours are best treated by X-rays or radium.

Cancer of the nasal sinuses is to be suspected when nasal blockage and recurring masses in the nose reveal malignant change. The treatment consists of complete removal of the upper jaw on the involved side, followed by irradiation.

(F. LR.)

EAST AFRICA HIGH COMMISSION.

The commission was established in 1948 to administer the public utilities, research services, etc., common to Kenya, Tanganyika and Uganda (*qq.v.*). It was empowered to legislate on these matters, with the advice and consent of a central legislative assembly. Constitution: the commission itself (the governors of the three territories); East Africa Central Legislative Assembly, 7 *ex-officio*, 3 nominated

official (1 from each territory) and 13 unofficial members (1 from each territory, elected by unofficials of legislative councils; 3 from each territory [1 European, 1 Indian, 1 African], appointed by governors, except that Kenya's European and Indian members are elected by European and Indian legislative council members; and 1 Arab appointed by the high commission). Chairman of the high commission, Sir Philip Mitchell and (from Sept. 30), Sir Evelyn Baring.

History. In March 1952 the commission announced its intention to seek legislative powers to raise a £30 million loan for railway and harbour development; in September £2·5 million was raised for improving telecommunications. Meanwhile improvements carried out at Mombasa and Dar-es-Salaam had greatly reduced shipping delays. The survey of the railway extension in Uganda was continued. In October the reports of the consulting engineers and of the East African Railways and Harbours administration on the proposed rail link with Northern Rhodesia were published. The suggested route was practical from the constructional point of view, but would cost about £33 million at current prices, and the consultants advised that it might be wiser to rely on road development until agricultural progress along the route justified rail construction. Railways were, however, recommended to connect both the rich land of the Kilombero valley and the newly discovered coalfield in southern Tanganyika with the existing system. One of the concerns of the Commission was the development of the East Africa Naval force of small craft for coastal defence: this highly efficient little force was proud to receive from the queen in May the grant of the title " Royal ". (K. G. B.)

See *East Africa Yearbook and Guide* (London, 1952).

EASTERN ORTHODOX CHURCHES: *see* ORTHODOX EASTERN CHURCHES.

EASTERN EUROPEAN ECONOMIC PLANNING. In his picture of the world economic situation, presented on Oct. 5, 1952, to the 19th congress of the Communist Party of the Soviet Union (C.P.S.U.), Gheorghy M. Malenkov contrasted the steady advance of peaceful economy, allegedly free from crisis, in the Soviet Union and the people's democracies with capitalist economy, the productive forces of which were stagnant. He said that industrial output in the European people's democracies in 1951 surpassed the prewar level 2·9 times in Poland, 1·7 in Czechoslovakia, 2·5 in Hungary, 1·9 in Rumania, 4·6 in Bulgaria and more than five times in Albania.

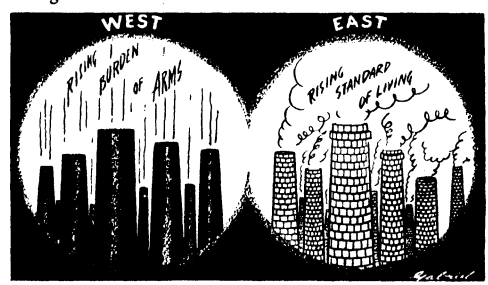
The year 1952 brought a further expansion of industrial production. In the third quarter, as compared with the corresponding period of 1951, industrial production rose 21% in Poland, 21% in Czechoslovakia, 24·3% in Hungary, 25·1% in Rumania, 17% in Bulgaria and 18% in the German Democratic Republic. In the last-named country the 1952 industrial output was 36% higher than before World War II.

Agricultural production had not, however, kept pace with industrial expansion and with the corresponding increase in the number of townspeople to be fed. In Poland the 1952 harvest was reported to be 15% higher than in 1951 when the low condition of agriculture was said officially to be threatening the whole economic structure. In Czechoslovakia, for the fourth time, agricultural production was on the average 20% lower than before World War II, in the postwar territory. In Hungary the 1952 cereal crop was exceptionally poor, being only 75% of the previous year's harvest. In Rumania the currency " revaluation " of Jan. 28, 1952, which was a heavy blow to the peasants, had not created conditions encouraging harder work in the countryside which, moreover, suffered from the drought affecting the entire Danubian region.

Shortages of foodstuffs were consequently widespread. In Poland rationing of meat, fats and oils was reintroduced in Sept. 1951 and of sugar and soap in May 1952. Czechoslovakia continued the bread and flour rationing reintroduced in Feb. 1951 and that of potatoes which had been reintroduced in the following September. Hungary, too, still restricted the supply of flour, sugar, fats and soap, the rationing of which had been reintroduced in 1951. Shortage of foodstuffs at home was caused both by inadequate production and by export to western Europe to secure the necessary foreign exchange for the import of machinery and raw materials such as rubber, tin, wool and cotton which were unobtainable, scarce or of poor quality in the Soviet-dominated part of the world. Clothing and shoes were rationed by their high prices, while considerable quantities of these goods were exported to the Soviet Union.

Forced industrialization with a simultaneous increase in the armed forces, security police and bureaucracy not only wiped out unemployment, ordinary and " hidden " (*i.e.*, in the overpopulated rural areas), but also created a shortage of manpower, especially of skilled workers. The eight-hour working day was extended sometimes to 10 hours, Soviet-style " Socialist competition " was encouraged and Stakhanov methods were introduced. However, as real wages and standards of living were lower than three or four years before, and for industrial workers (especially in Czechoslovakia) lower than before World War II, the early enthusiasm of the working classes evaporated, passive resistance became general and sporadic strikes were frequent. Communist leaders in all the satellite countries were complaining of the absence of labour *morale*. In all the satellite countries new decrees were promulgated to curb absenteeism and to strengthen labour discipline: penalties extended from deduction of one day's pay for 20 minutes' absence to sentence for major transgressors to corrective labour camps.

Progress of Industrialization. Satellite industry was further integrated in 1952 by the development of heavy industry at the expense of light industry. Expansion of the former was out of proportion both to local needs and the available raw materials. The steel industry depended on imports of iron ore from the Soviet Union and Sweden and also on the development of low-grade eastern German, Polish and Hungarian iron ores.



A cartoon by Gabriel in the " Daily Worker " (London) giving the Communist view of economic development in Europe.

In Rumania two non-ferrous metallurgical works, the Sovrommetal " combinat " at Reşiţa, in the Banat, and the Gheorghiu-Dej plant at Hunedoara in Transylvania were being rebuilt and extended. In the coal basin of Petroşani and Lonea, in the upper Jiu valley, were sunk the new shafts demanded by the more than trebled production planned for 1955. Two thermo-electric power stations were put into operation during 1952: in July at Doicesti, in the Prahova valley, where production raised by a third the country's total electric power; in August at Ovidiu, in Dobruja, to provide

power for the towns of Cernavoda, Medgidia, Poărta Alba, Navodari and Capul Midia which were being built along the Danube-Black sea canal.

In Bulgaria construction began of the Lenin Metal works on the southwestern slopes of the Vitosha mountain near Dimitrovo, formerly Pernik, which was to supply the country with many types of construction iron and steel.

In Poland construction started in May on the Warsaw Steel works, the largest plant to produce refined steel, mainly for the Żerań motor car and Lublin lorry factories. A thermo-electric power station being built at Żerań was to supply the capital with both electricity and hot water. Production started in September at the hydro-electric power station at Dychów, in Lower Silesia, which was to provide electricity for the provinces of Wrocław, Poznań and Zielona Góra.

In the German Democratic Republic electricity production was to be raised in 1951-55 from 21,300 million kwh. to 33,400 million kwh., the output of coal from 3 2 million to 3·5 million metric tons, of lignite from 151·5 million to 225 2 million tons, of copper ore from 1,012,000 to 2,650,000 tons, and of iron ore from 489,000 to 3,650,000 tons; pig iron production was to rise from 341,000 to 2 million tons, of steel from 1,552,000 to 3,115,000 tons, of synthetic petrol from 528,000 to 927,000 tons and of cement from 1,631,000 to 4 million tons.

More information about the Albanian Five-Year plan 1951-55 was given by Spiro Koleka, deputy premier, in his report to the National Assembly on May 20. He said that between 1950 and 1955 electric power production was to increase from 21 million to 121 million kwh., the production of crude oil from 131,500 to 263,000 metric tons, of cement from 15,000 to 58,000 tons, of sugar from 610 to 11,000 tons, of cotton and wool fabrics from 1·1 million to 21 million metres and of footwear from 272,000 pairs to 598,000 pairs. An oil refinery was under construction near Kuçova and a new railway line was to connect the refinery with the Durêsi-Elbasan line.

Collectivization of Agriculture Retarded. In all Soviet-dominated countries the governments seemed to realize that to press the peasants too hard could only provoke a catastrophic fall in production, and there was, therefore, little increase of producers' co-operatives.

In Bulgaria, the country most advanced in the collectivization of agriculture, no further progress was made since Nikola Stoilov, minister of agriculture, had announced in Nov. 1951 that there were 2,729 producers' co-operatives with a total membership of 575,047 peasant holdings and a combined area covering 52·7% of all arable land. In Czechoslovakia there were in June 7,669 producers' co-operatives occupying 19% of the total arable area.

Ferenc Erdei, Hungarian minister of agriculture, announced in March 1952 that since Jan. 1950 the number of co-operatives had risen from 1,520 to 4,652 and the area of collectivized land had increased sixfold to 856,710 ha. or 15·6% of all arable land.

In Rumania, according to G. Gheorghiu-Dej (*Pravda*, Aug. 22, 1952), there were 1,420 producers' co-operatives of the fourth type grouping 120,000 peasant holdings and comprising *c.* 321,000 ha. or 3 3% of all arable land. *Scânteia*, the organ of the Rumanian Communist party, deplored the "impermissibly slow progress" of the collectivization which it alleged was particularly due to the sabotage of right-wing deviationists whose main exponents were Vasile Luca and Ana Pauker.

There were 2,200 producers' co-operatives in Poland in Dec. 1950; by June 1952 the number had risen to 3,362. Progress was slight, for the proportion of collectivized land rose from 2·5% to 3·1% of the total arable area. At the June plenary session of the central committee of the Polish Communist party, Roman Zambrowski, a member of the Politburo, admitted that the *kulaks*, of whom there were about 170,000, still held substantial positions in agriculture owning approximately 2·8 million ha. or 17·5% of the total arable land. Their existence, however, was being made as difficult as possible by the government by use, for instance, of a discriminatory tax policy. The land tax payable by poor peasants represented 3 5% of their cash income, while taxes demanded from rich peasants amounted to 27·6% of their cash income.

Until the summer of 1952 the German Democratic Republic was the only satellite country where the Kremlin planners considered it inadvisable to start collectivization of individual peasant holdings. On July 12, however, the Socialist (Communist) Unity party decided to impose on eastern Germany all the concomitants of a people's democracy, including the "voluntary" collectivization of agriculture. On Aug. 7 it was announced that 58 out of 94 peasant holdings of the village of Brusewitz, near Schwerin, had decided to found the first *landwirtschaftlicher Produktionsgenossenschaft* or agricultural producers' co-operative.

In the above-mentioned speech Zambrowski declared that Lenin, after the successful Communist revolution, had shown "a genius's foresight" when he said that to make the Communist victory secure required from 10 to 20 years of "suitable policy" towards the peasants. This suitable policy, no doubt, was to proletarianize the rural populations and eliminate the independent peasant class capable of obstinate passive resistance.

Foreign Trade of the Soviet World. In his speech before the 19th congress of the C P.S U. Anastas I Mikoyan said, on Oct. 9, that alongside the old "imperialist" world market in which the "monopoly" powers bitterly competed, a new world market of the U.S.S.R. and people's democracies had emerged To impress his listeners with the extent of this market he mentioned that in 1952 the volume of Soviet trade was three times greater than before World War II and 80% of it was with people's democracies. According to official Soviet data the U.S.S.R in 1938 exported no more than 0 8% of its total production. Malenkov reported that the Soviet industrial output was double that of before the war. It followed that the U.S.S.R. was able to export in 1952 only 1 2% of its total output, of which four-fifths were sold on the "new world market".

Because it was unable to furnish all the needs of the eastern European industrialization programmes, and was itself anxious to import certain materials through the satellite countries' trade with the west, the Soviet Union was interested in seeing the development of east-west trade. The exchange should, of course, suit the Kremlin's grand strategy and therefore the Soviet-controlled world would sell, for example, Soviet coarse grain, Polish bacon, Czech sausages or Hungarian wines for industrial equipment and machinery. The so-called International Economic conference, held in Moscow in April 1952, attempted to sever western Europe from the United States and to impair the western embargo on the export of strategic materials to the Soviet world. The U.S S.R. even held out the prospect that an increase of east-west trade might result in the ending of the "cold war". Despite this profession of tactical aims, autarky of the Soviet world remained the strategic purpose to be achieved with the help of western capital goods and to be followed by an economic offensive on the "imperialistic" world market, regardless of all talk of coexistence.

Meanwhile, trade became an essential instrument of Soviet exploitation of eastern European countries. Large-scale barter had been revived with the U.S.S.R. as its commercial centre. Both export and import prices were systematically favourable to the U.S.S.R. and unfavourable to the satellites. Polish coal, for instance, was shipped to the U.S.S.R. at

$1·25 a ton when world market prices were about 15 times higher. Although itself short of cement, Poland in 1952 had to export to the U.S.S.R. 320,000 tons of this building material at $10 70 the ton, *i.e.*, 40% less than the current price on the world market

Before World War II there was little trade between the U S S.R. and five eastern European countries: in 1938 it amounted only to 1·9% of Soviet exports and 4 1% of imports According to the estimates of the U.N. Economic Commission for Europe, Soviet exports to the same satellite countries (Bulgaria, Czechoslovakia, Hungary, Poland and Rumania) rose in 1950 to 71 3% and imports to 60 6% of the Soviet total. The further important fact emerged from the analysis of the Soviet and eastern European trade that the latter group was able to import and to export twice as much as the whole U.S S R The total exports of the five satellite countries amounted in 1950 to $2,060 million as compared with $1,141 million of the U S S R , their imports were $2,152 million as compared with $1,049 million of the Soviet Union

Forced Labour and Industralization. Forced labour çamps existed in the eastern European people's democracies from 1945, but for about three years were few in number and served only as a means of political repression. With the introduction of long-term industralization plans forced labour became a cheap source of manpower. According to reports submitted to the U.N. Commission on Forced Labour at its New York session in June and to the Geneva session in October, under the chairmanship of Ramaswami Mudaliar, India, by 1952 there were, in seven countries, about 546 camps with an estimated number of 1,035,000 inmates There were, for instance, 179 camps in Czechoslovakia with 250,000 inmates, including 50,000 who were mining uranium ore in the Jachymov area. There were 175 camps in Poland's industrial areas with 180,000 inmates. These camps included one for Soviet army soldiers and one for Greek Communist rebels who had declared themselves for General Markos Vafiades. There were 45 camps in Rumania, with a total of 200,000 inmates, half of whom were employed on the construction of the Danube-Black sea canal (*See* also COUNCIL FOR MUTUAL ECONOMIC AID.)

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ECUADOR. Republic on the west coast of South America, straddling the equator, bounded N and E. by Colombia and E. and S by Peru Area. 104,510 sq.mi. (including the Galápagos Islands, 3,029 sq mi.) Pop (1950 census, prelim fig.): 3,076,933, incl. *c* 60% Indians, 30% *mestizos* (mixed blood), 9% whites, and 1% Negroes. Language: Spanish, but Indians speak Quechua and Jibaro. Religion: mainly Roman Catholic. Chief towns (pop , 1950 census): Quito (cap , 212,873), Guayaquil (the main port, 262,624), Cuenca (46,428). Presidents in 1952: Galo Plaza Lasso and (from Aug. 31) José Maria Velasco Ibarra (*q.v*).

History. Some excitement accompanied the government's announcement on Jan. 24, 1952, that it would not renew a contract permitting the U.S. Grace Line ships to anchor at Puná, off the Gulf of Guayaquil. This decision stimulated discussion of projects for new methods of handling problems of transport and commerce in the coastal area, none of which was definitely formulated by the end of the year. Meanwhile, President Plaza, continuing his programme of economic reform, promulgated early in 1952 a new income tax law. This measure replaced 14 separate previously existing income taxes with a single law, and established new levies on large-scale agricultural units and undisturbed profits of foreign and domestic firms. In April the U.S. Export-Import bank granted Ecuador a credit of $800,000 for use in reconstructing areas devastated by the 1949 earthquake.

From the political standpoint, the principal event of the year was the presidential election held on June 1. Three groups participated in the contest. The first was led by Velasco Ibarra, a former president (1934-35, 1944-47); the second by Ruperto Alarcón Falconi, the Conservative candidate; and the third by outgoing President Plaza. The campaign was characterized by division within the Plaza camp Salazar Gómez, originally the government's candidate, withdrew from the race on May 8, when he was replaced by José Modesto Larrea Jijon; and the pro-government elements remained disunited on election day. Victory went to Velasco Ibarra, who received 153,934 votes as compared with the 118,186 ballots cast for Alarcón Falconi, the more serious of the other two candidates. Plaza, the first Ecuadoran president to serve out the full four-year constitutional term since José Luis Tamayo (1920-24), surrendered the executive office to Velasco Ibarra in inauguration ceremonies held at Quito on Aug 31. (G. I B)

Education. Schools (1949-50) primary, state 2,544, pupils 225,571, municipal 390, pupils 34,222, private (mostly Roman Catholic) 357, pupils 61,138, secondary, state 73, pupils 16,999, municipal 11, pupils 2,515, private 72, pupils 7,882 Institutions of higher education state universities 4, students 4,512, Catholic university of Quito, students 164, polytechnical school, students 58

Agriculture. Main crops (1950-51) cacao 30,707 short tons, coffee 210,000 bags of 132 lb each, rice (paddy) 149,000 short tons Exports (1951) coffee 275,000 bags, cacao 26,550 short tons, bananas 9,975,000 bunches (50 lb each) Livestock (1949, '000 head) cattle 1,600, sheep 1,800

Industry. The most important manufacturing activity was the textile industry, which produced cotton, silk, woollen and rayon textiles The manufacture of *toquilla* (Panama) hats was also important Production (1951) cement 86,900 short tons, petroleum 2,708,310 bbl

Finance (million sucres) Budget (1951 actual, 1952 est in brackets) revenue 438 2 (465 0), expenditure 438 1 (465 0) Currency circulation (Aug 31, 1952) 515 0. Gold reserve (Aug 31, 1952) U S $22 5 million Monetary unit *sucre*, with an official exchange rate of 37 80 to the pound and 13 50 to the U S dollar

Foreign Trade (1951, million U S dollars, Ecuador's ports) Exports 51 9, imports (through Guayaquil, *c* 90% of all imports) 55 4 Chief exports cacao 34%, coffee 30%, bananas 21% Main destinations of exports U S 59%, Colombia 6%, Italy 6%, Germany 5% Main sources of imports U S 65%, Germany 7%, U K 6%

Transport and Communications. Railways (1949) 698 mi Highways (1947). 1,591 mi of main roads Motor vehicles (1948) cars 2,921, lorries 4,245, buses 945 Wireless sets (Jan 1, 1951) 45,000

EDINBURGH, DUKE OF (PRINCE PHILIP, DUKE OF EDINBURGH, EARL OF MERIONETH AND BARON GREENWICH, b. Corfu, Greece, June 10, 1921), son of Prince Andrew of Greece and consort of Queen Elizabeth II, served in the Royal Navy during World War II, and became a British subject in March 1947. (For his earlier career see *Britannica Book of the Year 1952.*)

The proposed tour of the Commonwealth countries which the Duke of Edinburgh was to have made with Princess Elizabeth in 1952 was cut short by the death of George VI on Feb. 6 which necessitated their royal highnesses' return from Kenya, only six days after they had left London on the first stage of their journey. The duke walked behind the coffin in the solemn procession from King's Cross station to the lying-in-state in Westminister hall, and also, on Feb. 15, in the funeral procession. During the latter part of the court mourning period the duke undertook a variety of official engagements including a visit to the atomic energy establishment at Harwell, Berkshire, in March, and one to the Lancashire coalfields in April, when he went underground to see miners working at the coal face. He made his first flight in a Comet jet aircraft (piloted by the test pilot John

Cunningham) on March 13. He was invested Knight of the Order of the Thistle by the queen on April 21; on April 29 it was announced that the duke was to be chairman of the Coronation commission. He was installed as chancellor of Edinburgh university on May 7, and elected an Elder Brother of Trinity house on June 6. On July 17 he left England by air to attend the Olympic Games in Helsinki, Finland. On his way there he landed at Fornebu airfield near Oslo, where he was welcomed by King Haakon and entertained to luncheon. He continued his journey to Finland by sea.

The Duke of Edinburgh opened the Edinburgh International Festival of Music and Drama on Aug. 16. He attended the 114th meeting of the British Association, held in Northern Ireland in September. On Oct. 13 he opened the North of Scotland Hydro-Electric board's new power station at Fasnakyle, Inverness-shire; later in the month, during a visit to the west country, he inspected flood damage at Lynmouth and Lynton. On Nov. 13 he opened a new engineering laboratory at Cambridge university and received the honorary degree of doctor of law. On Nov. 26 the Duke of Edinburgh flew to Malta for a short visit and on his return on Dec. 2, joined the same plane as the Duchess of Kent who was on her way home from Malaya. On Dec. 5 he was made a freemason in the Navy lodge. A £750,000 technical college, designed to give advanced training in aeronautical engineering, at Hatfield, Hertfordshire, was opened by the duke on Dec. 16. During the year the duke received flying lessons to obtain his pilot's licence.

EDUCATION. Introduction. With the Education act, 1944, the Board of Education in England and Wales became a ministry. With the end of World War II the new act became a springboard for high hopes and an unusually prolific spate of educational clichés. A vigorous wind blew through the corridors and cellerage of the dilapidated and bomb-damaged mansions in Belgrave square, and ministers and officials alike were apt to believe that the educational millenium was at hand.

Showing commendable vigour, Sir John Maud, the newly appointed permanent secretary, set about overhauling the administrative machine. At a time of serious shortages of material and labour, regional priority officers were appointed for the building of new schools, the repair of those that had received war damage and the provision of new colleges for the training of teachers. An architects and building branch of the ministry was set up and the inspectorate was reorganized. Three reports of first-class importance were waiting to be dealt with, that of the Norwood committee on examinations and curriculum, that of the Fleming committee on the closer association between the independent and maintained educational systems, and the McNair scheme for the re-organization of the training of teachers. Although much was usefully adapted from these three reports, the high hopes of 1945 were only partially fulfilled.

In the country, fired with a similar, though somewhat more sceptical enthusiasm than that in evidence at the Ministry of Education, the local authorities set about the long and difficult task of providing development plans for primary and secondary and later for further education. By 1952 all authorities had completed this most exacting labour. The dual partnership of the ministry and authorities was never stronger than in 1952. In hard cash this dual responsibility entailed a total expenditure of £247 million in 1951 of which the Ministry of Education's estimated contribution was £150 million. Only one thing could be calculated to break the harmony and frustrate education committees—a serious economy drive from the centre aimed at the development plans.

The 1944 act had to confer powers to deal with a situation in the schools themselves which set the new ministers a most formidable task. Two years before the passing of the act the board had issued a memorandum which summed up the situation which would confront the ministry after the war. "The full-time schooling of the children of our country," it said, "is in many respects seriously defective. It ends for some 90% of them far too soon (fourteen). It is conducted in many cases in premises which are scandalously bad. It is imparted in the case of some schools by persons who need have no qualifications to teach anybody anything. It is conducted under statute and regulations which emphasize social distinctions and which in general make the educational future of the child more dependent on his place of residence and the financial circumstances of his parents than on his own capacity and promise." In the seven years after the end of World War II the school population rose by about a million and was considered likely to double that increase in another five years. To house, to teach, to provide milk, meals and medical services for over 5,500,000 children between 5 and 15 years of age in 1952 and to be compelled to provide these things for nearly a million more in 1957 was a formidable task. The fact that after the defeat of the Labour government in 1951 the minister of education was not a member of the cabinet, the place where courage and undaunted pleading could be most effective in times of crisis, caused some foreboding and dismay in the minds and hearts of educationists everywhere.

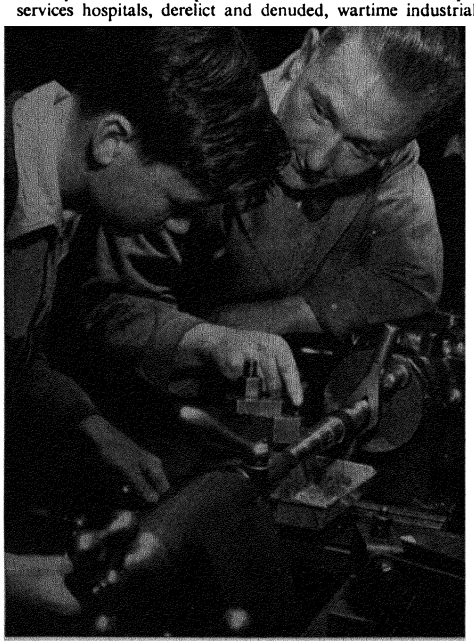
It was not until 1947 that local authorities could really begin to grapple with the building of new schools. Sites had to be found, not only for the single storey, long corridor school (then the fashion) but for playing fields of vast acreage. New methods of construction based upon the use of non-traditional materials, enabled the more enterprising authorities to produce results in a comparatively short time. Others were slow to grasp the novel possibilities fostered by the younger architects at the ministry and the impetus given to speedy and functional building by H.O.R.S.A. and S.F.O.R.S.A. (Hut



A painting class for young children at the L.C.C. Bessemer Grange primary school, Denmark Hill, London, which was opened on May 15.

Operation for the Raising of the School Age and School Furniture Operation for the Raising of the School Age respectively). These two abominable abbreviations, now part of the traditional jargon of the civil service, stood for " standard hutting components " adopted to provide additional places for the raising of the school leaving age from 14 to 15 in 1947. They quickly became the delight of backbenchers in the House of Commons at question time because neither the minister nor the parliamentary secretary ever seemed to know at the despatch box, on the spur of the moment, how to translate them. The restrictions on capital investment brought into force in 1949 as well as experiments in the use of materials ranging from compressed straw to aluminium were a spur to local authorities to get more school places for less money. By the end of 1951, 1,130 new schools were being built, most of which were expected to be completed or partly occupied by the end of 1952. The number of new schools to be started in 1952 was curtailed by the government's three-month ban on new building projects imposed in Dec. 1951.

To train teachers for the increasing school population also produced some unorthodox methods, notably publicity and propaganda to persuade more girls to take up teaching as a career (even in 1952 there was still a serious shortage of women teachers) and in the training of men and women from the armed services through the 11-month course of study under the emergency training scheme. Between 1945 and 1948 55 training colleges, all in premises adapted for this purpose, were brought into use. By 1951 some 35,000 men and women had been trained, the majority aged between 21 and 35, and were already making their mark in the schools. The scheme was a remarkable success and attracted the attention of governments and administrators faced with similar recruitment problems in all parts of the world. Nissen camps, services hospitals, derelict and denuded, wartime industrial hostels and many of the stately homes of England were pressed into service.



An example of British technical education in 1952. An engineering apprentice being taught at the Ramsay Institute, Edinburgh.

One of the features of the act of 1944, now taken for granted, was the realization of free secondary education for all. The form of that secondary education could now be in single, bilateral, multilateral or comprehensive schools and development took place along all these lines. Of the child's break at 11 years of age and entry into the grammar, modern or technical streams the best that could be said was that even the Ministry of Education was still unconvinced, in spite of the defence in the Hadow report, that the best solution had been found. The only satisfactory answer seemed to be the building of superb school buildings for every type of secondary education.

In the field of technical education steady progress was made during recent years, but it was felt that a greater effort should have been made to overcome really glaring deficiencies in building and equipment. Considerable advancement was expected as a result of recommendations made in the Report on Higher Technological Education (1950). In the service of youth, art education and adult education (especially the creation of residential colleges) much progress was made but all these services were severely hampered by the continued economic crises. All types of courses of further education continued to expand after World War II so that in 1952 it could be said that permanent expansion had been achieved.

Achievements in the educational field in general were very considerable after 1945. They included an increase in provision for handicapped children, expansion of the services for bodily care and hygiene, increase in state scholarship awards, in 1952—arising out of the Further Education and Training scheme—the beginnings of a more permanent peacetime pattern for university awards and the widening of frontiers typified by U.N.E.S.C.O.'s work and by the interchange of teachers with overseas countries. There was an advance all along the educational line, but it was not as rapid as many had hoped. (D. HMN.)

International. In August 1952 the World Confederation of Organizations of the Teaching Profession was founded in Copenhagen by the fusion of the International Federation of Secondary Teachers (F.I.P.E.S.O.), the International Federation of Primary Teachers' Associations (I.F.T.A.) and the World Organization of the Teaching Profession (W.O.T.P.). Ronald Gould, general secretary of the (English) National Union of Teachers was elected first president, and W. Carr, general secretary of the (U.S.) National Education association, secretary.

In July the cultural identity card scheme of the Brussels treaty powers was extended to Italy, Norway, Sweden, the Saar and Turkey. In August representatives of the treaty countries met in England to discuss the education of young workers in western Europe.

At the general conference of the United Nations Educational, Scientific and Cultural organization held in Paris in November, Jaime Torres Bodet, director-general since 1948, resigned in protest against a reduction of the budget for the two following years. The budget voted was $16,866,354; Torres Bodet had asked for about $20,500,000. Senhor de Carneiro (Brazil), chairman of the executive committee, resigned in sympathy, and Vladislav Ribnika (Yugoslavia), vice-chairman, resigned in protest against the admission of Spain to membership. J. Taylor, deputy director-general, was appointed acting director-general until the next conference, due April-May 1953. In December Poland withdrew from membership.

In 1951 the French government offered U.N.E.S.C.O. a site in Paris for a permanent headquarters. In Aug. 1952 U.N.E.S.C.O.'s architectural advisers decided that the limitations imposed by this site were too great. The French

government then offered another site between the Porte Dauphine and the Porte Maillot. U.N.E.S.C.O. accepted this. In October plans for the building were approved, but the French government, considering that they were too modern, withdrew the offer and proposed to build an 18th-century style building on the first site. U.N.E.S.C.O. rejected this, and the French government offered the site with no restrictions except a maximum height to the building. The offer was accepted.

In accordance with the decision of the 1950 general conference of U.N.E.S.C.O. that special attention be given to educational projects in Germany three institutes, for education, youth and social sciences, began work early in 1952 at Hamburg, Munich and Cologne respectively. Their objects were to foster the study of international problems, especially by enabling German educators to meet colleagues from other countries; to conduct research into educational aims and methods; and to assist U.N.E.S.C.O.'s campaign for peace and international understanding. Each was established under articles of the German Civil code but was controlled by an international governing board, and financed largely by member states of U.N.E.S.C.O.

In June U.N.E.S C.O.'s first adult education centre was opened near Paris. It was to be used for seminars. In July U.N.E.S C.O. began there a three months' trial series of seminars on workers' education. In August the organization sent a party of educationists to Korea to study requirements and plan a long-term programme. In December a U.N.E S C.O. seminar was held at Bombay on compulsory education for south Asian and Pacific countries.

In May an international agreement, sponsored by U.N.E.S C.O., came into force to abolish import duties on a wide range of educational and cultural materials, including books, periodicals, paintings, music, films and other audio-visual aids.

In April representatives of the United Kingdom, France, Belgium, the Netherlands and Portugal held at Leyden a symposium on " Popular Education in Africa ".

In July and August the U.S. Educational commission in the United Kingdom (the Fulbright commission) organized a first conference on American studies for British university and secondary school teachers Cambridge university acted as host to the conference.

In August and September representatives of the U.S. National Association of Educational Broadcasters visited Paris, Rome and London to discuss increased interchange of cultural and educational sound broadcasts and television programmes between the United States and Europe.

In May Maria Montessori died in Holland, aged 81, and in June the death occurred in New York of John Dewey, aged 92. (*See* OBITUARIES) The centenary of the death of Friedrich Froebel (1782-1852) was widely observed.

United Kingdom. In Aug. 1952 the dispute between the Durham County Council and the teachers' and other professional bodies' associations, which began in Nov 1950—when the council formally declared that every teacher in its employment should be a member of a trade union—was ended after recourse was had to arbitration. The council had previously conceded that their professional employees need not as a condition of employment belong to a trade union or professional organization, but had demanded that applications for extended sick benefits by such employees should be made through a trade union or professional organization. The arbitrators recommended the withdrawal of this rule, and the council agreed to do so.

In May the first experimental television programme for schools was transmitted by the B.B.C. Six secondary schools in Middlesex took part in the experiment, which lasted four weeks, 20 programmes being transmitted. Immediately after each programme the pupils' reactions were elicited by B.B.C. and educational officials, and there were later more detailed follow-up investigations. First impressions were that television had much to offer if confined to topics, places and experiences which could not be easily presented by conventional classroom methods. The 18-in. screen—the largest used—was declared to be too small.

Following the three months' " stand-still " order prohibiting the start of new school building projects, issued in Oct. 1951, the minister of education announced in February the closure of the 1951-52 educational building programme and her decision to compile a revised 1952-53 programme from the balance of the 1951-52 and the existing 1952-53 programmes. The total value of this was to be about the same as that of the original programme. All effort was to be concentrated on providing places in primary and secondary schools to meet the increased school population and the needs of new housing estates, and in technical institutions to provide facilities for the more essential industries. In October the first permanent school of remedial gymnastics and recreational therapy in Great Britain was opened at Wakefield, Yorkshire

In February the government announced that, despite rumours to the contary, it did not intend to shorten the period of compulsory school attendance (*i.e.*, 5 to 15 years). In April the minister of education relaxed the rule that candidates below the age 16 might not take the examination for the General Certificate of Education. From 1953 younger pupils could be entered provided their head teachers would certify that it was educationally desirable for them to do so and that they might reasonably be expected to pass. In September King George's Jubilee trust announced that it would conduct a survey of the influences affecting young people from the time they entered primary school until the age of 20. The government introduced in November an education bill the chief purpose of which was to give aid from public funds towards the building of voluntary (denominational) schools in new housing areas and to enable local authorities to build " controlled " voluntary schools to replace others.

In January Professor Sir Fred Clarke, formerly director of the University of London Institute of Education and first chairman of the Central Advisory Council for Education (England), died at the age of 71, in August Albert Mansbridge, founder of the Workers' Educational association (W.E.A.), aged 76; in September George Tomlinson, minister of education, 1947-51. (*See* OBITUARIES)

In August Sir John Maud, permanent secretary, Ministry of Education, was transferred to the Ministry of Fuel and Power. He was succeeded by G. N. Flemming. In September Sir J. M. Thomson, secretary, Scottish Education department, retired, to be succeeded by Sir W. Murrie.

Commonwealth. *Australia.* Following its curriculum survey, *English and Arithmetic for the Australian Child*, published in 1951, the Council for Educational Research issued a series of pamphlets on primary school studies.

Canada. In September the Canadian Education association stated that at least $26 million would have to be spent annually on schools in Ontario to keep pace with the number of pupils, which was growing at the rate of 40,000 a year.

India. Early in the year the central Ministry of Education circulated to the state governments a fivefold plan for educational development comprising a complete basic education project in each state, a commission to work out measures to reconstruct secondary education, grants to provide reading matter and visual aids, grants for youth and community centres, and an education centre for young delinquents. An expenditure of Rs. 10 million for 1952-53 was proposed. An agreement was signed between the government and the Ford foundation in the U.S. whereby the latter would help to finance the first 5 training centres and 15 development areas in the government's rural development plan. The Ministry of



Boys and parents in the [illegible] ing the traditional celebrations on June 4 the anniversary of the birth of King George III. Speeches in Upper School and a procession of boats are regular features of the day.

Education began work on a five-volume " people's encyclopaedia " for the newly literate. The first volume was expected to be ready by the end of the year. In June the government decided to set up a secondary education commission to survey the whole scene and make proposals for reform. In September the Punjab education minister announced that a bill would be introduced to make primary education compulsory. The government intended to open 1,200 new schools during the next five years.

New Zealand. The consultative committee set up by the minister of education to examine the system of appointment and promotion of primary school teachers recommended " that the present system of numerical grading of teachers be abolished and be replaced by a system embodying promotion lists ".

Pakistan. In Dec. 1951 the government published a £115 million six-year National Educational Development plan, aimed at the maximum development of primary and adult education, and particularly emphasizing physical education, medical inspection and treatment for children, youth work and the encouragement of art and cultural activities. Universal free compulsory primary education was proposed for Sind within 6 years, East Pakistan and Karachi within 10, Punjab, the North West Frontier Province, Baluchistan and Bahawalpur within 20. In September the early founding of two " public service schools " was announced, to educate boys intending later to serve in the air force as officers or technicians. Both would be boarding schools.

South Africa. The report of the Commission on Native Education recommended that native education should be controlled by the Department of Native Affairs, that local and regional Bantu authorities be established and that control of schools should gradually pass to these, who would administer the policy of the Bantu education department.

Uniform and improved salary scales for teachers were agreed for all four provinces. Previously, Transvaal had paid higher salaries than the others. In September the government deleted from the Cape Education ordinance, passed by the provincial council in face of strong opposition, the section granting parents the right to choose the language of instruction for their children in secondary schools.

British Colonies. In September educationists from African colonies and protectorates, including ministers, members of legislatures, education officers and teachers, met British officials and teachers at Cambridge, England, to survey educational policy in Africa. This was the first conference of its kind.

British Somaliland. The first secondary school for boys, a central boarding school for girls, and a trade school were opened. At the first two teachers also would be trained. It was announced that no new schools would be built unless the local community raised half the funds. The local committees authorized by the 1948 ordinance were entrusted with the disbursing of grants.

Cyprus. An education bill published in July proposed that schools managed by the Greek town school committees or the governing body of the Moslem secondary schools might voluntarily register as publicly aided secondary schools. Tuition fees were not normally to exceed £15 a year, and 20% of places were to be reserved for children whose parents could not afford fees.

Fiji. In February an Educational Research institute was established at Suva.

Gold Coast. The accelerated development plan for education forecast an expenditure of £29 million from central funds between 1950 and 1957. In addition, the local education

authorities to be set up would have to find the cost of primary schools buildings and part of the cost of their maintenance. The government would be responsible for the proposed extensive development of secondary education, teacher training and technical education. In January Achimota college celebrated its silver jubilee.

Hong Kong. In January the government announced that it had accepted almost in their entirety the recommendations made by N. G. Fisher, chief education officer of Manchester, England, for the improvement of the educational system. Foremost among these was the proposal that within the next seven years provision should be made for the 30,000 children then not attending school.

Kenya. In July it was stated that, to meet the development plan for African education drawn up in 1951, 300 more teachers of the higher grades would be required in 1953-54 than were likely to come from the teacher training centres. During the winter the education department ran a combined schools' course modelled on the British Outward Bound schools. It included a climb up Kilimanjaro to 19,000 ft. In Nigeria a " Man o' War Bay " scheme for adults was launched which gave even tougher training: it included road-making, sea-training and an ascent of Mount Cameroon. The schools run by the Kikuyu Independent Schools association were closed in November by the government because of alleged anti-European and anti-Christian teaching which was fomenting trouble. More than 270,000 children were said to be enrolled at the schools

Malaya. By Feb. 1952, 216 schools containing 957 classrooms had been established under the village resettlement scheme begun in March 1950, which had by then settled 85,000 families (430,000 people) in 410 new villages. Hundreds more classrooms were under construction.

Nigeria In October it was announced that a school medical service including free hospital treatment was to be introduced in east Nigeria It had already been started in Calabar province.

Southern Rhodesia. The report of the Native Education Inquiry commission stated that if African education was to become effective the status of the African teacher must immediately be raised and his conditions of service improved.

West Indies. The 1951 *Report on Development and Welfare* stated that it would be impossible to over-emphasize the need for a complete revision of the syllabus and teaching methods in rural schools to gear them more closely to practical needs.

In August-September a Caribbean seminar on adult education was organized by the University College of the West Indies with the collaboration of the Jamaica government and other island bodies and help from U N.E.S.C.O. and the British Council. It discussed the elimination of illiteracy, unemployment, the colour bar, the extension of academic education to provide leaders in political, economic and social life, and of technical education to provide skilled tradesmen.

Other Countries. *Belgium.* New salary scales for teachers announced in the spring were criticized by the Federation of Grammar School Teachers because they compared less favourably than before with the emoluments of other professions.

Czechoslovakia. In September it was announced that military instruction was to be given in all schools, in secondary schools as a separate subject. The curriculum was to include tactics, shooting, Czechoslovak army regulations, military geography, signals and first-aid.

France. In June the British institute at the University of Paris celebrated the 25th anniversary of its foundation. It had more than doubled its membership since World War II. The Ministry of Education closed as from October all except a few of the *classes nouvelles*, because the increasing school population made it impossible to do more than absorb incoming pupils.

Germany. In the Federal Republic, in June an Advisory Council for Education was set up at Bonn, to co-ordinate the different educational systems of the *Lander.* In April the North Rhine-Westphalia *Landtag* had passed a law whereby parents might choose between confessional, community or secular schools. Confessional and other private schools were made eligible for state grants without loss of independence.

An Outward Bound Sea school modelled on the one at Aberdovey, Wales, was opened on Lake Ploen, Schleswig-Holstein. A Hamburg shipowner, Schliewen, founded it with the co-operation of the Gesellschaft für Europaische Erziehung, and bought for it two sailing barques

Italy. In January it was announced that two new experiments to diminish illiteracy would be tried – reading centres for adult students and free distribution of books of recognized value.

Netherlands In June the minister of education introduced in the States-General two bills, one lengthening the secondary school course from five to six years and the other bringing the private *lycea* under government control.

Norway. The Supreme court ruled that the title *lektor* might be used only by persons with prescribed academic qualifications. It had been used since World War II by technical and other teachers to raise their status; the secondary school teachers' association took the matter to court.

Portugal. In November the government issued a decree making primary education compulsory between 7 and 13 A national campaign for adult education was also announced, to eliminate illiteracy (about 40% in 1950).

Spain. In June 1952 the text was published of a bill to reform secondary education, principally by abolishing the state examinations additional to the certificate examination for the *bachillerato* (matriculation).

Sweden. In February the Grammar School Teachers' association told the Board of Education that 196 " extra " teachers would resign in March if their salary claims were not attended to (Strike action was confined to " extra " teachers because the established teacher, being a civil servant, could not go on strike.) Negotiations averted the strike, and in May resulted in a victory for the teachers. (H. C. D.)

United States. The annual enrolment estimate by the U S Office of Education for the school term commencing in the autumn of 1952 was as follows. elementary schools and kindergartens, 26,064,000, high schools, 6,263,000, colleges, 2,150,000. The complete enrolment, 34,693,000, which also comprised the private and nursing schools, represented the highest figure in history, according to the office Other federal statistics of interest included the estimate of the need for at least 158,000 additional teachers and the revelation that the United States spent $6 less per pupil in the public schools during 1950-51 than during 1949-50

President Harry S. Truman urged congress in January to begin the " long-deferred programme of federal aid to education—to help the states meet the present crisis in the operation of our schools." Nevertheless, the national legislative body undertook little or no action to provide funds for the improvement of education in those states which had difficulty with financing their school programme. Congress did, however, pass in July a new G.I. Bill of Rights which would furnish to veterans of the Korean war the benefits of higher education. Other action by the government included the easing in March of the building controls on school projects and the grant, announced in April, of $122,740,302 during the fiscal year ended June 30, 1951, to schools located in areas congested by federal defence activities.

That the pupils in the public schools of the United States were not getting as good an education as they should have was evident from a survey published by the *New York Times* in January. This revealed that " over the nation, 3,500,000 elementary and high school children—one out of eight pupils in the public schools—are suffering an impaired

education because of inadequate facilities." The colleges and universities were confronted again in 1952 by a serious financial crisis. In spite of a vigorous campaign to raise funds among alumni, business corporations, foundations and other sources, it did not appear that the colleges and universities would be able to solve their financial difficulties.

The startling disclosures in 1951 of the West Point cheating scandal, the subsidies paid to varsity players in many colleges and universities, and the prearrangement or "fixing" of basketball games started a wave of reform which swept the administration of college athletics all over the nation. The new year began with the publication of recommendations by a special committee of college presidents under the auspices of the American Council on Education. These included the abolition of all post-season contests, the discontinuance of the use of freshmen on varsity teams, and the granting of scholarships strictly on the basis of the educational ability and needs of the student. The executive committee of the American Council on Education voted to accept the presidents' new code with but minor reservations.

According to a survey in April by the National Education association, there were 32,443 new teaching graduates to meet the need for a minimum of 160,000 teachers in the elementary schools. On the high school level, there were 62,692 candidates for 50,000 vacancies.

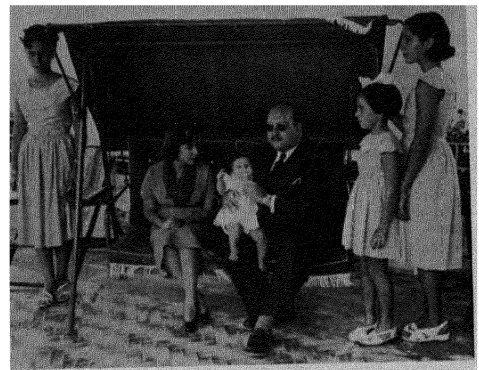
All eyes were focused in January on the U.S. Supreme court, which was to have ruled on the constitutionality of the segregation of the races in education. However, the court delayed action then and again in October, but it announced that hearings would take place in December. On the whole, it was apparent that, while there was still much resistance to the discontinuance of the system of segregated schools in the south, a definite change in attitude was taking place. The pressure to end racial discrimination in education resulted in vast improvements in Negro education.

The year saw two important decisions by the U.S. Supreme court on the question of religious teaching in the public schools. On March 3, the court declared that a statute of the state of New Jersey providing for the reading without comment of passages from the Old Testament each school day was constitutional. On April 28 the court ruled that the practice of releasing public school pupils in the city of New York to attend religious classes outside the school buildings and grounds was similarly in consonance with the spirit of the U.S. constitution.

Early in March, the U.S. Supreme court upheld the constitutional status of New York state's Feinberg law, a measure designed to remove from public school positions all teachers and other employees who spread disloyal or subversive doctrines. This decision provided the legal precedent against Communists in the school system.

The annual report of the Institute of International Education revealed increases in the numbers of foreign students in the U.S. and U.S. students abroad. The institute spent $8 million in 1951 on exchange scholarship and travel grants for about 4,000 individuals. The U.S. State Department announced in September that 800 Persian students would attend U.S. colleges under the terms of a new agreement. (*See* also CAMBRIDGE UNIVERSITY; LIBRARIES; LONDON UNIVERSITY; OXFORD UNIVERSITY; TEACHERS, TRAINING OF; UNIVERSITIES AND COLLEGES; VOCATIONAL EDUCATION.)

(W. W. BN.)





(Above) Prince Farouk Fuad with his wife and children at Capri. Left to right, Princesses Ferial and Narriman Sadek (formerly queen), King Ahmed Fuad II and Princesses Fadia and Fawzieh. (Below). Ali Maher (left) with General Mohammed Neguib. Maher was prime minister July 24-Sept. 7, when he was succeeded by Neguib, the commander-in-chief of the army.

EGYPT. 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. Pop.: (1947 census) 19,038,529; (mid-1951 est.) 20,729,000. Language: mainly Arabic (97%), with minorities speaking Greek, Italian, Armenian, etc. Religion: Moslem (mainly Sunni) 91·4%; Christian (mainly Copt) 8·19%; Jewish 0·4%. Chief towns (pop., 1947 census): Cairo (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). Rulers in 1952: King Farouk I; infant king Ahmed Fuad II with a three-member regency council; Prince Mohammed Abd el-Moneim, sole regent (from Oct. 13). Prime ministers in 1952: Mustafa el-Nahas, Ali Maher (*q.v.*) (from Jan. 27), Ahmed Neguib el-Hilaly (from March 2), Hussein Sirry (from July 2), Ahmed Neguib el-Hilaly (from July 20), Ali Maher (from July 24) and Major-General Mohammed Neguib (*q.v.*) (from Sept. 7).

History. The year 1952, which began under the shadow of the continuing conflict with Great Britain, developed in such a way as to make it seem likely that historians would regard it as the most momentous year in Egyptian history since the British occupation in 1882. The conflict which had entered its most serious stage after the unilateral denunciation, by the Egyptian government, of the 1936 Anglo-Egyptian treaty on Oct. 27, 1951, was engaging the most serious attention of both governments at the beginning of the year. In the canal zone violence increased. Egyptian volunteers and, often, auxiliary police engaged in repeated attacks on

British forces, and a rumour that the British were intending to appeal to other maritime powers to help in keeping open the canal provoked from Egypt a solemn warning to the governments of the United States, France, Norway and the Netherlands that such assistance would be regarded as an "unfriendly act". Early in January a Cairo newspaper printed the offer of a reward of £E1,000 for the assassination of Lieut.-General Sir George Erskine, the British officer commanding in the canal zone. On Jan. 25 British forces conducted a full-scale attack, supported by tanks, on a public building which the British authorities believed to be a centre of terrorist activities in Ismailia. After a two-hour engagement some 790 Egyptians surrendered, about 100 of them regular policemen of whom 50 were released almost immediately. British casualties were given as 3 killed and 13 wounded, while the Egyptian Ministry of Interior next day estimated the Egyptian losses at 46 dead and 72 injured.

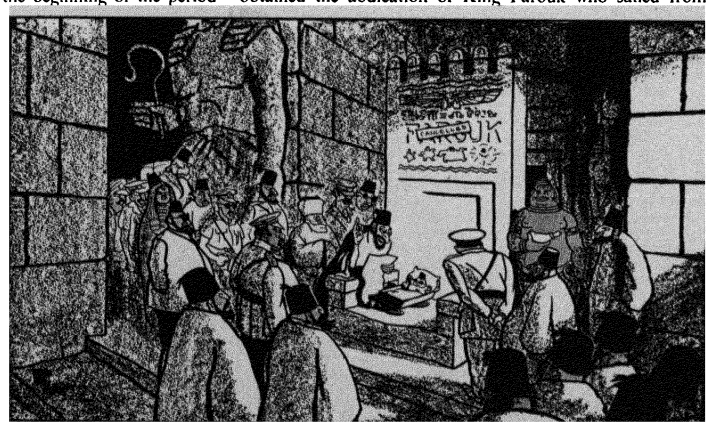
The most notable reaction to these events occurred in Cairo and may be said to have initiated the chain of events which made this so significant a year in the history of Egypt. On Jan. 26 serious riots occurred in the capital. The police remained comparatively inactive, perhaps from a feeling of sympathy with the original demonstrators although some observers saw a more sinister pattern in these events. The riots, at first anti-British, became anti-foreign and anti-Jewish before evening when King Farouk called upon the army to restore order. There were about 60 deaths including the Canadian trade commissioner and a number of prominent British residents. Many important buildings were destroyed or damaged, among them Shepheard's hotel, the British-owned Turf club, the French Chamber of Commerce and the Swedish and Lebanese legations; 15 states subsequently protested to the Egyptian government.

Meanwhile the king dismissed the Wafd government and on Jan. 27 Ali Maher formed a cabinet of Independents, which received the unanimous approval of both houses of parliament. Ali Maher sought to bring about a united front of all parties. He set up an all-party committee on Anglo-Egyptian relations, laid great stress upon the maintenance of order and attacked the economic grounds of popular discontent by ordering price cuts in such basic commodities as sugar and paraffin. He reiterated the demand for Egypt's "national aspirations" but expressed willingness to discuss the proposal for a four-power middle east command which had been made at the beginning of the period of crisis. Abd el-Fattah Amr, in London for the funeral of King George VI, saw the British foreign secretary and preparations were made for a resumption of Anglo-Egyptian negotiations.

On March 1, however, Ali Maher resigned because, it was believed, of disputes in the cabinet about a proposal to prorogue parliament during the negotiations. His successor was Hilaly who took office, with a cabinet composed of Independents and one Wafdist, on March 2. Parliament was prorogued for one month, Fuad al-Awal university was closed and great emphasis was laid upon the elimination of corruption from public life. Hilaly had been expelled from the Wafd after giving evidence against one of the party's leaders, in Nov. 1951, and corruption was the Wafd's most vulnerable issue. Thus his term of office, lasting until June 30, was dominated by that party's hostility to him. His single Wafdist supporter was expelled and he was attacked for betraying Egypt's national interests and for "tyranny". Counter-attacking, Hilaly accused the Wafd of using the "national aspirations" as a means to power, placed Fuad Serag ed-Din, its second most important leader, under house arrest and pressed on with his investigations of official corruption. Negotiations with Great Britain were resumed and the situation in the canal zone steadily improved, but the publication on April 2 of the Sudan draft constitution caused resentment in Cairo. A number of factors contributed to the decline in the government's popularity: general disappointment at the slow progress of negotiations with Great Britain, repeated postponements of parliamentary elections and the retention of martial law. Meanwhile the energetic prosecution of the corruption investigations was making powerful enemies for the prime minister whose resignation at the end of June was followed by 48 hours of confused political manoeuvring.

On July 2 this was ended when Hussein Sirry became prime minister for the fourth time at the head of a cabinet of Independents. Sirry resigned, without explanation, on July 20 and was replaced by Hilaly whose cabinet included the provocative appointment of the king's brother-in-law as minister of war.

During the night of July 23 there occurred a dramatic *coup d'état*, under the direction of Major-General Mohammed Neguib, the consequence of which was to put all the institutions of modern Egypt into the melting pot. General Neguib was a hero of the Palestine war and his election as president of the Cairo Officers' club had been rightly regarded as a sign of the discontent of the younger officers. The military seized a number of important points in the capital, including the broadcasting station from which at 7 A.M. General Neguib announced that the army had taken control "to force a return to constitutional life and to purge the army of corrupt elements." His declaration that it had no intention of interfering in politics was of necessity soon to be falsified. He proclaimed himself commander-in-chief and Ali Maher succeeded Hilaly as prime minister with another cabinet of Independents. On July 26 the new régime demanded and obtained the abdication of King Farouk who sailed from



"Repeat after me: 'I, Ahmed Fuad, son of Farouk, do solemnly swear, no dice, no roulette, no late nights . . .'" by Giles in the "Daily Express" (London), July 29.



The three regents in power in Egypt, Aug. 3-Oct. 13. Left to right, Prince Mohammed Abd el-Moneim, Mohammed Bahei ed-Din Barakat and Colonel Mohammed Rashad Mehanna.

Alexandria the same day for Italy. His infant son was proclaimed king as Ahmed Fuad II and a three-member council of regency appointed on Aug. 2.

The extent of popular discontent with the old order was reflected in the general enthusiasm for General Neguib. All parties hastened to acclaim his actions. Mustafa el-Nahas, the Wafd leader, whose most important rival had gone with the abdication, flew back from a European holiday to greet the general and subsequently declared that tyranny had been exterminated. But it quickly became clear that other, and perhaps less generally welcome, changes were in contemplation. The titles of "pasha" and "bey" were abolished, and the enquiry into scandals in respect of armaments was re-opened under the charge of the original general prosecutor Mohammed Azmi. He had previously been removed by the Wafd.

Egyptian political life, although vigorous and often violent, had for a number of years been superficial in the sense that it was absorbed in the often bitter rivalries of persons and groups, all of whom were drawn from a land-owning and commercial aristocracy which was itself living on a social and economic volcano. The new régime originated from the middle ranks of the army officers who had come to express the widespread discontent of the middle classes after the military failures of the Palestine war. Their aspirations were reflected in the declared general aims of the government — the attack on corruption in public life, the purging of the political parties and the break-up of the great estates.

It was probably the insistence upon the rapid dispossession of the landlords without regard to the effects on Egyptian economy which led, on Sept. 7, to the resignation of Ali Maher. General Neguib became prime minister. Most political parties removed leaders who were suspect to the new rulers of Egypt. But the Wafd made some show of resistance before the resignation of Fuad Serag ed-Din was followed by that of Nahas, on Oct. 6. Meanwhile, as unity against the old order gave place to differences of opinion as to future policy, divisions began to appear among the group of officers who had stood behind General Neguib. Colonel Mohammed Rashad Mehanna was dismissed from the council of regency on Oct. 13 and Bahei ed-Din Barakat, the second regent, resigned, so that Prince Mohammed Abd el-Moneim remained the sole regent.

On Nov. 14 the Egyptian cabinet issued a decree conferring supreme powers on General Neguib for a six months' period, retrospectively from the time of the *coup d'état*. On Dec. 10 Neguib announced the abolition of the constitution of 1923 and the government's intention of drafting a new constitution.

The Egyptian government entertained in Cairo at the beginning of December King Idris I of Libya and, from Dec. 11 to 15, Colonel Adib es-Shishakly, Syrian chief of staff and deputy premier. Neguib stated that there existed between him and Shishakly a complete identity of views on international problems facing the Arab countries. (*See* also ANGLO-EGYPTIAN SUDAN; SUEZ CANAL.) (H. S. D.)

Education. Schools (state and private 1950-51): kindergarten 233, pupils 84,030; primary 6,583, pupils 1,332,543; technical 139, pupils 31,477. Teachers' training colleges 52, pupils 11,408. Universities 3, students 30,910. Other institutions of higher education 8.

Agriculture. Main crops ('000 metric tons, 1950; 1951 in brackets): maize 1,306 (1,421); wheat 1,018 (1,194); barley 91 (99); millet and sorghum (1950) 426; rice, paddy 1,242 (620); sugar, raw value 195 (192); onions 217; potatoes 160 (174); broad beans 232; lentils 47; cotton, ginned (1949; 1950 in brackets) 391 (377). Livestock ('000 head, March 1947): cattle 1,321, sheep 1,875, goats 1,474, asses 1,125, horses 28, mules 12, camels 197, buffaloes 1,240, pigs 50, chickens 16,312. Fisheries (1949); total catch 34,581 metric tons.

Industry. Crude oil production ('000 metric tons, 1951; 1952, six months, in brackets): 2,328 (1,180). Raw materials ('000 metric tons, 1949; 1950 in brackets): phosphate rock 350 (397), manganese ore 138 (152), salt 349 (539). Manufactured goods ('000 metric tons 1950; 1951 in brackets): cement 1,022·4 (1,130·4); cotton yarn 31·7 (31·2); cotton piece goods (million sq.m.) 158 (173).

Finance and Banking (£E million). Budget: (1951-52 est.) revenue 215·2, expenditure 231·4; (1952-53 est.) balanced at 208. National debt (April 1948): 125·0. Currency circulation (Aug. 1951; Aug. 1952 in brackets): 163·6 (190·8). Gold and foreign exchange (million U.S. dollars, March 1951; March 1952 in brackets): 761 (464). Bank deposits (May 1950; May 1951 in brackets): 172·0 (167·3). Monetary unit: Egyptian *pound* with an exchange rate of £E0·975 to the pound sterling and £E0·349 to the U.S. dollar.

Foreign Trade. (£E million, 1951; 1952, six months, in brackets.) Imports 232·1 (107·7), exports 203·1 (66·9). Main sources of imports (1951): U.K. 18%; U.S. 15%; France 9%; Italy 7%. Main destinations of exports: U.K. 19%; India 15%; U.S. 10%; Italy 8%. Main imports: machinery and vehicles 17%; wheat 15%; metals and manufactures 7%. Main exports: cotton (raw) 81%; rice 7%.

Transport and Communications. Roads (1949): 8,269 mi. Licensed motor vehicles (Dec. 1951): cars 54,933, commercial 31,664. Egyptian State railways (1949): 5,318 mi. Shipping: merchant vessels, 100 gross tons and over (July 1951) 55; total tonnage 92,813. Telephones (1951): 115,500. Radio receiving sets (1950): 215,147.

EISENHOWER, DWIGHT DAVID, elected 34th president of the United States (b. Denison, Texas, Oct. 14, 1890). For his earlier career see *Britannica Book of the Year 1952*.

In Jan. 1952 Senator Henry Cabot Lodge of Massachusetts announced that he would enter Eisenhower's name in the first presidential primary of the year in New Hampshire. In early April Eisenhower's resignation as supreme commander, Allied powers in Europe, was announced, as from June 1. He returned to the United States on June 1.

He opened his campaign inauspiciously on June 4, when he dedicated an Eisenhower museum at Abilene. Heavy rains marred the affair, and his drenched civilian clothes stripped him of military glamour. He spoke haltingly and in generalities on the issues of inflation, bureaucracy, corruption and "class antagonisms threatening the American way of life." In a newspaper interview on the following day, in which he showed talents that developed in later stages of the campaign, he gave his views on major issues. He said that he had no prescription for ending the Korean war, but called the loss of China an "international disaster"; that he would summon the "best minds" to Washington, if elected; that he backed

the administration's policy of collective security in Europe; that he favoured a free economy and a minimum of legislative controls; that he would not scrap the social and economic gains achieved under Franklin D. Roosevelt and Harry S. Truman; that he would drive Communists from government without endangering civil liberties, that he had no panacea for peace, but was willing to confer with Joseph Stalin.

On July 11, at the Republican party national convention in Chicago, the fierce rivalry between Taft and Eisenhower caused feelings to run high, and the issue was uncertain; in the event, however, Taft's support crumbled quickly and Eisenhower was elected on the first ballot as the party's candidate for the presidency A few days later he resigned his army commission

In order to contribute to party unity, he conferred with Senator Taft in New York in September, a reconciliation which provoked Democratic charges that he had become the " captive " of his convention rival. When he endorsed other midwest senators noted for conservative and isolationist views, he was assailed as having surrendered to party reactionaries.

Eisenhower waged a tireless and extensive campaign, travelling 50,000 mi. and making more than 200 speeches Towards the close of the contest, he concentrated on Truman's alleged " coddling of Communists " and foreign policy features, especially in the far east. His triumph in the elections on Nov 4 was second only to Franklin D. Roosevelt's sweep of 46 states in 1936 Eisenhower carried 39 states, as compared with 9 for Governor Adlai E. Stevenson, the Democratic nominee. The electoral vote was 442 to 89. The popular vote, the largest ever cast, was 33,927,549 for Eisenhower and 27,311,316 for Stevenson

Eisenhower's offer to go to Korea if he were elected was given wide publicity and no doubt helped him to win the election. He visited Korea from Dec. 2-5, but declared at Seoul that he had " no panaceas, no tricks of settling any problems ".

ELECTIONS. General elections were held during 1952 in Europe (in France, Greece, the Netherlands, Poland, Rumania and Sweden), Asia (Burma, Ceylon, India and Japan) and in the United States of America

Europe. *France.* On May 18 one half of the Council of the Republic, or Senate, was renewed. The vote was indirect, *i.e.*, the senators were elected by the delegates of the municipal councils, by the county councillors (*conseillers généraux*) and by the deputies of the respective *départements*. Two different electoral systems were used, because large *départements* (four seats or more for each) elected their senators by proportional representation, while the majority system with two ballots was followed in the smaller *départements*. As compared with the previous election of Nov. 1948, Communists and Socialists lost slightly, the Rassemblement du Peuple Français saw its votes reduced, while Conservatives increased their total votes from 17% to 25 7%. The political composition of the new Council of the Republic, compared with that of 1948, was as follows:

Party	1948	1952
Rassemblement du Peuple Français (de Gaulle)	57	54
Conservatives.		
Right-wing Independents	38	47
Parti Républicain de la Liberté	12	11
Parti Paysan d'Union Sociale	16	19
Mouvement Républicain Populaire	19	27
Rassemblement des Gauches Républicaines*	80	74
Parti Socialiste (S F I O).	62	55
Parti Communiste Français	21	17
Others	15	16†
Total	320	320

* Includes the Parti Républicain Radical et Radical-Socialiste and the Union Démocratique et Socialiste de la Résistance
† Includes 11 oversea Independents, a new group.

Greece. The general election which took place on Nov. 16 was the fourth since the liberation. According to the new electoral law 300 deputies were elected, 42 more than at the elections of Sept. 9, 1951, but now a majority system replaced a limited form of proportional representation The country was divided into 99 constituencies, of which 72 were "narrow" and 27 " broad ". Although the franchise was extended to women, it was not in time for them to vote on Nov 16. How strong was the swing-over of the electorate to Marshal Alexandros Papagos' Greek Rally (Ellinikos Synaghermos) is apparent from the following comparison between the results of the 1951 and 1952 elections:

	1951			1952		
Party	Votes	%	Seats	Votes	%	Seats
Greek Rally	624,316	36 5	114	783,125	49 5	239
Liberals	325,390	19 1	57	586,237	37 1	61
National Progressives*	401,379	23 5	74			
Communists†	180,640	10 6	10	179,651	11 3	—
Other parties	180,324	10 3	3	36,925	2 1	—
Totals	1,712,049		258	1,585,938		300

* E P E K (Ethniki Proodeftiki Enosis Kentrou, or National Progressive Union of the Centre
† Under the name of E D A (Enosis Dimokratikis Aristeras, or Union of the Democratic Left)

The total number of registered voters was 2,114,581 and the number of votes cast 1,593,994 (75 4%).

The Netherlands. At elections on June 25 to the Second Chamber of the States-General, for the first time since 1917, the Catholic People's party lost its lead and for the first time in history the Labour party emerged as the strongest single party Under proportional representation, with many parties present, including numbers of confessional parties supported because acknowledging a specific religious association, and with a lower house of only 100 members, the loss or gain of two or three seats represented almost a landslide. The distribution of votes and seats in the Tweede Kamer, as compared with the results of the elections of July 7, 1948, was as follows.

	1948			1952		
Party	Votes	%	Seats	Votes	%	Seats
Anti-Revolutionary	651,612	13 4	13	603,269	11 3	12
Christian Historical union	453,226	9 3	9	476,175	8 9	9
Catholic National	62,376	1 3	1	144,435	2 7	2
Catholic People's	1,531,154	31 6	32	1,529,464	28 7	30
Freedom Liberal	391,925	8 1	8	471,005	8 8	9
Political Reform	116,937	2 4	2	129,134	2 4	2
Labour	1,263,058	25 0	27	1,545,414	28 9	30
Communists	382,001	7 9	8	328,571	6 1	6
Others	48,700	1 0	—	107,397	2 2	—
Totals	4,900,989		100	5,334,864		100

Poland. The general election held on Oct 26 was the second since World War II but was the first conducted in typically Soviet fashion, *i e* , there was only one list of official candidates in each of 67 constituencies The results were officially proclaimed on Oct. 31 by Bolesław Bierut himself the total number of persons entitled to vote was 16,305,891, the total number of votes cast 15,495,815; there were 15,491,170 valid votes of which 99 8% were cast for the candidates of the so-called National front Bierut, then president of the republic and premier from Nov. 20, described this result as a great event in the history of the Polish people. The new Sejm comprised 425 members and no official analysis showing Communists, Democrats, Peasants and non-party members was published.

Rumania. The general election which took place on Nov. 30 was the third since the end of World War II. As in Poland, the 1952 election was Soviet in style. The official results were announced as follows: voters 10,353,469 (97 91% of the registered electorate); for the Democratic front 10,233,369 (98·84% of the voters). The new National Assembly comprised 423 members.

Sweden. Serious Conservative and smaller Liberal gains, and Farmers', Social Democratic and Communist losses marked the elections held on Sept. 21 for the Andra Kammaren of the Riksdag. The results, compared with those of Sept. 19, 1948, were as follows:

	1948			1952		
Party	Votes	%	Seats	Votes	%	Seats
Conservatives	478,786	12 3	22	502,157	13 8	31
Peasants	480,360	12 4	30	401,095	10 9	25
Liberals	882,414	22 8	57	894,396	24 4	59
Social Democrats	1,789,440	46 2	112	1,701,925	46 4	110
Communists	241,812	6 3	9	165,182	4 5	5
Totals	3,872,812		230	3,664,755		230

Communists, who in 1944 won 318,466 votes (10 3%) and 15 seats, were losing steadily The poll, 76 29 of the total electorate, was not as heavy as in 1948 when it reached a record figure of 82 7%

Asia. *Burma.* The first general elections since Burma attained independence were held in three stages, the first of which took place in June 1951 in 67 constituencies in the least disturbed parts of the country, the second in 36 constituencies in August and the third from Nov 1951 to Jan 1952 in 129 constituencies. In spite of early predictions that rebel activities would make it impossible to hold elections in a relatively large number of constituencies, the election commissioner in his report issued on Feb 6, 1952, was able to show that in only 18 out of 250 constituencies did polling to the Chamber of Deputies (lower house) fail to take place In only 7 out of 125 constituencies could elections to the Chamber of Nationalities (upper house) not be held because of the Communist and Karen rebellions

No serious rival emerged to the government party, the Anti-Fascist (Socialist) People's Freedom league (A.F.P F L) The formation in Nov 1951 of a " triple alliance " between three major opposition parties, Ba Maw's Mahabama party, U Aung Than's People's Peace front and the Soviet-sympathizing People's Democratic front had no effect on the outcome of the elections, which ended in a victory for the A F.P F L Of the 232 seats so far filled in the Chamber of Deputies, the A F P F L held 141, the opposition groups 39 and members representing the various organizations of the hill peoples 52

Ceylon. For the second time since their country gained the status of a self-governing member of the Commonwealth of nations the people of Ceylon went to the polls from May 24 to 30 to elect a House of Representatives of 101 members The government United National party led by Dudley Senanayake, the premier, won a resounding victory As compared with the previous election, held from Aug 23 to Sept 20, 1947 (when over 1 5 million men and women voted), the results were as follows

	1947	1952	
Party	Seats	Votes	Seats
Government			
United National	42	990,475	54
Tamil Congress	7	64,710	4
Labour	1	27,096	1
Opposition			
Sri Lanka Freedom		343,975	9
Lanka Sama Samaja Trotskyist	10	302,614	9
Viplavakari Sama Samaja Lenimst	5	34,129	1
Communist Stalinist	3	100,198	3
Federalist		45,331	2
People's Republican	—	35,237	1
Buddhist Republican	—	4,381	—
Indian Congress	6	—	—
Independents	21	324,350	11
	95	2,272,696	95
Nominated by the governor-general	6		6
Total	101		101

India The " great adventure ", in the words of Jawaharlal Nehru, of India's first general elections began on Oct. 25, 1951, in the Himalayan state of Himalchal Pradesh, and was spread over a period of three months, ending, in the last mountainous districts of Uttar Pradesh on Feb 21, 1952. The results of the election to the House of the People, the central parliament of the Union of India, were as follows:

	No of	Seats	Votes	Percentage
Party	candidates	won	polled	of total votes
Congress	477	363	47,528,911	44 85
Communist	59	23	4,712,009	4 45
Socialist	254	12	11,126,344	10 50
K M P	146	9	6,158,782	5 81
Jan Singh	93	3	3,236,361	3 05
Other	318	39*	16,379,417	15 36
Independents	524	40	16,845,494	15 98
Totals	1,871	489†	105,987,318	

* Includes Scheduled Castes federation led by Bhimrao Ramji Ambedkar (which polled over 2 5 million votes but secured only two seats), several local parties of all complexions and a number of left-wing groups

† Includes the eight members nominated by the president, six to represent the state of Jammu and Kashmir, one for the Andaman and Nicobar islands, and one for the tribal areas and Assam

The Communist party of India, led by A. K Gopalan, emerged as the strongest opposition party in the House of the People although the Socialist party, formed by Jaya Prakash Narain in 1948, polled more than twice as many votes The K M P. (Kisan Mazdur Praja or Peasants' and Workers' People's party), organized in June 1951 by Jiwatram Bhagwandas Kripalani, also polled more votes than the Communist party, but the latter was successful in eight constituencies of Madras, in seven of Hyderabad and five of West Bengal; it also won one seat in Orissa and two (*i e* , the entire parliamentary representation) in the small state of Tripura.

The Council of States, or upper house, was indirectly elected, each state legislature constituting an electoral college. Out of 200 elected seats the Congress party won 146, the Communists 12, the Socialists 6, Independents and others 36 In addition, the president made 16 nominations to the council, 4 to represent Jammu and Kashmir and 12 to represent literature, art, science and social services

Each voter cast one vote for a member of the House of the People and another for a representative to the respective state legislatures There were 22 state legislative assemblies. In the 22 state assemblies and 3 electoral colleges (Kutch, Manipur and Tripura) there were in all 3,369 members divided as follows: Congress party 2,295, Communists 161, Socialists 125, K M P 77, other parties 377, Independents 334.

Japan On Oct 1 the Japanese people, in the first national election since Japan recovered its sovereignty, demonstrated where they stood on the issue of collaboration with the free world or with Communism In the largest turn-out of voters in their history, amounting to 76% of the total electorate, the people gave a majority to the Liberal party of Shigeru Yoshida and inflicted a severe defeat on the Communists As compared with those of Jan 23, 1949, the results of the elections were as follows.

	1949			1952		
Party	Votes	%	Seats	Votes	%	Seats
Progressives	5,840,231	19 1	68	6,422,874	18 2	85
Liberals	13,420,269	43 9	264	16,983,515	48 0	241
Right Socialists	4,129,794	13 5	49	3,970,315	11 4	57
Left Socialists				3,461,274	9 9	54
Co-operative party	684,417	2 3	14	394,078	1 2	2
Workers' and Peasants'	606,840	2 0	7	261,190	0 7	4
Communists	2,984,780	9 7	35	891,695	2 5	—
Minor parties	918,079	3 0	10	550,179	1 6	5
Independents	2,008,109	6 5	19	2,359,814	6 5	18
Totals	30,592,519		466	35,294,934		466

Within the Liberal party there was an estimated 70-member right-wing group following Ichiro Hatoyama; it was believed that Yoshida could rely on the support of only about 100

members while another 70 were described as " fence-sitters " The opposition to Yoshida outside his own party included the Progressives led by Mamoru Shigemitsu, the former foreign minister, who signed the surrender on board the " Missouri " in 1945. Both the Liberal and Progressive parties were in reality parties of the right and did not differ essentially from the major parties of prewar days, the old Minseito and Seiyukai, whose organizations they had inherited.

The two Socialist parties together polled 7,431,598 votes, *i.e.*, 21 3% They were united on only one point, the disapproval of the U S.-Japanese bilateral security treaty signed at San Francisco on Sept. 8, 1951. The right wing, led by Tetsu Katayama, with considerable trade union support, was anti-Communist, while the left wing was on most issues close to the Communist line

United States. The election of Dwight David Eisenhower as the 34th president of the United States on Nov 4 was a personal triumph for the former supreme commander of the Allied armies in the west and of the integrated armed forces of the North Atlantic Treaty organization. Although it marked the end of two decades of Democratic administration and the return to power of the Republican party, the latter's victory was by no means a result of a landslide, as the composition of the two chambers of the Congress proved conclusively Eisenhower carried with him 39 states, leaving only 9 to his Democratic opponent, Adlai Ewing Stevenson. The following table gives the results of the 1952 election compared with the five previous ones

	Electoral Votes		Popular Votes	
	Democrat	Republican	Democrat	Republican
1932	472*	59†	22,821,857	15,761,841
1936	523*	8‡	27,476,673	16,679,583
1940	449*	82§	27,244,160	22,305,198
1944	432*	99‖	25,601,504	22,006,285
1948	303¶	189‖	24,105,695	21,969,170
1952	89**	442††	27,311,316	33,927,549

* Franklin D Roosevelt † Herbert C Hoover ‡ Alfred M Landon § Wendell L Willkie ‖ Thomas E Dewey ¶ Harry S Truman ** Adlai E Stevenson †† Dwight D Eisenhower

Candidates of ten minor parties received together 308,996 votes The total of valid votes was 61,547,861, *i.e.*, 63% of all entitled to vote and 82% of those who registered

The composition of the 83rd U S congress, compared with the three preceding congresses, was as follows.

	Senate				House of Representatives			
	1946	1948	1950	1952	1946	1948	1950	1952
Republicans	51	42	47	48	246	171	199	221
Democrats	45	54	49	47	187	263	234	213
Independents	—	—		1	2	1	2	1

(K M S)

ELECTRICAL INDUSTRIES. Generating Plant. In spite of growing competition from electrical manufacturers abroad, including that from Germany where rapid postwar recovery was evident, English makers of heavy electrical plant were very fully occupied in 1952 and found it necessary to increase their manufacturing capacity to cope with the large orders received in the previous year. One large manufacturer, for example, received orders for 1 5 million kw of generating plant during 1951 The British Electricity authority, pursuing its object of installing adequate plant capacity to meet electric power-demands in Great Britain and of constructing the 275-kv. super-grid, continued to be the largest customer, but it proved possible to undertake an increased amount of construction for export. As in preceding years there was competition between home and export demands for generating plant but prospects for the latter improved.

There was a tendency towards 100 Mw. for the economic size of turbo-generator unit, to supersede the hitherto standard sizes of 60 or 30 Mw. which had been adopted during the period of acute shortage, partly because they could be built more quickly. Four hydrogen-cooled 100-Mw , 3,000-r.p.m. turbo-generators for a steam-pressure of 1,500 lb. per sq.in. at 1,050°F , and 12 75-Mw. hydrogen-cooled sets were under construction, as well as a number of 60-Mw. turbo-generators for the same, or rather lower, steam pressures. Turbo-generators of capacities up to 66 Mw. were being built for South Africa, Canada, Australia, India, British Guiana and Finland.

Successful efforts were made to meet foreign competition in the construction of large, high-speed hydro-generators. The largest example of such plant ever to be made in Great Britain was under construction. This was a 106,500-kva. generator for Canada Others of capacities between 16,700 and 66,667 kva. were being made for Uganda, Norway, Australia and Spain. The largest of these had a diameter of 40 ft and weighed 500 tons

There were signs that the period of development of the gas turbine as a successful prime mover for electricity generation was ending. The construction and testing of several units of capacities between 500 and 3,600 h p was completed and the first 15,000-kw. gas-turbine driven generator for the B E.A was put into commission.

A project for using atomic energy for power production was started, following encouraging results obtained at the Atomic Energy Research establishment at Harwell and it was hoped to have the first experimental unit operating in 1956-57

Transmission and Distribution Equipment. The developments in high-voltage transmission in Great Britain and abroad were reflected in the construction of the equipment required for them. Among transformers being built were a number of 120-Mva., 275-kv /132-kv. units, with on-load tap-changing, forced oil-circulation and forced water-cooling, for the B E A super-grid, a 213-Mva , 13,200/301,000, 3-phase bank of generator transformer for British Columbia, and a 111-Mva 275,000/13,200 bank for outdoor operation under severe weather conditions Others varying in capacity from 16 Mva to 100 Mva and for voltages up to 220 kv were under construction for South Africa, India, Tasmania, Spain and Finland

In addition to 275-kv circuit-breakers of both the oil-immersed and air-blast types for the B.E.A , 132-kv. outdoor-type breakers of 2,500 Mva breaking capacity and high-capacity switchgear for hydro-electric projects in India and Australia were being built

Rectifiers being made included some 1,200-kw , 1,500-v., 6-phase units for the Netherlands railways These incorporated high-speed, electronically applied arc suspension.

Tests were being made, at the Fontenay Testing station of Electricité de France, on a length of British-made, 220-kv , compression-type cable with a loading of 200 Mva The nominal (nitrogen) gas pressure was 250 lb per sq in. and the dielectric thickness, 0 57 in. Tests included one of 30 min at 250 kv to earth and one at a gas pressure of 500 lb. per sq in for 2 hours

Utilization. The national need to conserve coal aroused great interest in public discussions on the use of electricity for space-heating. On one side it was claimed that the electrical energy used was generated largely from unexportable slack which could not easily be used otherwise and that the overall efficiency of such heat production was about 20% and was rising with that of the power stations themselves Against this it was urged that modern domestic stoves and grates, in the design of which outstanding progress had been made, had a high efficiency and should be widely used, especially since domestic electric heaters made a serious contribution to the peak demand. There was general agreement

nevertheless that the use of electric heaters was economic for heating periods of a few hours' duration.

The report of the Ridley Committee on National Policy for the use of Fuel and Power resources, published in September, favoured competition between the various fuel and power industries. It considered that the 100% purchase tax on electric fires should continue because of their contribution to peak load problems but that the purchase tax on hot-cathode fluorescent tubes should be abandoned Following their wide adoption in Ireland, thermal storage heaters, using solid blocks of high heat capacity, and providing an off-peak load, were introduced in Great Britain for factory and office space-heating. A thermal-storage, space-heating plant installed by the B.E.A. had an 800-kw high-tension electrode water-heater.

Good progress was made in the installation of fluorescent street-lighting equipments, and the technique for operating fluorescent lamps on D.C. circuits was demonstrated in new installations.

The use of electricity for power purposes on farms was increasing rapidly especially in crop-drying: platform, or in-sack, grain-driers were being widely adopted Artificial illumination by high-pressure mercury vapour lamps was being used for seedlings. A newly built tomato packing station at Waltham Cross, believed to be the largest in Europe, used electrical methods extensively for handling, grading and cold storage.

Electrical methods of fishing in inland waters and for whaling were being developed.

Research and New Developments. At the fourth British Electric Power convention a group of papers described the research being done by different sections of the industry. It was estimated that about 1% of the £1,000 million annual turnover of the industry was being spent on research and development.

The co-operative researches of the Electrical Research association covered switchgear, including particularly work on arc-suppression and control, surge voltages in transformers and transmission systems, dielectric breakdown and the improvement of dielectric and magnetic materials. Fuses, the thermo-dynamic properties of steam up to 1,400°F and 6,000 lb/sq.in., the bulk transmission of power by high-voltage direct current, the potentialities of wind power, agricultural electrification, domestic heating and fuel cells were also among the E.R.A. research subjects

The British Electricity authority was doing research on high-voltage transmission up to 500 kv., the performance of h.v. insulators in humid and polluted atmospheres, on cooling towers and on internal corrosion in boilers The possibilities of generation by gas turbines, gas-fired, coal-fired, or using steam as the working fluid, were being studied, as were also the underground gasification of coal and power production from nuclear energy

In the manufacturing industry, research was concerned with the development of steels and alloys for the construction of boilers and gas turbines These materials, to withstand high temperatures and mechanical stresses, must have high creep- and corrosion-resistance and are difficult to work: research was proceeding on improved methods of working. A new nickel-chromium alloy, Nimonic 95, was introduced. Permalloy F, a new nickel-iron alloy with high permeability and low coercive force, was developed.

In expectation of the use of high-voltage cables for underwater transmission, such as in the proposed Channel crossing, cable manufacturers co-operated in research. The shortage and high price of copper and of dielectric materials encouraged research on the use of alternatives. Methods of construction using stranded aluminium conductors and aluminium sheaths were being investigated, as were the potentialities of plastic or synthetic dielectrics. Experiments were made on new applications of laminated wood insulators.

Research in lamp-manufacturing was concerned with the many kinds of glass for new lamps operating under various conditions, with investigations on tungsten and molybdenum, on calcium halo-phosphate powders and other phosphors. The applications of lamps giving bactericidal radiation were being studied.

Trade. For the first six months of 1952 the volume of exports of electrical goods, apparatus and machinery was some 10% higher than the 1951 average. The total value of such exports for the month of July was £14,746,089, as compared with £13,974,738 for July 1951. For electrical goods and apparatus, as distinct from machinery, India was the best customer in this month, with South Africa, New Zealand, Australia and Malaya following in that order.

For the first six months of the year the total value of electrical goods and apparatus exported to Norway was £974,891; the monthly average in 1938 was only £12,881.

The results of a statistical survey of shops showed that, in Metropolitan boroughs and towns of over 100,000 inhabitants in Great Britain, there were 15,566 retailers of electrical goods, appliances, accessories and fittings. The density was 3 2 shops per 10,000 persons. (E. W. G.)

United States. The total production of electrical energy in the United States during 1952 was 450,573,305,000 kwh., an increase of 6 9% over the 421,341,383,000 kwh produced during 1951. The quantity of coal and other fuels consumed amounted to about 155,604,000 tons. Of the total energy output during 1952, privately owned electric utilities produced about 81%. Reports received by the Federal Power commission during Oct. 1952 indicated that the installed capacity of generating plants in utility service totalled 78,757,545 kw on Sept. 30, 1952 The installed capacity a year earlier was 74,291,432 kw. Electric utility customers purchased 333,537,083,000 kwh. during 1952 This was an increase of 8 5% over the 307,460,889,000 kwh. purchased during 1951. Sales of electrical energy to residential customers showed the largest increase, 13 5%, and accounted for 25 1% of the total Sales of electric energy to large industrial users accounted for 48 8% of the total This was an increase of 6 6% over the 1951 industrial sales Customers paid the suppliers of electricity $5,960,856,900 in 1952, almost $500 million more than in 1951

Manufacture of heavy electric power equipment which had suffered severe setbacks in 1951 because of material shortages proceeded at an accelerated rate during 1952. Total capacity of electric generating equipment shipped during 1951 was 7,528,100 kw. Reports received from manufacturers early in the year indicated that during 1952, 12,416,500 kw. had been shipped or were scheduled for shipment. During the first half of 1952 manufacturers of refrigerators sold an estimated 1,700,000 units, as compared with 4,075,000 units during 1951. Sales by manufacturers of television sets were about 2,300,000 during the first half of 1952, and about 2,500,000 during the second half This indicated a drop in sales of 585,000 sets below the 5,385,000 sets sold during 1951. (*See* also BROADCASTING; RADIO, SCIENTIFIC DEVELOPMENTS IN, TELEVISION.) (F. J. K.)

ELECTRIC POWER. Efforts to supply the insistent and increasing demand for electric power, especially in the less developed countries, by the exploitation of hydro and other natural energy sources, continued unabated during 1952 and there were indications that the deficiencies in generating capacity in countries most affected by World War II were being considerably reduced. Hydro-electric schemes particularly were pressed forward, but warnings were given that, at the existing rate of increase of load and of hydro-power,



A helicopter being used on Jan. 8, to erect overhead line conductors for the electric grid on the Malvern hills.

nearly all the possible developments of this source of power in Europe would be completed at the end of 15 to 20 years.

The 14th session of the Conférence Internationale des Grands Réseaux Electriques à Haute Tension (C.I.G.R.E.), held biennially, met in Paris with over 1,300 delegates representing 42 countries. The discussions, covering many aspects of the design and operation of high tension transmission systems, gave evidence of the keen and widespread interest in this subject.

The results of very comprehensive studies on European power integration were given in two reports issued by the Economic Commission for Europe.

The exchange of power between countries remained constant at only about 1·3% of the total European production, but an analysis of the available sources of power and an examination of the advantages of a continental " super grid " made the construction of such a grid appear unjustifiable. The results of a joint investigation by the British Electricity authority and Electricité de France of the desirability of a cross-Channel link between the two systems showed, however, that this link might be mutually advantageous and experimental work to determine the technical possibility of the scheme was being considered.

Great Britain. Generating capacity began to overtake the demands for power during the year. In the six months of the 1950-51 winter, load-shedding was necessary on only 6 occasions as compared with 86 in the previous winter. This was due to a net increase in installed generating capacity of 1,176,496 kw. during the year ending March 31, 1952, and, in part also, to a slackening in the rate of increase in demand, especially by domestic consumers. At this date the total installed capacity in the 293 power stations owned by the B.E.A.—ten new stations were brought into commission during the year—was 15,769 Mw., with a total output capacity of 14,214 Mw. The deficit in the main development programme for 1947-57 was, however, 4,164 Mw. By the end of September the installed capacity had risen to 16,356 Mw. The first oil-fired boiler was brought into use at the new Bankside power station in central London which was expected to have a capacity of 120 Mw.

The over-all thermal efficiency for B.E.A. generating stations during the year to March 31, 1952, was 22·04%, while 82·8% of the total energy output was produced by stations with efficiencies over 20%. The total energy sold was 50,419 million units (59,260 million units were generated), an increase of 8·2% on 1951. The average price per unit sold was 1·220*d.*, as compared with 0·4894*d.* in the previous year. For the first nine months of 1952 the total energy output from power stations in Great Britain was 41,721 million units, 1·8% more than for the same period in 1951.

In the year ended March 31, 1952, the B.E.A. had 13,503,733 consumers. Consumption for electric traction fell by 5% while that on farms rose by 17·8%; 9,744 farms were given a supply in spite of restrictions on capital expenditure. Domestic consumption rose by 7·1% as compared with a rise of 12% in 1951. Capital expenditure was £141·68 million and the surplus revenue was £2·92 million with total assets of £870 million. For transmission, 4,043 route miles of 132 kv. overhead line and 62 mi. of 132 kv. underground cable were in service. The construction of 41 mi. of 275 kv. line was completed and further lengths were being erected.

Consideration was given to the possibility of building new power stations near to coal mines or to coal treatment plants where rejected material could be used as fuel. Electricity was generated on a small scale at Bayton, Worcestershire, from gas produced at an experimental underground gasification plant in which a mixture of compressed oxygen and air was pumped down to cause gasification.

At the beginning of the year the North of Scotland Hydro-Electric board had 280 Mw. of new hydro-electric generating plant in operation capable of producing 576 million units a year while their total hydro-electric plant had a production capacity of 873 million units a year. When the hydro-electric schemes being surveyed, promoted and constructed in 1952 were put into operation, the total capacity was expected to be 1,097·6 Mw. for an annual production of some 3,233 million units. There were in operation 120·9 Mw. of steam plant and 34·6 Mw. of diesel plant. The latter was producing 55·9 million units a year at a unit cost of 1·72*d.* as compared with only 0·36*d.* per unit produced by water power. The average fuel component of generating cost for the diesel plant was 0·98*d.*, hence the board's efforts to replace this plant by water—or perhaps wind-power. Consumers numbered 263,000 of whom 18,861 were connected during 1951. This left some 110,000 still to be connected. On the Highland grid, 840 circuit miles of 132 kv. line were in operation at the end of 1951 with 280 mi. under construction.

In October 1952 the Duke of Edinburgh opened the Glen Affric (Fasnakyle) power station of 66 Mw. capacity to produce some 230 million units a year.

Commonwealth. *Canada.* The Ontario Hydro-Electric Power commission invited tenders for constructional work on the St. Lawrence seaway project, involving a power scheme for some 2·2 million h.p., to be divided between the United States and Ontario, in addition to the building of the seaway itself. Costs would be about $300 million for the seaway and $450 million for the power development. The Aluminium Company of Canada was planning its $550 million Nechako-Kitimat scheme in British Columbia which, when completed, would have the world's largest aluminium smelter, producing 500,000 tons of aluminium a year. The hydro-electric power station would have an ultimate capacity of 2,240,000 h.p. The Quebec government leased for hydro-electric development

the 1 million h.p. potential of the Bersimis river and planned to develop 500,000 h p for 1956.

Australia To overcome serious power shortages in New South Wales, 155 Mw. of additional plant was being installed during the year. A new 50-Mw. turbo-alternator set was put in operation at Pyrmont station, Sydney.

The New South Wales rural subsidy scheme, started in 1946, had resulted in 44% of the state's 71,000 farms being supplied with electricity.

A new power station to cost £12 million was being planned for Port Augusta, South Australia. Tenders involving £4 25 million for turbo-alternators and boiler plant were accepted by the State Electricity Commission of West Australia.

Work began on the first stage of the Tully Falls Hydro-electric scheme in Queensland, the ultimate capacity of which would be over 70 Mw.

In the year ending June 1951, 82,545 consumers in Tasmania used 889 million units of electricity The hydro-electric generating capacity was 184 5 Mw. and was being doubled by three new developments

New Zealand. During the year ended March 31, 1952, some 3,300 million units were generated, the total maximum demand being 677 Mw

The Tekapo power station with 25 2 Mw capacity was brought into operation. Since the economically usable water power in New Zealand might be fully exploited within the next 10 to 20 years, alternative sources were being investigated and the possibilities of geothermal steam appeared good.

An £8,620,724 tender was accepted for the construction of the Roxburgh gorge hydro-electric project with an ultimate generating capacity of 320 Mw.

South Africa. Turbo-alternators with a total capacity of nearly 1,200 Mw. were on order to supply the rapidly increasing demand for power Progress was made in station construction and installation of plant at Worcester, Salt River, Port Elizabeth, Vierfontein, Umgeni and East London. The total energy sold in 1951 was 11,600 million units.

India. Control and development boards were set up for the Hirakud dam project and the five-year plan for electrification included provision for the installation of some 268 Mw. of new generating plant by privately owned supply undertakings. The possibilities of wind-power generation were being actively studied

Ceylon. The Canadian government, under the Colombo plan, agreed to provide $1 million for rural electrification in the Gal Oya valley where a large power and irrigation project was nearing completion.

Pakistan. The 22-Mw hydro-electric station at Rasul was put into operation and work started on 100 mi. length of 132-kv. transmission line.

Malaya. Large extensions to generating plant at 25 power stations were in progress and the first half of the 80-Mw. Connaught Bridge station was completed.

Jamaica. The Lower White River hydro-electric station generating 4 75 Mw. was officially opened.

Europe. In addition to reporting on European power supplies the United Nations Economic Commission for Europe established a study group on rural electrification and arranged a conference to discuss especially the needs of countries not yet extensively electrified.

Hydro-electric schemes progressed and, in France, the Donzère Mondragon power station in the lower Rhône valley was opened by the French president. Its ultimate capacity was expected to be 300 Mw Rapid progress in Portugal was indicated by the increase in hydro capacity to 345·7 Mw. by the end of 1951. This plant produced 768 million units, which was 81% of the total generated in that year. The latest Soviet five-year plan (1951-55) included the doubling of the total generating capacity and trebling the hydro-electric output. At the completion of the plan, which also included a 400-kv. transmission scheme for the Volga basin, the annual electricity production would be about 162,000 million units. Agreement was reached on the construction, by the governments of Austria, Bavaria and the German Federal Republic, of a hydro-electric station on the Danube, near Passau, to give an annual output of 920 million units

In Yugoslavia the first of three 28-Mw. hydro-electric generators was installed at Vinodol, near the Croatian coast.

Electricity production in Poland increased by some 25% during the year. Norway's hydro-electric generating capacity was increased by some 160 Mw with 180 Mw., 210 Mw , and 270 Mw. to be added in 1953, 1954 and 1955 respectively.

Under an economic collaboration agreement, Italy was to build in Greece a 5,000-kw. hydro-electric station to be connected eventually to the grid transmission scheme which was under construction

The Cyprus government was proceeding with a project comprising a 70-Mw. generating station and a distribution scheme covering the island

In Italy the water power remaining to be developed had diminished to a point where other sources of power were needed. Two new 50-Mw. steam units were brought into operation at Genoa, and at Tavazzano, in northern Italy, the first of two 62 5-Mw. generating units using natural (methane) gas as fuel was commissioned

Sweden had 600 mi. of transmission line, from the 288-Mw. Harspranget power station to southern Sweden, in operation at 380 kv. The Finnish five-year plan envisaged the end of water power development by 1970 and the consequent need for steam stations (E W G)

United States. In the first six months of 1952 the Federal Power commission authorized 1,915 mi of natural gas pipe line facilities costing an estimated $235,420,973 They were designed to add more than 1,250 million cu ft. to the daily delivery capacity of the nation's transmission systems, and would benefit 101 cities of 50,000 population or more in 25 states and the District of Columbia, as well as numerous smaller communities During the fiscal year ending June 30, 1952, the commission authorized construction of 3,378 mi. of pipe line and compressor units aggregating 539,510 h.p , costing $321,919,895

During the 12-month period ending June 30, 1952, the commission issued licences for hydro-electric projects having a total installed generating capacity of 1,410,900 kw., representing an investment of $363,672,000. A record 125 applications were filed and 149 cases were completed.

Combined utility and industrial production of electric energy passed the 450,000 million kwh. peak for the first time in the 12-month period ending Aug 31, reaching 450,573,305,000 kwh., 6 9% above the previous year. Electric utility production totalled 388,490,903,000 kwh , an increase of 8 1%. As of Aug. 31, total installed capacity of utility plants was 78,307,864 kw. and industrial generating capacity reached 14,685,586 kw., making a combined total of 92,993,450 kw In the first six months of 1952, largely because of the steel strike, only 2,011,015 kw. of new capacity were added of which 323,510 kw. were industrial and 1,687,505 kw. were utility. But during the fiscal year public utilities added 5,165,905 kw. and industrial plants 756,744 kw., a total of 5,922,649 kw.

Use of gas by electric utility plants in August reached 104,965,791,000 cu.ft., 18 7% above Aug. 1951 consumption. Coal stocks on hand at Sept. 1 totalled 42,107,618 tons, 12 5% more than a year earlier, sufficient to last 152 days. Coal consumption was 8,569,173 tons, 4 4% less than in the same month a year earlier.

F.P.C. studies of water power potentials indicated that, including projects under construction or authorized, the total

undeveloped water power of the United States was about 87 million kw., which, if developed, would be capable of generating about 385,000 million kwh. annually. Of this undeveloped power 55%, or about 48 million kw., is west of the continental divide, with 40%, or about 35 million kw., in the north Pacific area, of which about 31 million kw. are in the Columbia river drainage system. (J. W. J.)

ELECTRIC TRANSPORT. Progress in electric traction during 1952 was again marked in those countries which already possessed considerable electrified systems. Developments in France were the most interesting and the completion of the Paris-Lyons electrification and the agreement to apply the 50-cycle single-phase system to the Valenciennes-Thionville line were especially noteworthy. In the Netherlands, not only had the lines destroyed in World War II been re-electrified by 1948 but the postwar programme, except for the section from Arnheim to Zwolle, had been completed. Electric trains on the principal main lines and diesel electric trains on branch lines had largely eliminated steam.

Improvements in design were directed largely to weight-saving and to the reduction of maintenance. This was illustrated by the French National railways' decision to build power bogie locomotives despite the excellent performance of the 2-D_0-2 type. Prototypes were under construction with several new features in mechanical design. Investigations into the 50-cycle system were continued on the Aix-les-Bains-Annecy line with locomotives and multiple unit stock using either multi- or single-anode rectifiers with D.C. traction motors or 50-cycle A.C. motors.

In Europe electric traction was decisively ahead of steam-power in making the fastest timings and the greatest mileage run at high speeds. This was largely due to the remarkable accelerations on the Paris-Lyons lines, but considerable credit must be given also to the great recovery in speed in Italy where the list was headed by the *rapido* from Piacenza to Bologna which covered 91·2 mi. in 74 min., an average of 73·9 m.p.h. Electric locomotive performance in Switzerland was high. With the new federal Re 4/4 B_0-B_0 locomotives of 57½ tons speeds of 75 m.p.h. were sustained up gradients of 1 in 100 with 300-ton trains.

Great Britain. Electric working began in February between Wath and Dunford Bridge (18½ mi.), Stage I of the Manchester-Sheffield electrification. From Wath to Barnsley Junction the traffic was entirely freight and only freight trains were hauled from there to Dunford Bridge, the eastern portal of the three-mile Woodhead tunnel. Thirty 87-ton B_0+B_0 mixed-traffic locomotives of 1,868 h.p. at 45 m.p.h. were in service. With only two motor groupings, as the two motors of each bogie were permanently in series, a wide range of field weakening gave flexibility. Excitation for regenerative braking was obtained from a motor generator.

London Transport put in service in March the first of 90 cars with aluminium alloy bodies. Of similar finish to the "R"-type steel cars, the weight-saving was 37% or for the complete car with motors and bogies 20%.

Orders were placed for over 300,000 kw. of rectifiers together with the necessary H.T. and D.C. switchgear and cables for the Southern region's 25 cycles to 50 cycles conversion scheme. Power was to be taken from the National Grid to feed 72 new sub-stations and 62 new track sectioning huts, all remotely controlled. The distribution system to these sub-stations required 300 feeder mi. of 33-kv. oil-filled cable.

Trials were begun in November of the 50-cycle single-phase conversion scheme on the Lancaster-Morecambe-Heysham line (9½ mi.). Three motor coaches with trailers in three-coach sets were equipped with D.C. traction motors fed from a rectifier and transformer on the train. The overhead line, formerly electrified at 25 cycles 6·6 kv. single-phase, was modernized in part and a new sub-station built to supply 6·6 kv. at 50 cycles from the National Grid.

Tramways. The last London tramcar ran on July 5; the trams were replaced by buses. In Blackpool, on the other hand, the first of a new class of single-deck trams, each having four 45-h.p. motors, were put in service.

Austria. Electrification continued of the lines scheduled for completion in 1953, Amstetten-Vienna (79 mi.) and Villach-Tarvisio (17 mi.). The next conversion planned was Wels-Passau (51 mi.) on the Linz-Salzburg main line, followed by the Bischofshöfen-Amstetten section (136 mi.) on the Salzburg-Innsbruck main line. The total mileage now electrified was over 700 route mi. at 15 kv. 16⅔ cycles single-phase A.C.



An 1,800-h.p. electric locomotive of the type serving the Manchester-Sheffield-Wath line which was first used early in 1952.

Belgium. The National railways after investigating the 50-cycle single-phase system decided to adhere to 3,000 volts D.C. for the electrification of lines already planned. In the Congo, however, electrification of the section between Jadotville-Tenke (60 mi.) on the 3 ft. 6 in. gauge Elizabethville-Port Francqui line began in October at 22 kv. 50 cycles single-phase. With the completion of two of the six tracks of the Brussels junction railway, linking the new high-level Nord and the new Midi stations, certain Antwerp-Brussels electric trains were extended to Midi. A feature of the electric track equipment on this section was the very long cross-catenary suspension required to carry the contact wires over 22 tracks at Midi.

Denmark. Progress was made in the civil engineering work for the Copenhagen suburban extensions from Valby to Glostrup. The separation of the main and the electrified suburban lines was planned in the City area with suburban extensions towards Koge bay and northwards towards Lundtofte.

France. Electric working began on Jan. 22 between Dijon and Chalon-sur-Saone and on June 24 between Chalon-sur-Saone and Lyons, thus completing the Paris-Lyons electrification (318 route mi.). The first stage, Laroche-Dijon, was inaugurated in 1950. All classes of traffic were now handled and considerable economies effected. Two hundred and thirty-one electric replaced 600 steam locomotives; weights of the fastest trains were increased from 600 to 800 tons and there was a cut of 112 min. in the fastest Paris-Lyons time compared with the best steam-time in 1950. To make full use of the electrification Lyons-Paris goods trains

formerly routed *via* Moulins or Bourg were diverted to the main line.

The next extension of the 1,500-v. D.C. electrification authorized was to link the Paris-Lyons line with the existing Culoz-Modane 1,500-v D.C. system by equipping the Macon-Bourg-Ambérieu-Culoz and the Lyons-Ambérieu lines (approximately 150 route mi.). Electric working would then be possible between Paris and Villa san Giovanni in south Italy (approximately 1,320 mi.). The extension Lyons-Marseilles was deferred in favour of the 25-kv. 50-cycle single-phase installation between Valenciennes and Thionville which was authorized. Seven sub-stations were planned, three for the railway and four jointly with industry. By this scheme 300 steam locomotives would be replaced by 85 electric engines capable of hauling goods trains of 1,350 tons on gradients of 1 in 100. The cost at 1950 price levels was estimated at £12 million.

Pending delivery of multiple unit stock on the Paris suburban services (southeast region), 18 four-coach sets were formed by permanently coupling a B_0+B_0 locomotive to four trailers and removing one driving equipment from the locomotive to form a driving cab at the opposite end. The Paris Metropolitan extension from Porte St. Ouen to Carrefour Pleyel was opened in June and the first of the new articulated three-car units was introduced.

Germany. Financial assistance was promised by the Bavarian provincial government for the Federal railways' proposal to electrify the Nuremburg-Aschaffenburg line (120 mi.). Agreements were also reached between the North Rhine-Westphalia province and the Federal railways on the electrification of the Rhine-Ruhr lines. Sections planned for conversion included the lines connecting Hamm-Dortmund-Essen-Dusseldorf-Cologne-Remagen, approximately 188 mi. Five different experimental locomotives were ordered to provide data for a new mixed-traffic $B_0 | B_0$ class They were required to haul goods trains of 1,300 tons on gradients of 1 in 200 at 44 m p h and passenger trains of 700 tons on gradients of 1 in 100 at 56 m.p h. with a maximum speed of 80 m p.h All five prototypes differed in electrical and mechanical characteristics.

Italy. In accordance with the policy for a standard system, two further sections of the 16⅔-cycle three-phase system were converted to 3,000 v. D C.—the Trento-Bolzano (34 mi) section of the Verona-Brennero main line and the line Bolzano-Merano (20 mi.) The annual saving on the conversion was assessed at £28,000 despite improved and faster services. To facilitate the export of citrus fruit and vegetables, the electrification of the Bologna-Lecce main line (496 mi.) was planned. The first section was to be Bari-Pescara (186 mi.). The Rome underground neared completion Largely cut and cover, the line ran from the new main-line Rome termini southwest for about 7 mi with 7 intermediate stations, with 1,500-v. D C. overhead equipment the rolling stock would consist of motor cars designed for a maximum of 62 m.p.h.

Netherlands. On May 17, electric traction began on the Zwolle-Leeuwarden and Meppel-Groningen section of the Netherlands railways This followed the electrification of the section Amersfoort-Zwolle and brought the total mileage electrified to 786 mi. or about 40% of the whole system. Conversion of the Arnheim-Zwolle section proceeded and was planned to be finished early in 1953. This would complete the existing electrification programme and the remaining lines would be worked by diesel traction. Sixty-five per cent of the passenger train miles and 34% of the freight train miles were now handled electrically. Though most of the passenger traffic was handled by multiple-unit stock, 95 mixed-traffic electric locomotives were on order or at work.

Spain. The first of the 60 3,000-v. D C. locomotives 5 ft. 6 in. gauge for heavy mineral traffic on the Spanish National railways was put to work initially on the Ujo-Busdongo section of the Leon-Oviedo line. These C_0-C_0 locomotives of 3,600 h p. (1 hr. rating) were the most powerful yet built in Great Britain They had a continuous tractive effort of 30,500 lb. at 36 m p.h. and weighed 118 tons. Excitation of the motor fields for regenerative braking was taken from one of two 20-kw. motor-generator blower sets.

Switzerland. Extensive reconstruction and electrification was carried out on various sections of the Chemins de Fer du Jura. The metre-gauge line between Saignelégier and La Chaux de Fonds (16½ mi) was converted to electric traction and the standard-gauge line from Saignelégier to Glovelier (15 mi.), used for some years for goods working only, was being converted to metre-gauge and electrified to permit through running from La Chaux de Fonds. The standard-gauge section Porrentruy-Bonfol was converted to electric working. This section was separated from the main Chemins de Fer du Jura system by the Swiss Federal main line between Porrentruy and Glovelier.

Australia. Electrification of the main lines from Sydney was planned to Lithgow and Wallerawang in the west, Goulburn in the south and Newcastle in the north. Tenders were invited for 210 new cars for the Melbourne suburban system, and modernization of sub-station equipment proceeded. On the Caulfield-Dandenong-Frankston lines new rectifier sub-stations would form the first stage of a change-over from 25- to 50-cycle supply Additional locomotives were ordered for the Gippsland line electrification.

New Zealand. Trials were made in March of the first of seven 1,800-h p. 1,500-v. D.C. $B_0-B_0-B_0$ articulated locomotives on the 3 ft. 6 in. gauge main line, Wellington-Paekakariki. The locomotives would work through to Upper Hutt 23 mi. from Paekakariki when the conversion planned for 1955 was completed. The 75-ton mixed-traffic locomotives comprised two half-bodies controlled by side bearers on a centre bogie with two outer bogies. Six motors gave a 1-hr. full-field rating of 23,300 lb. T E. at 28 m p h. and a continuous rating of 18,400 lb. T.E. at 30 m.p.h. Motor combinations gave series, series parallel (two groups of three) or parallel (three groups of two) with two weak field positions in each grouping. Long time-rated resistances facilitated shunting *en route*

South Africa. Progress was maintained on the doubling of sections of the electrified Natal main line Pietermaritzburg-Ladysmith. Ultimate shortening of the route by about 13½ mi. and reduction of curvature would give reduced running times. Sixty class 5E B_0-B_0 locomotives were ordered from Great Britain for use on the Natal section.

In the Cape Province the conversion of the main line was almost completed from Bellville to Worcester (97 mi.) and the extension to Touws river (a further 51 mi.) was scheduled for completion in 1953. A new power station was built at Worcester (Hex River) to supply the railway and industrial load and the first of the 40 Class 4E $1-C_0+C_0-1$ locomotives for this section were delivered. These 155-ton locomotives were some of the most powerful built for 3 ft. 6 in. gauge working with a 1-hr. rating of 3,030 h.p., maximum speed 60 m.p.h. This electrification was at 3,000 v. D.C. and the Capetown suburban section in use since 1928 at 1,500 v. D.C. was to be converted to give a unified system. Progress was made on new rectifier sub-stations; though initially working on 1,500 v. D C. they would be changed over to 3,000 v. D C. when the new multiple unit stock was delivered. The first section for conversion (Capetown-Bellville and Cape Flats) would be followed by the Simonstown line. Ninety-two new electric motor cars were to be ordered. (J. W. GE.)

United States. Improvement in rapid transit facilities was

the most significant aspect of development in electric transport during 1952. Eight new rapid transit construction projects estimated to cost $445,650,000 were approved by New York city's board of transportation Ground was broken early in the year for a $30 million rapid transit project at Cleveland, Ohio. Orders were placed for 70 P.C.C. (Presidents' Conference committee) rapid transit cars for operation on the new line.

Opening of the East Boston tunnel extension represented the greatest transport improvement in many years in the Boston metropolitan area. Forty new P.C C. rapid transit cars were provided for this operation and 24 older-type cars were modernized and equipped with new motors.

The improvements in rapid transit facilities made during 1952 and other recent years had had little effect on the overall extent of rapid transit facilities in the United States At the beginning of 1952 there were 1,217 mi. of rapid transit track in operation as compared with 1,230 mi. in 1935. During this period the number of rapid transit cars declined from 10,416 to 9,644. Those in service, however, were of somewhat larger capacity, so that the total carrying capacity remained about the same. The total number of passengers carried by rapid transit systems was 2,236 million in 1935 and 2,189 million in 1951, the latest year for which there were complete figures. Only in the matter of operating revenue had there been a marked change As a result of an upward trend in fares, operating revenue increased from $131 million in 1935 to $214,700,000 in 1951

Reorganization proposals were made by the Long Island Transport authority to solve the financial difficulties of the suburban electric Long Island railroad Another suburban electric line which found itself in difficulties during the year was the Staten Island Rapid Transit railway. Permission was asked by the company to discontinue all passenger service and to limit its operations to freight haulage

A gradual reduction in the scope of operation of electric surface railways in the United States continued in 1952. There was, however, a steady growth in electric trolley coach operations. With some 600 new vehicles of this type delivered in 1951, trolley coach operating companies expected to approach a record in the number of passengers carried in 1952. An estimated total of 7,500 trolley coaches were expected to be in operation in the United States before the end of 1952, a figure almost equal to the number of surface electric railway cars (*See* also RAILWAYS) (J. A Mi)

ELECTRONICS. The year 1952 saw the extension of electronic techniques to almost every field of applied science and engineering On the instrumental side commercial forms of electronic apparatus were now available for such purposes as measuring the moisture content of a wide range of hydroscopic materials under controlled conditions, measuring and controlling the radiation dosage produced by X-ray therapy equipment and for detecting and recording the electrical potentials developed by the human heart or brain. Even the simple and classical Wheatstone bridge was brought up to date by the attachment of a valve-operated balance indicator which rendered it suitable for measuring resistances from 0 01 to 1,200,000 megohms and conductances from 3×10^{-6} to $3\ 9 \times 10^{3}$ micromhos. A new direct-writing recorder was developed incorporating a moving-coil element which was so efficient that it could be driven by a simple valve amplifier and which had sufficient restoring torque to deflect a stylus across the paper record in as little as 2 5 milliseconds. This considerably extended the facilities available for recording high-speed electrical fluctuations in a dry and permanent form. The suspension of the recorder was of a stiffness which made the instrument suitable for use in aircraft or vehicles.

The application of ultrasonic vibrations to various purposes was advanced by the development of electronic methods of generating such vibrations. The industrial uses covered processes of emulsification and the production of finely divided suspensions, in which the action required was that of dispersing one material in another. The same principle was involved in the action of cleaning and the use of ultrasonic techniques was proposed both for scouring textiles and for the removal of foreign matter from solid bodies. In metallurgy, the use of vibrations of ultrasonic frequency made possible the tinning of aluminium and the de-gassing of metals; while in the biological field, micro-organisms were destroyed and some striking therapeutic results were claimed. There remained some doubt, however, about the usefulness of some of these applications, particularly in cases where high intensities of ultrasonic energy were necessary.

The possibilities of all-electronic telephone exchanges were investigated by the British Post Office and the results of some experiments in progress were described during the year. Basically, a telephone exchange is a switch or aggregate of switches by means of which two subscribers are connected together for the conduct of a conversation. In a manual exchange the interconnection is made by a human operator, but for some time automatic exchanges had been in use in which the connection was made by means of electromagnetic switches operated by impulses sent by the subscriber initiating the call. During the same period of development, the thermionic valve amplifier, or repeater, had also been applied and had become a normal piece of equipment in any trunk or long-line telephone system In recent developments, attention was given to the possibilities of doing the switching electronically in order to determine whether exchanges using such means were cheaper and more reliable than the existing types using electro-mechanical switches The subject was explored in a broad manner and not simply on the basis of replacing electromagnetic switches by the corresponding valve assemblies. The electronic exchange with its multiplex switching arrangements could make use of carrier-frequency or time-division systems In a model exchange already demonstrated, trains of pulses were used for the interconnection, line-signalling and speech transmission between the subscribers' installations. Speech frequencies of 300 to 4,000 cycles per second could be transmitted with a pulse-repetition frequency of 10 kc/s for the trains of pulses For an electronic switch dealing with 100 telephone channels, the time spacing between the channels was then one microsecond and a pulse length of 0 3 microsecond was desirable While transmission gain and loss and also distortion were features of electronic connector switches not found in existing types using metal-to-metal contacts, better speech transmission could, on the whole, be given by electronic switching systems, accompanied by the advantages of cheaper line plant construction and more reliable switching with less maintenance.

One of the features which an electronic telephone exchange for practical use would have in common with the various forms of electronic computers undergoing development in various parts of the world, was the incorporation of a very large number of thermionic valves. In such installations the electrical power which has to be supplied continuously to the valve heaters to keep the cathode emission ready for use is a very considerable item in the overall maintenance. It was therefore natural to find that those responsible for the development of such systems were eagerly watching the progress of investigations into the possibilities of devices using such metals as germanium and silicon, which showed promise of providing the rectifying and amplifying properties of valves, while not requiring any appreciable continuous electrical supply for their operation.

In the production of an electronic organ instrument an assembly of electronic oscillators was used to generate the basic notes while the various tones characteristic of the organ were constituted by an appropriate mixture of the fundamental tones and its harmonics, and such features as wind noises and tremulo could be simulated by electrical means. In one commercial form of such an organ, with two manuals, pedal and stop controls, the loudspeakers constituting the source of sound were mounted in pipe-like baffles of wooden construction suitably designed for their acoustical resonant qualities (R. L. S.-R.)

United States. An electronic airborne device for detecting radiations from the site of an atomic bomb blast, which had been used in checking effects of bombs used in tests by the Atomic Energy commission at Eniwetok atoll, was announced when security regulations on it were lifted. Developed in the General Electric company's tube department, it is an ion chamber of much smaller size than other gamma-ray detectors of similar type and sensitivity. Argon gas is compressed to 50 times atmospheric pressure, in a steel tube less than 7 in. in length and ¾ in. in diameter. Radiation permits the gas to conduct a current between two electrodes, and the amount of gamma radiation is registered on a meter.

To prevent loss of survivors from sea disasters the United States air force developed a 30-ft. lifeboat that could be carried by a B-29 to the place when needed, dropped to the water with a parachute and then guided by radio from the mother plane to the survivors. The controls on the boat were operated either by radio signals from the plane or automatically after having been set for a particular course.

A radarlike device that gives warning of vehicles, or even pedestrians, approaching a gatehouse while they are several hundred feet away, was put into use at the General Electric Research laboratory near Schenectady, New York. By means of an 18-in. parabolic reflector, a beam of 13-cm radio microwaves is directed down the approach road. A vehicle approaching on the road returns an echo, which is picked up by the reflector and the transmitting antenna.

A method of utilizing ultrasonic waves, which are like sound waves but of too high a frequency to be audible, to detect intruders in a closed room was developed by the Alertronic Protective Corporation of America, New York. The waves are sent out from a transmitter and picked up by a receiver—some directly, others after they have been reflected from walls and other objects in the room, which set up a constant pattern as long as they are stationary. However, if some object or person moves, the motion alters the frequency of the reflected waves. The receiver detects such changes and operates an alarm.

A possible new use for electronic computing machines was in forecasting the weather. A group at the Institute for Advanced Study at Princeton university, Princeton, New Jersey, under the direction of John von Neumann, with the aid of Jule G. Charney who did the meteorological work, developed a special machine for a system of numerical forecasting which considers many more data than a human forecaster can utilize. It was estimated that an expert human calculator, working with a desk type machine, would take two years to complete a single day's forecast. In one test, however, the machine did the work in three hours and it was estimated that the time could be reduced to less than an hour.

Another new computer, called RAYDAC (Raytheon Digital Automatic Computer) and developed for the Bureau of Aeronautics of the Department of the Navy by the Raytheon Manufacturing company, Waltham, Massachusetts, was intended to analyse the behaviour of guided missiles during test flights. It was said to "worry" about the results of its calculations through a checking system which enables it to recognize when it makes a mistake and to stop working. The source of the error is shown the operator by indicators on the control panel. Meanwhile the work done up to that point is preserved so that the machine can continue where it left off.

The important task of handling aeroplane passenger reservations was accomplished by another type of electronic "brain", called the "magnetronic reservisor", a joint development of the Teleregister corporation, New York, and American Airlines. It was installed in the air line's offices at La Guardia field, New York city. Formerly such reservations were made by several hundred clerks, answering phone calls from agents or passengers. The inventory of space available was kept on a large availability board on which about 2,400 separate unit plaques were posted.

In the new machine the inventory for ten days ahead is kept on two "memory" drums, revolving at 1,200 revolutions per minute. These are covered with a magnetic material and the actual record consists of minute magnetized spots which are made, read or erased by a complicated electronic circuit. Ticket agents are provided with a small desk unit, connected over leased wires with the machine at La Guardia field. The agent presses buttons to reach the machine and to request data. Then lights show the space available. Pressing more buttons records the reservations he wishes to make. Cancellations may be effected in a similar way. Though developed for ticket reservations, the machine was said to be applicable in any business where a complicated inventory must be kept, subject to quick and accurate changes.

A significant electronic development of recent years was the transistor, a tiny bit of plastic, wire and germanium, which could do much of the work formerly done by larger vacuum tubes. The General Electric company demonstrated a transistor megaphone which can amplify the speaker's normal voice into a loud shout. No external connections of any kind are required. The amplification is accomplished with transistors, and the small amounts of power which they need are supplied by tiny batteries inside the unit. (*See* also ULTRASONICS.) (J. STO.)

ELIZABETH II (ELIZABETH ALEXANDRA MARY) was born in London on April 21, 1926, at 17 Bruton street, almost exactly three years after the marriage of her parents—then the Duke and Duchess of York and later King George VI and Queen Elizabeth. She was christened Elizabeth Alexandra Mary after her mother, great grandmother and grandmother. Her earliest years were principally spent at her father's London home—145 Piccadilly. When she was four her father also acquired the Royal lodge at Windsor and here—in a delightful garden and with easy access to the park for riding—she passed the happiest days of her childhood. It was at Royal lodge that she kept one of her chief treasures—the small house with the straw roof given to her by the people of Wales when she was six. During the summer months she spent some weeks at Balmoral and at Glamis, the home of her grandfather the Earl of Strathmore. In later life she sometimes complained that in childhood she had never enjoyed the delights of the seaside. But with this possible exception her upbringing was not different from that of her contemporaries, and her succession to the throne was at that time never looked on as more than a remote possibility.

The normal routine of schoolroom and holiday was broken into occasionally by the demands of appearances in public. She took part in the carriage procession of George V's jubilee, and in the following year she accompanied her parents for part of the king's funeral. With the abdication of Edward VIII in 1936, her position as the eventual occupant





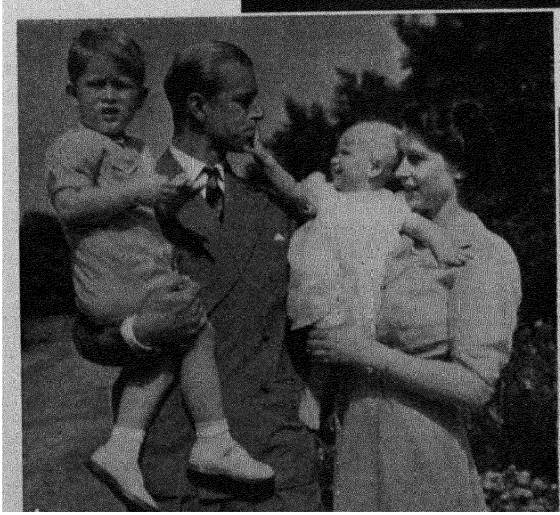


QUEEN ELIZABETH II

Princess Elizabeth (1) at the age of three in July 1929; (2) with Princess Margaret playing the piano in their schoolroom at Windsor Castle in June 1940; (3) with her father King George VI at Windsor Castle in July 1946; (4) with Prince Philip, Duke of Edinburgh, and their children in the grounds of Clarence House, London—on left is Prince Charles, Duke of Cornwall (b. Nov. 14, 1948) and Princess Anne (b. Aug. 15, 1950); and (5) as Queen Elizabeth II, one of the first formal photographs taken after her accession. She is wearing a circlet of diamonds and pearls formerly worn by Queen Victoria.



On Nov. 20, 1947, Princess Elizabeth was married to Prince Philip, who was created Duke of Edinburgh. The above photograph was taken in the throne room of Buckingham Palace. On the right are King George VI and Queen Elizabeth, and on the left Queen Mary and Princess Andrew of Greece, Prince Philip's mother.





of the throne was assured. From henceforth particular care was taken with her education, her mother wisely steering the course between a too care-free youth and an over-specialization in any one subject. Her general education was in the hands of an experienced governess—Miss Marion Crawford—and she was taught history by the then vice-provost of Eton, Sir Henry Marten. When World War II started in 1939 she and her sister Princess Margaret were parted from their parents and in the expectation of imminent air raids lived in Scotland. They later moved to Royal lodge and after the fall of France, to Windsor castle. From here in the autumn of 1940 she made her first broadcast—a short talk to British children separated from their own homes. On her 16th birthday, wearing her girl-guide uniform, she registered for national service. King George considered that her particular responsibilities made it impossible for her to join up; he had in mind that as soon as she was 18, she was liable to be appointed one of the councillors of state, exercising the sovereign's functions if he were ill or abroad After repeated appeals from the princess he allowed her to join the Mechanical Transport Training centre at Aldershot, where she learned to drive and service army vehicles.

Her first public engagement without her parents was on May 31, 1944, when she was installed as president of the National Society for the Prevention of Cruelty to Children. Later in the same year she launched the battleship "Vanguard". In 1945 she took a prominent part in the national celebrations which followed the collapse of Nazi Germany.

On Feb. 17, 1947, she disembarked from the "Vanguard" in Table bay with her parents and sister, and it was in South Africa that she celebrated her 21st birthday, marking the occasion with a broadcast to the empire in which she promised to dedicate her life to the service of the British Commonwealth. On returning home she received the freedom of the City of London on June 11, 1947. For the first time she also took part that year in the ceremony of trooping the colour; she wore a becoming uniform and rode on horseback. On July 9 her engagement was announced to Lieut. Philip Mountbatten, R.N., formerly Prince Philip of Greece, a distant relation both through Queen Alexandra and Queen Victoria, whom she had known since she was a girl They were married in Westminster abbey on Nov. 20 In the following year, at Whitsun, the princess and her husband, who had been created Duke of Edinburgh on the morning of the wedding, paid a ceremonial visit to Paris where the princess' command of the French language was favourably noticed. On Nov. 14, 1948, her first child, Prince Charles, was born in Buckingham palace. During 1949 the princess and her husband moved to Clarence house, adjoining St. James's palace, and here Princess Anne was born on Aug. 15, 1950. King George VI's illness in 1951 threw a heavy burden of work and anxiety on the young princess, but after a delayed start she and the duke were able to set out for a tour of Canada, including a visit to Washington, in October. Supported and encouraged by her husband she carried through an exacting programme with charm and self-confidence, and learned much from this experience. The Canadians expressed this with pardonable exaggeration by saying "We send you back a new princess."

The beginning of 1952 was occupied in preparing for the tour to Australia and New Zealand which she was to undertake on behalf of her father. She and the Duke of Edinburgh set out by air on Jan. 31. The first stage of their journey was to Kenya, where they stayed in the Forest lodge, Sagana—a wedding present from the people of Kenya. The night of her father's death was spent watching wild game in the jungle, and the news was broken to her by the duke when they had returned to Forest lodge. A member of her staff said, "She stood it bravely—like a queen." She reached England on Feb. 7 and on the following day she was proclaimed as "Queen Elizabeth II, by the Grace of God, Queen of this Realm and of all her other Realms and Territories, Head of the Commonwealth, Defender of the Faith." On Feb. 8 she spoke to the accession council of privy councillors in St. James's palace and referred to her father as "the revered and beloved head of our family as he was also of the wider family of his subjects." She spoke of her determination to follow his shining example of devotion and service "in the heavy task which has been laid upon me so early in my life." That afternoon she motored to Sandringham with the duke and for the next few days was engaged with the arrangements for her father's state funeral. This took place on Feb. 15 and for the first time in English history the sovereign's coffin was immediately followed by a woman as chief mourner. The queen drove in a closed carriage with her mother, sister and the princess royal

As court mourning was imposed for three months after the king's death, the queen was to some extent relieved from the unending round of functions. Her first public engagement as queen was when she distributed the Maundy money in Westminster abbey on April 10. When court mourning ended on May 31 the queen carried on the customary heavy round of the sovereign's summer. This included a processional drive to Ascot and the trooping the colour. On this occasion, which marked her official as distinct from her real birthday, she rode the police horse Winston, and remained in the saddle for some two and a half hours. On June 25, she went alone (owing to the indisposition of the Duke of Edinburgh) for a week's visit to Edinburgh staying at Holyrood house. At the beginning of July (also alone) she travelled to Devonshire for the Royal show. The queen held two Buckingham palace garden parties on July 10 and 17. She left for a holiday at Balmoral with her husband and children on Aug. 8. From the start of her reign she followed her father's practice of giving a weekly audience to the prime minister. It was noticed that the duke was not present on these occasions, though he was generally in the room with her when she received official personages other than politicians.

All her life the queen has had a fondness for horses and an understanding of them, as a child she was chaffed by her father because he complained that no one stood so high in her affections as the groom who had taught her to ride From her earliest days she has been a regular visitor to the Windsor Horse show. She has likewise showed an interest in racing and with her mother owned a successful horse, Monaveen. It was noticed that she stayed longer at Ascot than her father had done and she was the first sovereign to visit Goodwood for more than 20 years. The queen broke her holiday in Scotland to watch the St. Leger run on Sept. 11.

(R. T. B. F.)

EL SALVADOR: *see* SALVADOR, EL.

EMPLOYMENT. The general rise in employment indices in 1951 was not maintained during 1952. In some countries, *e.g.*, the United Kingdom, there was no change (although in manufacturing alone the United Kingdom index fell), while in others, notably Australia and Belgium, there was a fall. Some indices continued to rise, particularly those of France, the German Federal Republic and Japan.

In western Europe the only great bodies of unemployed were in the German Federal Republic and Italy, the latest figures being 1,107,000 and 1,837,000 respectively. Despite a continuing influx of refugees, the German Federal Republic figure had progressively decreased from 1,580,000 in 1950. Italy's total had increased from 1,615,000 in 1950. The United

TABLE I. EMPLOYMENT IN GREAT BRITAIN, DEC 1951-AUG 1952
(in thousands)

	Dec 31, 1951	Aug 31, 1952
Total working population*	23,371	23,401
Men	15,986	16,016
Women	7,385	7,385
Forces and Women's services†	852	871
Men	829	847
Women	23	24
Total in civil employment	22,221	22,195
Men	14,975	14,967
Women	7,246	7,228
Basic industries	*4,074*	*4,172*
Mining and quarrying	852	875
Colliery wage earners	698	721
Gas, electricity, water	369	368
Transport and communications	1,751	1,762
Agriculture and fishing	1,102	1,167
Manufacturing industries	*8,768*	*8,569*
Chemicals, etc	494	482
Metal	555	557
Vehicles	1,069	1,086
Engineering, metal goods and instruments	2,586	2,560
Textiles	997	883
Clothing	686	671
Food, drink, tobacco	852	862
Other	1,547	1,468
Other employments		
Building and contracting	1,422	1,445
Distributive trades	2,645	2,646
Professional, financial and miscellaneous services	3,921	3,999
Public administration		
National government	627	614
Local government	746	750

* Excluding registered unemployed, Dec 31, 1951, 350,000 (wholly unemployed, 295,000, temporarily stopped 55,000), Aug 31, 1952, 396,000 (wholly unemployed, 326,000, temporarily stopped, 70,000)
† Excluding ex-service men and women on release leave (Dec 31, 1951, 3,000, Aug 31, 1952, 9,000)
SOURCE *Ministry of Labour Gazette* (H M S O, Oct 1952, London)

Kingdom, whose statistics were exceptionally complete and included persons temporarily stopped in all forms of employment, rose from the low levels of 1950 and 1951 to 434,000 in Sept. 1952. This represented 2 1% of the insured population, against 1 6% in 1950 and 1 3% in 1951. France maintained nearly full employment with 33,615 wholly unemployed drawing benefit in August, although the number registered as seeking employment was 105,539.

In the United Kingdom the government's deflationary policies in restricting credit and capital spending lessened pressure on a labour force that had been, in many areas, close to over-full employment. Other factors were the temporary closing of Australian markets for many goods to enable that government to adjust its balance of payments and consumer resistance to clothing and textile prices in late 1951 and early 1952. Apart from increased unemployment and known short-time worked, there was much "under-employment" in a slackening of pace in factories because employers were reluctant to lose staff during what might be only a temporary lull in demand. This was apparent in the failure of employment statistics to match the fall in production.

The textile industry showed the most violent changes in employment in 1952. Beginning with reports of short-time working in February, unemployment in textiles in Great Britain increased by 46,700 in March, 38,000 in April and 7,000 in May. It fell by 6,000 in June and 41,500 in July Falls in later months brought the total down to 56,300 in mid-October.

TABLE III INDICES OF EMPLOYMENT, 1950-52, ON 1948 BASE

	1950	1951	1952 (latest month)
Excluding agriculture			
Australia	107	111	110 (May)
Austria	100	102	102 (June)
Canada	102	109	112 (July)
France	102	104	106 (April)
German Fed Rep	106	113	118 (June)
Japan	102	112	116 (April)
New Zealand	104	106*	-
Norway	105	106	109 (June)
South Africa	106	109	114 (March)
United Kingdom	102	103	103 (July)
Yugoslavia	96	88	—
Manufacturing only			
Argentina	97	98	—
Australia	106	109	106 (April)
Belgium	98	102	99 (1st qtr)
Canada	101	108	108 (July)
Denmark	114	116	111 (June)
Finland	104	108	102 (July)
France	103	106	107 (April)
German Fed Rep	113	122	126 (June)
Ireland	107	107	—
Israel	139	139	—
Italy	98	98†	—
Japan	100	112	116 (March)
Netherlands	110	—	—
New Zealand	105	108*	—
Norway	106	108	109 (June)
South Africa	103	109	112 (May)
Sweden	99	101	101 (April)
United Kingdom	108	108	105 (July)

* Oct † Nov
SOURCE U N *Monthly Bulletin of Statistics*

The incidence of unemployment in Great Britain showed a distinct geographical pattern, lower in the south and midlands and higher in Wales, Scotland and the north. Against a percentage of 1·9 for Great Britain in mid-September, area percentages were. (low) London and northeastern, 1·1, eastern, 1 1, southern, 1 2, southwestern, 1·4, midland, 1·0, north midland, 0 9, and East and West Ridings of Yorkshire, 1 7; (high) northwestern, 3 6, northern, 2 5, Scotland, 3·1, and Wales, 2 7. (R. JA)

TABLE II UNEMPLOYMENT IN GREAT BRITAIN

Date	London and Southeastern	Eastern	Southern	Southwestern	Midland	North-Midland	East and West Riding	Northwestern	Northern	Scotland	Wales	Northern Ireland
1951												
Jan	62,668	15,950	14,960	18,503	9,803	10,015	17,566	43,672	36,774	70,340	33,320	33,078
July	29,407	5,285	6,974	8,217	6,515	4,135	11,773	27,894	21,276	43,797	20,574	23,894
1952												
Jan.	71,746	15,582	14,256	17,689	17,998	16,809	33,232	59,690	36,470	70,000	30,269	47,165
Feb	69,669	17,401	15,020	17,945	12,584	16,019	33,413	71,486	35,394	75,864	28,685	53,153
March	68,976	17,392	15,314	17,022	16,226	16,697	39,515	111,278	33,795	69,235	27,524	46,830
April	65,446	16,410	13,366	16,048	18,020	19,760	43,021	143,385	35,102	69,298	28,015	49,750
May	62,961	15,131	13,535	15,456	19,440	18,592	46,558	150,659	32,694	66,242	26,177	51,165
June	60,396	11,495	11,099	12,981	19,749	15,760	41,399	145,159	29,100	68,511	24,405	49,569
July	57,983	10,712	10,237	12,429	18,313	14,418	34,354	117,231	27,529	66,709	23,529	60,353
Aug	61,830	12,680	11,008	14,060	19,285	13,871	31,276	117,253	31,854	65,665	24,792	45,569
Sept.	59,643	12,383	11,906	15,261	19,512	12,212	30,617	105,657	31,096	66,372	24,961	44,434
Oct	70,901	13,586	14,657	18,768	18,851	10,828	27,733	95,313	32,134	68,138	26,984	41,865
Nov	76,077	14,936	15,832	20,112	20,179	10,566	26,637	89,481	32,563	72,135	27,281	43,950
Dec	75,401	16,868	15,476	20,801	20,130	10,827	25,154	81,183	33,191	73,237	27,193	45,648

SOURCE. *Ministry of Labour Gazette* (H.M.S.O., London).

TABLE IV UNEMPLOYMENT, 1950-52
(in thousands)

	1950		1951		1952*	
	Number	Percentage	Number	Percentage	Number	Percentage
Australia	1 23	0 8	79	0 7	5 24†	—
Austria	124 8	6 2	116 2	5 7	116 9 ‡	—
Belgium	223 5	10 9	206 5	9 8	217 0 ‡	11 1
Denmark	54 8	8 7	63 0	9 7	48 9 ‡	7 5
Finland	19 2	-	5 6	- -	0 1 ‡	—
France	52 4	—	40 3		33 6 §	
German Fed Rep	1,580	10 2	1,432	9 0	1,107 §	—
Ireland	30 3	7 5	30 4	7 3	35 9 §	8 4
Israel	5 91	- -	6 34	- -	10 24‖	—
Italy	1,615		1,721	—	1,837 ‖	—
Japan	436	1 2	386	1 1	490 †	1 3
Netherlands	79 1		92 8	-	106 §	—
New Zealand	0 04	—	0 04	—	0 07‡	—
Norway	9 0	-	11 1	-	3 2 ‡	—
Portugal	2 05	- -	2 22	—	2 50†	—
South Africa	16 28	—	10 19	—	13 54‡	—
Spain	166 2	—	144 2	-	92 1 ‡	—
Sweden	22 1	2 2	18 2	1 8	18 4 ‖	1 8
Switzerland	9 6	1 8	3 8	0 8	1 8 §	—
United Kingdom	341 1	1 6	281 4	1 3	434 0 ¶	2 2
United States	3,142	5 0	1,879	3 0	1,578 ‡	2 5

* Latest month † May ‡ July § Aug ‖ April ¶ Sept
SOURCE U N *Monthly Bulletin of Statistics*

United States. The civilian labour force (persons not in the armed forces and available for employment) numbered 64,390,000 in June 1952, an increase of 607,000 over June 1951 Unemployment also declined The June 1952 total of 1,818,000 unemployed was 162,000 less than the June 1951 total of 1,980,000

TABLE V NUMBER OF EMPLOYEES IN NON-AGRICULTURAL ESTABLISHMENTS, BY INDUSTRY DIVISION, UNITED STATES*
(in thousands)

Industry division	June 1952	May 1952	April 1952	June 1951
Total est employment	46,322	46,320	46,258	46,567
Mining	862	894	897	927
Contract construction	2,661	2,517	2,410	2,686
Manufacturing	15,440	15,671	15,784	15,956
Transportation and public utilities	4,170	4,138	4,098	4,161
Trade	9,787	9,744	9,817	9,732
Finance	1,978	1,959	1,953	1,893
Service	4,839	4,795	4,748	4,835
Government	6,585	6,602	6,551	6,377

* The estimates include all full- and part-time employees in private non-agricultural establishments who worked during, or received pay for, any part of the pay period ending nearest the 15th of the month Proprietors, self-employed persons, domestic servants and personnel of the armed forces are excluded These employment series have been adjusted to bench-mark levels indicated by social-insurance agency data through 1947
SOURCE United States Bureau of Labour Statistics, *Monthly Labor Review*

The number of employees in non-agricultural establishments was 46,322,000 in June 1952, a decrease of 189,000 from the total of 46,567,000 in June 1951. Approximately two-thirds of the decline in manufacturing employment between June 1951 and June 1952 occurred in the durable goods industries, where employment declined by 309,000, primarily as a result of the steel strike in June and July.

TABLE VI INDICES OF PRODUCTION WORKER EMPLOYMENT AND WEEKLY PAYROLLS IN MANUFACTURING INDUSTRIES*
(1947-49 average = 100)

Period	Employment	Weekly Payroll
1939 (average)	66 2	29 9
1945 ,,	104 0	87 8
1946 ,,	97 9	81 2
1947 ,,	103 4	97 7
1948 ,,	102 8	105 1
1949 ,,	93 8	97 2
1950 ,,	99 2	111 2
1951 ,,	105 4	129 2
1952 ,,	102 5 (6 mo)	130 0 (5 mo.)

* Data have been adjusted to levels indicated by social-insurance programmes for 1947 and have been carried forward from 1947 bench-mark levels
SOURCE United States Bureau of Labour Statistics, *Monthly Labor Review.*

Employment also declined by 160,000 in the non-durable goods industries between June 1951 and June 1952.

Preliminary figures for July 1952 indicated a continuation of the downward trend in durable goods manufacture and a slackening of the downward trend in non-durables. In this month the number of employees in non-farm establishments stood at 45,941,000, which was 491,000 less than a year earlier. In July 1952 employment in durable goods manufacturing was 8,251,000, or about 580,000 less than in July 1951

TABLE VII EMPLOYEES IN MANUFACTURING, BY MAJOR INDUSTRY GROUPS, UNITED STATES
(in thousands)

Industry group	July* 1952	June 1952	May 1952	July 1951	Net Change July 1951 to July 1952
All manufacturing	15,104	15,487	15,680	15,813	—709
Durable goods	8,251	8,689	9,012	8,839	—588
Ordnance and accessories	79	80	78	47	+ 32
Lumber and wood products (exc furniture)	766	772	709	813	— 47
Furniture and fixtures	334	337	336	331	+ 3
Stone, clay and glass products	533	535	530	557	—24
Primary metal industries	920	945	1,342	1,341	— 421
Fabricated metal products (exc ordnance, machinery and transportation equipment)	906	970	981	991	- 85
Machinery (exc electrical)	1,605	1,642	1,651	1,597	+ 8
Electrical machinery	926	953	956	914	+ 12
Transportation equipment	1,409	1,672	1,649	1,490	— 81
Instruments and related products	321	324	322	298	+ 23
Miscellaneous manufacturing industries	452	459	458	460	— 8
Non-durable goods	6,853	6,798	6,668	6,974	—121
Food and kindred products	1,599	1,530	1,465	1,615	— 16
Tobacco manufactures	86	85	85	81	+ 5
Textile mill products	1,174	1,181	1,178	1,262	- 88
Apparel and other finished textile products	1,097	1,092	1,078	1,110	— 13
Paper and allied products	471	480	476	493	- 22
Printing, publishing and allied industries	771	771	766	758	+ 13
Chemicals and allied products	738	739	741	744	— 6
Products of petroleum and coal	272	270	240	266	+ 6
Rubber products	257	270	269	271	— 14
Leather and leather products	388	380	370	374	+ 14

* Figures for July 1952 are preliminary
SOURCE United States Bureau of Labour Statistics, *Employment and Payrolls*

The employment and weekly pay-roll indices for manufacturing industries reflected the effects of the steel strike upon industry. The employment index for manufacturing industries decreased from 105 4 for 1951 to 102 5 for the first six months of 1952. For the same industries the weekly pay-roll index for the first five months of 1952 was 130 0 as compared with the 1951 value of 129 2.

Canada. The civilian labour force increased from 5,114,000 in May 1951 to 5,179,000 in May 1952, while for the same dates unemployment rose from 170,000 to 212,000. At the same time the general employment index (1939=100) rose from 175 6 as from May 1, 1951, to 177 5 for May 1952. The Canadian index of employment in manufacturing (1939=100) fell slightly from 189 9 in May 1951 to 188 7 in May 1952. (*See* also BUSINESS REVIEW.) (P. TA.)

ENDOCRINOLOGY. The investigations of many clinical workers, biochemists, animal husbandrymen, physiologists, zoologists and others during 1952 resulted in the modification of several existing theories and in the discovery of new facts.

Pituitary. Removal, inactivation or utilization of a secreted hormone appears to be essential if it is not to accumulate in the blood in ever increasing amounts. That

the liver and kidneys inactivate the sex hormones is well known. It was learned that *in vitro* incubation of adrenocorticotrophic hormone (ACTH) with slices or minces of liver, kidney, muscle or even adrenal resulted in inactivation of the hormone. Incubation of ACTH preparations with human blood *in vitro* resulted in rapid loss of endocrine activity, but beef blood lacked this effect. Investigators differed as to whether rat blood caused inactivation Boiling the tissues or heating the blood before incubation largely prevented the inactivation, this suggested that a heat labile enzyme might be involved A "factor" in the anterior pituitary which appears to depress the respiratory quotient (carbon dioxide output divided by oxygen intake) of muscle *in vitro* was discovered. This factor, which is associated with, but may be distinct from, the growth hormone, seems to reduce the utilization of carbohydrate by the body

Adrenal. The pituitary gland, through its rate of release of ACTH, largely regulates the secretion of cortisone and other adrenal cortical hormones In adrenal cortical hyperplasia, however, excessive amounts of androgen may still be secreted, leading to the appearance of some adult male sex characters in children and women A clinical specialist confirmed the possibility of successful treatment with injected cortisone of such masculinized patients The pituitary, sensitive to the excessive (secreted plus injected) blood level of cortisone, apparently reduced its secretion of ACTH In the absence of the latter the secretion of adrenal cortical hormones, including the adrenal androgens, fell to very low levels, thus checking, if not curing, the virilism Meanwhile the administered cortisone made up for the inadequate secretion of those cortical hormones which are not androgenic but are essential Cessation of treatment after many months was followed by reappearance of the androgens

Some types of prostatic and mammary cancer seem to be partially dependent for their growth on certain hormones of the adrenal gland If the adrenals of patients with such tumours are surgically removed and the patients are supplied with one or two of the adrenal cortical hormones, conspicuous relief from symptoms for several months may follow If patients with Addison's disease, or adrenalectomized animals, or animals whose adrenals are atrophic because their pituitary glands have been removed are not supplied with adrenal cortical hormone, one result is an abnormal sensitivity to insulin On the other hand, if large doses of either ACTH or cortisone are given to normal animals, the other extreme is reached and a condition resembling diabetes temporarily occurs Adrenal cortical hormones thus appear to help to regulate the body's sensitivity to insulin, although the mechanism of such control is unknown It also appears that, if the animal is deprived of both adrenal and pituitary hormones (by hypophysectomy), it is more sensitive to insulin than if it lacks only adrenal hormones.

Pancreas. Insulin was added to dilute serum. Five minutes later, one-half a rat diaphragm (muscle) was bathed in the mixture. The other half was bathed in insulin only. Both halves were then transferred to glucose solutions Later, the amount of glycogen synthesized by each piece was determined; the amount of glycogen formed in such a test is known to be proportional to the quantity of insulin available. The muscle treated with insulin alone synthesized more glycogen than did the muscle treated with insulin plus serum, part of the insulin had been inactivated by the serum. Serum from some patients inactivated insulin more effectively than serum from others. In the diabetic patient, the metabolism of fructose is essentially as in the normal person; apparently insulin is not required in the metabolism of this sugar. Glucose, on the other hand, is not metabolized normally when insulin is lacking, and diabetes results.

Gonads. Further evidence was accumulated that progesterone, known to be produced by the corpus luteum, is secreted a few hours before ovulation occurs. The origin of the pre-ovulatory progesterone is not known, it may be produced by cells of the follicle wall. Since the administration of progesterone during the early part of the ovarian cycle results in ovulation before the usual time, it may be that normal pre-ovulatory release of progesterone is a factor in producing ovulation. While it had long been believed that the placenta is another source of progesterone, not until 1952 had biochemists succeeded in isolating the hormone from the human placenta Sex hormones or their metabolites had several times been found in strange places; estradiol, a potent female sex hormone, was isolated from the testis

Lactation. Experiments with rabbits demonstrated that ejection or "let down" of milk probably occurs on a reflex basis involving successively suckling, neural stimulation of the posterior pituitary, release of a hormone (very likely pitocin) from this gland, and action of pitocin on the mammary gland In rabbits and in sows, "let down" can be prevented or checked by the injection of epinephrine. The latter hormone is known to be secreted at moments of alarm when animals must exert themselves to meet or escape danger and when such activities as suckling must be interrupted.

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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, HEAVY ENGINEERING, IRON AND STEEL, JET PROPULSION AND GAS TURBINES, LIGHT ENGINEERING, 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 1952 the general literary field, mirroring the urgencies and unrest of the epoch, showed an increasing tendency towards preoccupation with current or recent affairs Some adventurous speculations were made on the immediate dilemma and the future direction of the civilized world. Notable amongst these was Dr. Cyril Garbett's *In an Age of Revolution* Convinced that mankind faced a great crisis through religious, social and economic failures, the archbishop of York, rejecting other panaceas, put forward the Christian answer and tackled contemporary problems with faith and realism in his direct and balanced inquiry. Sir Charles Galton Darwin took an immense forward view of earth and man in *The Next Million Years*, a closely reasoned, unimpassioned treatise Examining population problems and sources of energy he foreshadowed no drastic destruction of civilization.

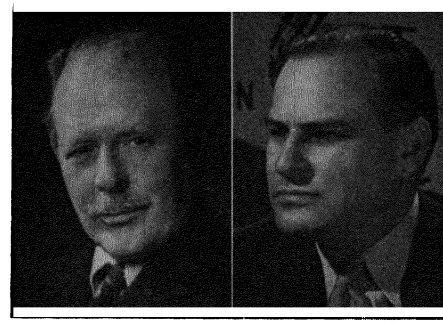
Modern social and political conditions were often approached from the partial angle of personal memoirs and journals, even works of a historical nature being frequently coloured by the opinions of their authors. Thus, in *The Struggle for*

Europe, Chester Wilmot discussed the war that was won and the peace that was lost, dwelling forcibly on the Soviet policy of postwar world power as a menace to democracy. The implications of an earlier state of Russia were treated with more detachment by E. H. Carr in *The Bolshevik Revolution 1917-1923*, the second instalment of his three-volume *History of Soviet Russia*. Winston Churchill continued his war memoirs with the fifth volume, *Closing the Ring*. This covered the period June 1943- June 1944, ending on the eve of the Normandy landings. An earlier political phase was brought keenly, if partially, to life in *Beatrice Webb's Diaries 1912-1924*, edited by Margaret I. Cole. These diaries, of an amplitude surprising in original jottings, showed the Webbs turning from the Fabian society to the developing Labour party, and recalled many striking personalities and old controversies. The politics of 50 years and service under five prime ministers were the theme of *Retrospect*, the memoirs of Viscount Simon, flatly written but with a special interest attaching to his work at the Foreign Office in the 1930s when Hitler was coming to power. A strong light was thrown on these years from another angle in Harold Nicolson's masterly *King George V: his Life and Reign*. Based on the king's own diaries and private documents, this study gave a remarkable portrait of him in pursuit of his public work. Much the same period was covered, with less respect for its new central figure, in G. M. Young's *Stanley Baldwin: a Candid Study* which, undertaken at its subject's own request, emerged as an outspoken piece of critical portraiture in place of the expected work of official documentation.

The general appeal of this personal impact on the political scene was perhaps in part responsible for the scarcity of dispassionate historical works. Vol. IV of *The History of "The Times"* was published in discreet anonymity, covering the period 1912-48 in which the domestic conflict between Lord Northcliffe and the office loomed so large as still to arouse discussion in retrospect. C. M. Woodhouse, in *The Greek War of Independence*, interpreted its political and diplomatic background, placing its action in a wide perspective. Vincent T. Harlow examined with equal thoroughness a phase of Great Britain's commercial expansion in vol. I of *The Founding of the Second British Empire, 1763-1793*.

Literary biography, especially of 19th-century figures, was as plentiful as ever. Lawrence and Elizabeth Hanson presented two detailed and fully documented studies in *Necessary Evil: the Life of Jane Welsh Carlyle* and *George Eliot and Marion Evans*. Both were notable for richness of material, assiduously gathered and well ordered, rather than for insight into character and motive. Sympathetic handling and subordination of document to meaning were more evident in an American narrative of a radical Englishwoman: Ralph M. Wardle's *Mary Wollstonecraft: a Critical Study*. A. B. Hopkins gave a well-balanced picture of writer and woman in *Elizabeth Gaskell: her Life and Work*, conveying her subject's versatility and shortcomings. Two women writers of a later date, both sensitive, retiring and with talents burning as a small clear flame, were given the delicate treatment required. These were *Emily Dickinson*, by Richard Chase, and *Katherine Mansfield, a Critical Study*, by Sylvia Berkman. David Magarshak's *Chekhov* and J. C. Furnas' *Voyage to Windward*—a biography of R. L. Stevenson—each added more richness of detail than of creative vision to the lives of these tale-tellers.

Several efforts were made during the year to increase Robert Browning's popularity. From England came Betty Miller's *Robert Browning: a Portrait* with a notable interpretation of life and character and J. M. Cohen's critical study, *Robert Browning*. In the United States W. C. de Vane and K. L. Knickerbocker edited *New Letters of Robert Browning*, few of which were of the first order, and *Dearest Isa: Browning's Letters to Isabella Blagden* were edited by E. C. McAleer. The new century might be said to bud and blossom behind Rupert Hart-Davis' lively biography *Hugh Walpole*. This pictured a popular novelist of a type unlikely to be repeated in the present world. More urgently, Reginald Pound's close-up portraiture in *Arnold Bennett* set about restoring this massive figure to the position he had lost so rapidly.

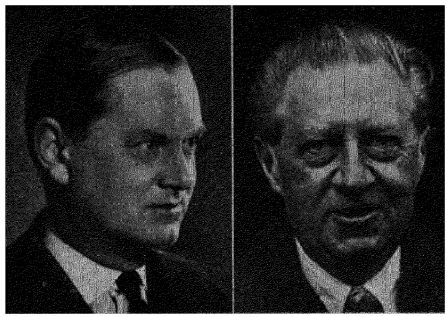


Harold Nicolson *Chester Wilmot*

The critical approach took precedence of the biographical in David Daiches' *Robert Burns*, largely devoted to discussion of separate poems, in Douglas Hewitt's *New Light on Conrad*—a somewhat controversial account of Conrad's "philosophy"—and in Angus Wilson's *Emile Zola*, a succinct introductory study, not without a personal viewpoint. *Norman Douglas*, by R. M. Dawkins, was the first critically appreciative study to appear after Douglas' death (*see* OBITUARIES).

If the year brought no memorable triumph in prose writing, it did yield some characteristically explorative work from reflective writers. Sacheverell Sitwell voiced the artist's approach in *Cupid and the Jacaranda*. In this fifth book of a series his imagination again travelled amongst flowers and music, pictures and architecture, with an added autobiographical strain. In *The Devils of Loudun* Aldous Huxley produced, on the face of it, a grim historical account of demoniacal possession and the torture of a parish priest in 17th-century France. But the malignant tale served largely as an exercise in the author's brilliantly presented speculations on religion, demonology and the byways of spiritual experience. Wyndham Lewis, more argumentative than creative, examined the modern author's degree of freedom in society in *The Writer and the Absolute*, an essay both stimulating and controversial. Lewis Mumford's *The Conduct of Life* covered a broader field dealing, in this last volume of a sequence, with "man's nature, destiny and purpose" and the path he must take for spiritual survival. John Lehmann again voiced the imaginative outlook in *The Open Night* where, in the course of examining the work of several recent writers, he claimed that poetry alone must create the symbols by which man lives during periods of upheaval. *First and Last Loves* gave John Betjeman a happy chance to meditate on the architecture and habits of his chosen suburbia, and F. R. Leavis's essays, *The Common Kind*, displayed that author's combative outlook on writers and literature. More genial and equally typical of their author were W. Somerset Maugham's six essays on writers and writing in *The Vagrant Mood*. Recalling the Barbellion diary of 30 years ago, *The Journals of Denton Welch* were an intimate revealing of this sensitive sufferer marked for early death.

The travel book tended to be, like the general essay, a mirror of the explorer's thought and personality. Thus, Laurence van der Post's *Venture to the Interior* described



Evelyn Waugh *Sir Osbert Sitwell*

journeys in Nyasaland with a blend of adventure and introspection, confidently broadening and deepening his theme. Peter Quennell's slight but beautifully written *Spring in Sicily* afforded him a Sitwellian or Huxleyan opportunity to digress without irrelevance and to write with more warmth and personal attachment than in his previous critical subjects. F. Kingdon Ward's *Plant Hunting in Manipur* and F. D. Ommaney's *The Shoals of Capricorn* were examples of technical expeditions described with a skill that give them a general appeal.

The autobiography proper was almost attempted by Augustus John, whose *Chiaroscuro* selected episodes at random, shedding light more frequently on fellow artists than on himself. In *So Long to Learn: Chapters of an Autobiography* John Masefield discussed early influences and the growth of his imaginative powers. From a number of military memoirs of battles, prisons and escapes Michael Calvert's *Prisoners of Hope* was notable as a detailed personal account of guerrilla fighting behind the Japanese lines. Among memoirs and correspondence of an earlier epoch were *The Letters of Samuel Johnson*, newly edited by R. W. Chapman, and *Boswell in Holland 1763-1764*, edited by Frederick A. Pottle, less animated than the *London Journal*, but providing some further gleams for Boswellians. (S. NN.)

Fiction. 1952 was a lean year for the English novel. Few ventures were made or important reputations extended. Good manners continued to be the means whereby criticism was disarmed. An attachment to form and detail, a distrust of abundance, were the marks of the score or so noteworthy books that were published.

A massive exception to the rule was H. F. M. Prescott's *The Man on a Donkey*. In this two-volume chronicle of the reign of Henry VIII Miss Prescott showed herself to be that rare thing, a scholar with the common touch and with an artist's power of invention. Her narrative was dispersed between some half-dozen main actors of different estate: not a new device, but one here used with great skill to enter into the mind of an era. It could be argued, and was, that her aim was tendentious; this did nothing to dispel the sense of probability conveyed.

Among other practised authors, Evelyn Waugh was urbane and witty as ever in *Men at Arms*, the first part of a promised trilogy. If truth and fantasy both had their place in this satire of military life, it was a measure of Waugh's adroitness that the distinction was seldom clear. In *Doting* Henry Green observed without sympathy the vagaries of middle-aged passion; as before in the work of this writer, a feeling for the delicate phrase was joined to a hardly less strong one for the indelicate situation. The reader was left to wonder whether the end could support such ingenuity of means. The same could be objected of Angus Wilson's *Hemlock and After*, whose underlying theme of the inadequacy of liberalism was somewhat obscured by the overtones of sexual aberration. The characters of this novel were expertly portrayed and uniformly unendearing. In pleasanter vein, C. S. Forester's *Lieutenant Hornblower* supplied an early view of that resourceful sailor; never happier than when in action, he was here found laying siege to a fortress in Haiti, but later was left to languish on half-pay. There was a fine aside in the study of a ship's captain whose every whim was a command, and whose whims were those of a madman. *A Step to Silence* became the latest offering of P. H. Newby's equivocal talent: a prospect of life viewed through a glass darkly, with the disquieting inconsequence of a dream. Somewhat after the manner of Conrad, Newby hinted at a primal question that was scarcely diminished by doubt of what it was. More bizarre still, though not unpersuasive, was J. C. Powys' *The Inmates*. The confessed aim of this excursion into lunacy was to find in its many forms a single attitude to life, a "Philosophy of the Demented", as Powys himself chose to call it. In *A Buyer's Market* Anthony Powell recorded, with a heightened comic sense, a further stage in the careers of the characters in his earlier *A Question of Upbringing*.

An interesting new talent was disclosed by Thomas Hinde's *Mr. Nicholas*. Style and a discernment beyond the author's years gave a notable authenticity to this essay in filial hate. Less oblique and less inhuman than the family scenes of I. Compton-Burnett, it was not, in its treatment of the same topic, less assured. Barbara Pym with *Excellent Women*, and William Cooper with *The Struggles of Albert Woods*, enlarged their earlier successes. The progress of Cooper's hero in English society was a productive if familiar contrivance, and Miss Pym's story owed much to the engaging candour of its narrator, herself a woman of reluctant good works. This was true also of a very different book, Joyce Cary's *Prisoner of Grace*. If the total effect of this novel was ambiguous, this was because Cary refrained, perhaps too pointedly, from imposing a pattern on his material. Through the simplicity of heart of his heroine he suggested the complication of life. Not less detached was Nora Wydenbruck's reconstruction, in *Placidia's Daughter*, of the life of the 5th-century Princess Honoria.

Most novelists remained faithful to private and traditional themes; where events did intrude, they were used to advance other ends. In J. D. Scott's *The Way to Glory* and Basil Davidson's *Golden Horn* the Englishman abroad pursued his pleasures earnestly, haunted by the ghost of a political conscience. Davidson's over-long story of espionage and intrigue was eloquently suggestive of the rise and decline of country and class. Scott's narrative was careful but uninspired. More effective than either of these was James Kinross' *The Eastern Gate*, in which a French colonial war was reduced to disturbingly human terms. R. C. Hutchinson's *Recollection of a Journey*, an ambitious account of the sufferings of the Polish people in World War II, was vitiated by the reader's sense that its experiences were alien to the author.

Short story collections were few and undistinguished. William Sansom enjoyed a modest eminence with *A Touch of the Sun*, a volume in which, not for the first time, his talent showed itself best grounded on native soil. Here, as with fiction generally, the impression made was one of civilized diversity rather than of achievement. (J. E.)

Poetry. Three important collected editions appeared in 1952, each bringing together work which was otherwise scattered throughout many often unobtainable separate volumes. Particularly noteworthy was *Collected Poems* by Edwin Muir, which firmly established this somewhat neglected writer as a poet of great imaginative insight and integrity. *Personae*, the collected shorter poems of Ezra Pound, was

welcome for its inclusion of " Homage to Sextus Propertius ", not included in T. S. Eliot's selection. Dylan Thomas' *Collected Poems* also gave readers the opportunity of studying the total achievement of one of the most exciting and formative young poets of the previous 15 years

Several established poets published new volumes during the year. W. H Auden's *Nones* and Louis MacNeice's *Ten Burnt Offerings* gave the impression of being somewhat transitional in character, but both contained many attractive and accomplished poems *The Exiles*, by Henry Treece, and *News from the Village*, by Gerald Bullett, confirmed rather than advanced the reputations of their authors. In *Wrack at Tidesend* Osbert Sitwell wrote with wit and eloquence of the provincial English scene Another publication by a veteran author was *Into Hades*, an ambitious long poem by Andrew Young, in which, however, the author appeared to be writing in a style alien to his true talents *The Year One* was a collection of great merit by Kathleen Raine

Several books by younger poets appeared during the year. *Europa and the Bull*, the second collection by W R Rodgers, was praised for its rich texture and striking, if somewhat superficial, command of language *The Sailing Race* contained the best poems so far written by Patric Dickinson, while Paul Dehn's *Romantic Landscape* was an attractive collection in a lighter vein James Kirkup, a poet of impressive if still too diffuse talent, published his third collection, *I Correct Compassion* Two volumes by little-known poets were *Rod of Incantation* by Francis King, the novelist, and *The Dark Side of Love*, a first collection by John Smith

Two anthologies of interest appeared during the year: *Scottish Verse 1851-1951*, edited by Douglas Young, and *New Poems 1952*, edited by Roy Fuller, Montagu Slater and Clifford Dyment The latter volume was the first of an annual series sponsored by the P L N and guaranteed for three years It contained much interesting work by established and unknown writers, and was warmly welcomed at a time of serious difficulties resulting from rising costs and public apathy towards poetry. It was announced that a different editorial board would be elected each year, thus ensuring catholicity of choice

The year was also remarkable for two other ventures of value to poets John Lehmann's radio anthology, " New Soundings ", was broadcast monthly on the B B.C.'s Third programme The first programme of its kind, it proved a considerable success; prose as well as poetry was included, and in some cases authors read their own contributions. The Arts Council of Great Britain announced that two prizes of £225 would be awarded in 1953 for (a) a first book of original English verse by a living poet published during the period Jan. 1, 1951-June 30, 1953, and (b) a book of original English verse by a living poet published during the same period

(J C. HL)

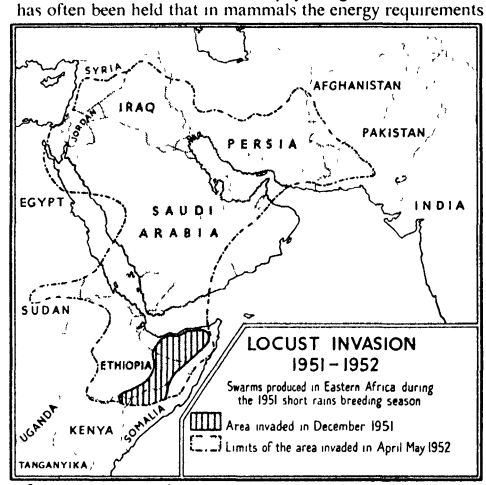
ENGRAVING: *see* DRAWING AND ENGRAVING

ENTOMOLOGY. New Aspects of Bee Behaviour. The celebrated researches of K von Frisch on the " language " of honey bees concerned only the means by which new workers were recruited and informed of the location of a new source of food. C. R. Ribbands and his co-workers at the Department of Bee Research, Rothamsted, have now demonstrated that there are other quite different ways of communication which play an essential part in the effective division of labour within the colony Many years ago G. Rosch showed that individual worker bees performed a sequence of duties during life, first brood-rearing, then wax production and comb-building and finally foraging. However, this allocation of duties is less rigidly determined by age than had been supposed, for foraging activities may be taken over even by young bees if the composition of the colony has been disturbed. The basis of this redeployment is probably the extremely rapid appreciation of the food supply available to the colony. Evidence of food-sharing was obtained by feeding six bees out of a colony of many thousands with syrup containing radioactive phosphorus-32. Within 24 hr. of the syrup being carried into the hive, 76% of the foragers in the colony and 50% of the bees in the combs showed some internal radioactivity

The social appreciation of the food supply through food manipulation is also concerned in the ability of bees to recognize their hive companions Groups of foragers from two hives were trained in turn to two dishes of syrup placed a few feet apart. When both groups were allowed to visit the dishes simultaneously, newcomers were found to be attracted preferentially to the dish visited by other members of their own colony This is a consequence of the distinguishable odours emitted by the bees (probably from their anal glands) at the feeding site. Odour differences were shown to develop most strongly when there was a great disparity between the food supplies available to the two colonies

The Metabolism of Flying Locusts. The Danish physiologist T. Weis-Fogh studied this subject by attaching locusts (*Schistocerca gregaria*) to a special " roundabout " which permitted the insects to fly at their own speed for indefinite periods Almost all the stored energy is present as fat which may amount to 10% of the body weight This suffices for a flight lasting 12 hr or more In order to replace these reserves after a flight to exhaustion a locust must consume about three times its own weight of vegetation Thus a large swarm, weighing perhaps 15,000 tons, would devour sufficient food for 1 5 million men.

Fat is directly utilized by the well-oxygenated flight muscles—a fact of considerable physiological interest as it has often been held that in mammals the energy requirements



of contracting muscle can only be supplied by carbohydrates. A little glycogen is present in the locust but this is all used up during the " warming-up " movements preparatory to flight.

Fat has often been considered to be an inferior fuel metabolically. Nevertheless, provided combustion is complete, fats and carbohydrate are of equal calorific value. Moreover, fat is relatively light. Glycogen, which must be stored in hydrated form, is about eight times heavier than isocalorific amounts of fat. Since insects are small, the weight

factor is critical and sustained migratory flights would hardly be possible unless the fuel consisted of fat. Researches during the past few years have shown that in Diptera glycogen and not fat is utilized during flight. The advantages of glycogen lie in its rapid mobilization so that no "warming-up" period is necessary However, the smaller insects can only fly for a few minutes before their reserves are exhausted.

Substitute Reproductives in Termites. It is well known that termites possess some means of regulating the numbers of each caste to meet the requirements of the colony as a whole. When, for example, the royal pair are removed from the termitarium, certain workers immediately become sexually mature, although they still retain many juvenile characters. The factors governing the appearance of these supplementary reproductives in the European species *Kalotermes flavicollis* were discussed in a publication by M. Luscher The use of marked insects and of flat, glass-sided observation nests made of plaster permitted the behaviour and fate of every individual to be followed with precision.

In one experiment the colony was divided by a fine metal gauze through which the termites could touch antennae but were unable to lick one another. It was then found that a succession of supplementary reproductives was produced in the half-nest containing no royal pair, but that these were always killed and eaten by the other workers Two processes are here at work First, new reproductives begin to develop when some form of restraint emanating from the existing royal pair is removed This may be an "ectohormone" transferred to all individuals in the colony by licking. Secondly, the surplus reproductives are eliminated when two or more are perceived simultaneously by the other workers. The experiment showed that this response is probably mediated through antennal contact.

Insect Endocrinology. The *corpora cardiaca* are small paired organs situated in the neck region and innervated by nerves arising from the hind region (*pars intercerebralis*) of the brain. This area is known to contain the neurosecretory cells which control moulting in insects, and new light was thrown on the function of the *corpora cardiaca* by the researches of B. Scharrer In her latest work on the cockroach *Leucophaea* she studied this problem by severing the *cardiaca* nerves. The secretion of the *pars intercerebralis* which passes down the nerve was then seen to accumulate on the brain side of the cut and to become depleted on the other The inference is that the *corpora cardiaca* serve as storage organs for the secretion.

An organ which was not previously known to possess an endocrine function was discovered in the silkworm by the Japanese physiologists S. Fukuda and K. Hasegawa. Female moths lay eggs of two types. The hibernating (diapause) eggs will not develop unless chilled for many weeks, on the other hand, eggs of the second, or non-diapause, type develop without delay. The kind of egg was found to be controlled by the humoral activity of the sub-oesophageal ganglion. Thus a moth which would have laid non-diapause eggs was caused to lay diapause eggs by transplanting into the abdomen ganglia from moths which were producing eggs of the opposed type. The endocrine mechanism is ultimately under the control of external factors, namely day-length and temperatures. It seems that these agencies affect the sub-oesophageal ganglion through the brain and sub-oesophageal connectives.

Insect Wing Venation. The development of the first satisfactory nomenclature for wing venation—a feature much used in systematics—was due to the U.S. entomologists J. H. Comstock and J. T. Needham at the turn of the century. Basing their conclusions on the available fossil evidence, on comparative anatomy and on the relationships of the tracheae which precede the veins in development, they devised an archetypal system of venation supposedly representing the primitive condition. Although, in general, the Comstock-Needham system has stood the test of time, its application by different authors to the same insect has often resulted in ambiguity Even in the cockroach, much used for teaching purposes and possessing a well-developed primitive venation, no consistent interpretation was available. The careful re-examination of the venation in *Periplaneta americana* and other Blattids by J. Smart has now clarified this matter.

Resistance of Plants to Insect Attack. The frequent failure of insecticides to control insects has caused much attention to be devoted to the breeding of resistant strains of crop plants The achievements in this field, which have been most notable in North America, have recently been surveyed by R H. Painter (see *Bibliography*)

The great increase in the populations of red spider mites (*Tetranychidae*) which almost invariably follows the use of D D T on fruit trees has usually been attributed to the destruction of their natural predators However, many have suspected that this was not the sole reason. Dutch entomologists had concluded that D D T actually stimulates the fecundity of the red spider mite of apple (*Metatetranychus ulmi*). Observations on the citrus red mite in California led C A Fleschner to offer an alternative explanation. By removing all predators by hand Fleschner was able to demonstrate very large differences in the resistance of different citrus bushes to mite attack Moreover, bushes sprayed with D D.T. or inert zinc residues, or even coated with field dust, became markedly resistant The mechanism of resistance is not known but it is suggested that the inert materials may increase transpiration of the foliage and so ameliorate the microclimate in which the mites live

The Mode of Action of Phosphoric Ester Insecticides. In mammals these poisons interfere with synaptic transmission by inhibiting the cholinesterases liberated at the neuromuscular junction. The toxic effects are therefore accompanied by an increase in acetyl choline Since the symptoms of poisoning in insects (loss of nervous co-ordination and paralysis) are somewhat similar, it had often been assumed that the mode of action is also alike in both groups However, several writers now pointed out that there is little evidence that acetyl choline occurs in insects. In an enquiry by H. S. Hopf acetyl choline and related esters were injected directly into the body cavity of the locust without causing any toxic symptoms. There are also other differences. In mammals T.E.P.P (tetraethyl pyrophosphate) is antagonized by atropine (the usual remedy after accidental poisoning), but this does not take place in insects. The conclusions reached were that the phosphorus esters were affecting a general esterase and were not concerned specifically with cholinesterase.

Similar views were advanced by C. Potter and his colleagues at Rothamsted who examined the enzyme activity of *Tribolium* and *Tenebrio* extracts. These contained esterases which hydrolysed several esters but were without effect on acetyl choline. The authors pointed out that since T.E.P P. is a powerful ovicide it is evidently capable of acting before the nervous system has developed. This is a further reason for doubting that its toxicity is connected with anti-cholinesterase activity. Such phosphoric esters as parathion and T.E.P.P. appeared therefore to be universal esterase inhibitors and for this reason were dangerous to man. Future research would no doubt be directed towards discovering more specific phosphorus insecticides.

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EPIDEMICS. Countries which adopted the International Sanitary regulations, 1952, undertook to supply the World Health organization (W.H.O.) with information concerning cases and outbreaks of the six " quarantinable " diseases, *i e* , plague, cholera, yellow fever, smallpox, louse-borne typhus and relapsing fever. This information was published by the organization daily by radio and in a weekly bulletin. Information, however, was not forthcoming from a large part of eastern Europe and much of Asia. The bulletins showed that in India a small epidemic of plague occurred in Madhya Pradesh and Uttar Pradesh early in the year. In Madagascar an outbreak which started in 1951 continued throughout 1952 and Tanganyika was also affected.

Cholera attacked a number of Indian provinces of which the most seriously affected were Madras, with over 1,000 cases weekly in July and August, and West Bengal where the peak was reached at the end of April. East Bengal in Pakistan suffered heavily in April and May but the incidence dropped rapidly in June.

Smallpox, which is endemic in India, occurred in epidemic form early in the year chiefly in Bombay, Bihar, Madhya Pradesh, Madras and West Bengal, but by the end of September the epidemic was under control In Pakistan East Bengal was also affected during the same period. An outbreak in Burma subsided in March In Africa the countries chiefly affected were French Cameroun, French West and Equatorial Africa. From the latter smallpox spread with the pilgrims bound for the Hejaz to the Anglo-Egyptian Sudan. The Belgian Congo had an epidemic of variola minor. In Europe a small outbreak of smallpox occurred in France while the United Kingdom had a small epidemic of variola minor with no deaths.

The advent of new and efficient insecticides made easier the control of louse-borne typhus and relapsing fever and no serious epidemics occurred, though outbreaks of typhus were reported from Ethiopa, Ecuador, Afghanistan, Turkey and Yugoslavia. Relapsing fever was reported in Ethiopa early in the year with about 100 cases a week and continued at that level throughout the year

A small outbreak of yellow fever occurred at the beginning of the year in Nigeria. Some cases of jungle yellow fever occurred in parts of Brazil lying outside the yellow fever endemic zone as delineated by W.H.O

Cerebro-spinal meningitis was epidemic across central Africa, affecting French West and Equatorial Africa and the Anglo-Egyptian Sudan. By July, with the onset of the rainy season, the epidemic had come to an end.

Influenza was widespread in Europe though generally of a mild type with a low mortality rate. Denmark was especially affected and here the outbreak continued throughout the summer and autumn.

An epidemic of poliomyelitis began in the United States in the second quarter of the year and increased in severity till in September the highest weekly incidence ever recorded (4,191) was reached. Canada was also affected. Later in the year the incidence dropped in both countries. In Europe the German Federal Republic suffered severely as also did Denmark, but in other countries the incidence was not abnormal. (H. M. E.)

ERITREA. Former Italian colony on the Red sea bounded S. by Ethiopia and W. by Sudan, from 1941 under temporary British administration and from Sept. 15, 1952, an autonomous province federated with Ethiopia. Area: 48,350 sq mi. Pop. (1950 est): 1,104,000 incl. 18,000 Italians. Language: mainly Tigrinya and Tigré. Religion: *c.* 50% Christian monophysite and 50% Moslem. Capital, Asmara (pop. *c.* 117,000). Representative of the emperor of Ethiopia, Bitwodded Andargai Masai. Chief executive, elected by the Eritrean Representative Assembly, Ato Tedla Bairu.

History. In 1952 Eritrea achieved its new status of an " autonomous unit federated with Ethiopia under the sovereignty of the Ethiopian crown " prescribed by the U N. resolution of 1950. The arrangements which began in 1951 moved swiftly and smoothly during 1952 to their conclusion. The deadline for their achievement had been set for Sept. 15 and on that date the federation became fully effective and the new Eritrean government assumed the powers provided for it in its constitution. This had been prepared by the U.N. commissioner, Eduardo Anze Matienzo (Bolivia), was adopted by an elected Eritrean assembly on July 10, and ratified by the emperor of Ethiopia on Aug. 11. The Federal act which set up the federation was written into the U.N. resolution and was ratified by the emperor on Sept. 11 Federation was then effective, and by the 15th the physical transfer of powers and authority to the successor authorities by the British administration was complete.

The Eritrean government assumed authority in all domestic affairs and the federal government, which was in effect the Ethiopian government, took over control of those affairs which had been broadly defined in the resolution as federal responsibilities. On Sept. 16 the British authorities, who had governed Eritrea since April 1941, finally withdrew, and the British flag was hauled down and replaced by the flag of the federation, the Ethiopian flag, and the new blue flag of Eritrea. A handful of British advisers and Italian technicians remained to assist the new régime

Thus Eritrea became incorporated as a specially privileged and self-governing unit in the Ethiopian empire, from which it had been detached some 60 years earlier to become an Italian colony Its fate had been in the balance for 11¼ years.

The population is evenly divided between plateau Christians and lowland Moslems and this fact was recognized in a parity of these two components in the composition of the assembly and posts in the new government. The head of the latter was a Christian. The whole process was conducted in an atmosphere of great goodwill in both Eritrea and Ethiopia which augured well for the new relationship.

In October Emperor Haile Selassie paid a state visit to all the provinces of Eritrea and was greeted with great enthusiasm by his new subjects wherever he went, to whom he made it clear that his sole desire was to ensure their peace and prosperity.

The successful implementation of the Eritrean settlement was reported to the U N general assembly at the end of 1952 and unanimous and warm approval of the action taken was recorded. Eritrea from being an international " problem " found its haven as part of the Ethiopian empire. (F. E. S.)

Education. Schools (1951). elementary 100, pupils 12,000, higher elementary 14, pupils 1,200, secondary 2, pupils 167

Finance. Budget (1951-52 actual) revenue £3,019,475, expenditure £3,269,795, (1952-53 est , first year of the new status) revenue £1,639,005, expenditure £1,566,644 Currency East African shilling

Foreign Trade. (1951) Exports £5,014,056, imports £5,849,042

ESTONIA. A Soviet Socialist republic, bounded N. by the Gulf of Finland, E. by the Russian S.F.S.R., S. by Latvia and W. by the Baltic sea. Area: 18,357 sq.mi. Pop.: (1939 est.) 1,134,000; (1950 est.) 1,200,000. Language: Estonian and Russian. Religion: Lutheran and Greek

Orthodox. Chief towns (pop., 1939 est.): Tallinn (cap., 146,400), Tartu (60,100); Kohtla-Jarve (1950 est., 30,000). Chairman of the presidium of the Supreme Soviet, August M. Jakobson; chairman of the council of ministers, Aleksey Muurisepp.

History. On Feb. 24, Estonia's national day, Konstantin Päts, the last president of independent Estonia, General Jaan Laidoner, commander-in-chief, and other Estonian leaders who were deported in June 1940 and whose fate was unknown were attacked in a broadcast from Tallinn denouncing them as traitors and "obedient tools of the western imperialists". An exhibition entitled "Anglo-America Intervention in Estonia, 1918-20" was opened at Tallinn to suggest that the Estonian War of Independence was fought to make the country an Anglo-American colony. On May 15 the town of Kuressaare on the island of Saaremaa (Oesel) was renamed Kingissepp in honour of an Estonian Communist rebel, Victor Kingissepp, who had been executed for high treason in 1923.

On May 10 the presidium of the Supreme Soviet of the U.S.S.R. confirmed the new administrative reform grouping the 39 *rayony* or districts into three *oblasti* or provinces with capitals at Tallinn, Parnu and Tartu. At the plenary session of the central committee of the Estonian Communist party at Tallinn, on March 26-28, Ivan Gustavovich Kabin, first secretary, demanded that the workers and peasants should increase their socialist consciousness and political vigilance and that the activities of hostile elements should be unmasked. These elements among others were squandering and robbing the socialist property of the collective farms. He revealed that the number of *kolkhozy* was reduced from 2,975 in 1949 to 1,137. Only 163 *kolkhozy* had a primary Communist organization, *i.e.*, at least three party members. The total party membership amounted to 31,000.

According to the fifth Five-Year plan 1951-55 Estonia was to develop its oil-shale industry. The production of gas from shale was to increase by 120% and a gas pipe-line was to be laid from Kohtla-Jarve to Tallinn. The production of liquid fuel from the same source was to be increased by 80%. It was estimated that in 1950 oil production was about 450,000 metric tons. A large hydro-electric power station on the river Narva was to be completed. The railway system was to be overhauled and, it was believed, the Tallinn-Krasnogvardeysk line was to be provided with a second track. Since 1945 the Estonian coast and islands had been covered with a network of fortifications. There were also about 60 airfields.

Jaan Kiivit, the Soviet-appointed archbishop of the Estonian Lutheran Church, took part in a "Defence of Peace" conference organized in May at Zagorsk, near Moscow, by Aleksey, the patriarch of Moscow and all Russia.

Education. Schools (1950, 1939 in brackets) elementary 1,148 (1,224), pupils 142,500, secondary (58), pupils 13,500, technical (101), pupils 14,000, institutions of higher education 6, students 6,500, Tartu university, students 2,700 (3,219).

Finance. Budget (1952 est.) balanced at Rb.1,059,280,000.

See J. A. Swettenham, *The Tragedy of the Baltic States* (London, 1952), A. Torma and V. Raud, *Estonia 1918-1952* (London, 1952).

(K. M. S.)

ETCHING: *see* DRAWING AND ENGRAVING.

ETHIOPIA. Independent empire of northeastern Africa, bounded N. and W. by the Anglo-Egyptian Sudan, S. by Kenya, S.E. by Italian Somaliland and E. by British and French Somaliland. Area, (excl. Eritrea [*q.v.*]): *c.* 350,000 sq.mi. Pop. (no census ever taken, 1950 est.): 15,000,000. Language: Amharic, the official language; also Tigrinya, Tigré, Galla, Somali, etc. Religion: Christian monophysite (in communion with the Egyptian Coptic church) 57%; Moslem 17%; pagan, etc., 26%. Chief towns: Addis Ababa (cap., 250,000); Harar (45,000), Dessie (35,000); Dire-Dawa (30,000). Ruler, Emperor Haile Selassie I; prime minister, Bitwodded Makonnen Endalkachaw.

History. The event of outstanding importance in 1952 was the final settlement of the Eritrean question by the incorporation of that country into the Ethiopian empire on a federation basis under the sovereignty of the Ethiopian crown. On July 10 the Eritrean Constituent Assembly approved a constitution which had been prepared by the U.N. commissioner after consultation with the British administration, the Ethiopian government and the Eritrean people. This constitution was ratified by Emperor Haile Selassie on Aug. 11; on Sept. 11 the emperor also ratified a federation act which had been drawn up and approved by the U.N. assembly on Dec. 2, 1950, thus completing the formalities that were the necessary prelude to the transfer of control from the caretaker British administration on Sept. 15. The representative of the emperor, his son-in-law Bitwodded Andargai Masai, arrived in Asmara on Sept. 13 with his wife Princess Tenegn Work, and was installed in the former Italian government's headquarters. The emperor paid an official visit to the newly acquired territory in October.

Eritrea secured representation in the Ethiopian parliament on the basis of population, 3 Eritrean senators being appointed directly by the emperor and 5 deputies being elected by the Eritrean Constituent Assembly from amongst their own number. The Eritrean assembly consists of 64 members, half Christians and half Moslems. Its first president was Ali Radai, a Moslem. Laws passed by the assembly are promulgated under the signature of the emperor's representative, who has the power of veto in respect of legislation which impinges on subjects reserved to the imperial government. These are defence, foreign affairs, currency and finance, foreign and inter-state commerce, and external and inter-state communications, including ports.

The actual administration of Eritrea is in the hands of a chief executive, elected by the Eritrean assembly but independent of it. He appoints four secretaries of departments responsible to himself. The first chief executive was a Christian, Ato Tedla Bairu.

The increasing interest taken by the U.S. government in the well-being of Ethiopia received outstanding proof with the signing of a general Point Four agreement on June 16, 1951, for the development of agricultural education and research. In June 1952 a Point Four director was installed in Addis Ababa, and preliminary discussions crystallized into an agreement for the establishment of an agricultural college. For this purpose a sum of Eth.$2 million was made immediately available, half (or $400,000) being provided from Point Four resources and half by the Ethiopian government. Other projects included the opening of two agricultural secondary schools in the provinces and the establishment of several research stations to be closely integrated with the above college and schools.

Since its foundation in Aug. 1942 the grand total of assets of the state bank had grown from Eth.$12 million to Eth.$176·2 million; of deposits and loans from Eth.$11 million and Eth.$1 million in 1943 to Eth.$45·3 million and Eth.$21 million respectively, at the end of 1951. By the end of 1951 the issue department of the bank had issued notes under the new monetary system to the extent of Eth.$75,561,999, cover being held at that date in the shape of gold, silver and foreign exchange and securities to the amount of 55%.

(X.)

Education. Schools (1950-51) elementary 538, pupils 55,000, teachers 1,755 (including 201 foreign); secondary (1949-50) 6, pupils 1,204. There were 220 students abroad, mostly supported by the government.

Agriculture. Coffee production ('000 metric tons, 1949, 1950 in brackets) 36·5 (31·2). Livestock ('000 head, Sept. 1951) cattle

18,000, goats and sheep 20,000, camels 9,000, chickens 10,000, horses and mules 3,000

Finance and Banking. Budget (million Eth $, 1949-50) revenue 105 866, expenditure 90 430 Monetary unit Ethiopian *dollar* Exchange rate Eth $7 00 to the pound sterling

Foreign Trade. (Million Eth $ 1949-50, 1950-51 in brackets) Imports 74 6 (95 3), exports 68 3 (111 7) Main sources of imports India 25%, U K 13%, U S 12%, Italy 9% Main destinations of exports Aden 25%, Eritrea 19%, U S 13%, French Somaliland 11% Main imports cotton piece-goods, machinery, sugar and salt Main exports (1950-51) coffee 50%, hides 18%, cereals and pulses 10%, oilseeds 10%

Transport and Communications. Roads 44,000 mi , of which 9,000 mi are suitable for motor traffic Licensed motor vehicles (Dec 1950) cars 2,500, commercial 1,750 Railways 487 mi Air transport (Ethiopian Air lines, 1951) passengers carried 36,795, passenger-mi 16,099,506, freight, ton-mi 1,132,293

ETTER, PHILIPP, Swiss statesman (b. Menzingen, Dec. 21, 1891), after obtaining a degree of doctor of laws at the University of Zurich was admitted to the bar and appointed judge at Zug (1917-22). Entering politics as a Catholic Conservative he was elected member of the cantonal Grand Council in 1918 and of the cantonal government at Zug from 1922 to 1928. In 1930 he was elected to the Council of States, or federal upper chamber, and in 1934 to the Federal Council (government) in which he afterwards served as chief of the Department of the Interior. Etter was president of the confederation in 1939, 1942 and 1947 During 1952 he served as vice-president of the Federal Council and on Dec. 10 was elected president of the confederation for 1953.

EUROPE, COUNCIL OF: *see* COUNCIL OF EUROPE

EUROPEAN COAL AND STEEL COMMUNITY. The treaty establishing the European Coal and Steel community (E.C.S.C., also known as the Schuman plan), signed in Paris on April 18, 1951, was ratified by the national parliaments of all six member countries (France, the German Federal Republic, Italy, Belgium, the Netherlands and Luxembourg) and on July 25, 1952, the organization became effective. The composition of the high authority, *i.e.*, the executive organ which would control the combined output of coal and steel, was announced by Robert Schuman on Aug 7. Their names were as follows: Jean Monnet (France), president, Franz Etzel (G F.R.), first vice-president; Albert Coppé (Belgium), second vice-president, Léon Daum (France); Heinz Potthoff (G.F.R.), Dirk Spierenburg (the Netherlands), Enzo Giacchero (Italy), Albert Wehrer (Luxembourg) and Paul Finet (Belgium) The last-named was co-opted by the other eight members, all of whom were appointed by their governments.

On Aug. 10 began the "starting period" during which the different agencies of the high authority had to be established and which it was hoped would end with the creation of a common market for coal. This was expected to be accomplished within half a year (by Feb. 10, 1953), to be followed in March by a common market for steel. The "starting period" would be followed by a five years' "transitional period" Thus the earliest date for a full functioning of the E.C.S.C. was Feb. 10, 1958 Opposition to the plan was strong: in Germany mainly from the Social Democrats, in France from industrial groups and from Gaullists.

On Sept 10, 1952, the council of ministers of the E.C.S.C. met in Luxembourg under the chairmanship of Paul van Zeeland (Belgium) It dealt mainly with political issues. Schuman proposed Saarbrucken as seat of the authority. Without the Saar France could not hope to secure that equality of coal and steel output with Germany which was its main object. Even at the end of the year it was clear that this aim would not be attained. With the Saar, France's coal production for 1952 was estimated at 71·5 million tons, as against western Germany's 121·5 million tons; without the Saar it would reach only 55·7 million tons. France's steel production with the Saar amounted to 13 7 million tons, without it only to 10 9 million tons. Germany, with 15 8 million tons, had already surpassed the combined Franco-Saar production although French steel-works had been modernized with Marshall aid. France wished to turn the Saar into a state—a joint preserve of the members—which would finally develop into the centrepiece of a European federation with Saarbrucken as capital. The Germans objected and Luxembourg was chosen as provisional seat of the authority.

The council of ministers instructed the assembly of the E C S C, which met at Strasbourg on Sept. 10, to draft a constitution for a European political union to be ready by March 10, 1953. The assembly was composed of 78 representatives delegated from member parliaments by nomination or directly elected by majority votes. For the drafting of this constitution its membership was increased to 87, 9 additional members and 13 observers being delegated from the assembly of the Council of Europe A commission of 26 members and 13 observers was entrusted with the elaboration of this draft, and it met with a committee of the Council of Europe assembly. The advisory committee, composed of between 30 and 51 experts, had been appointed. It was too early to say whether or not the creation of the E C S.C had contributed to the reconciliation of France and Germany.

On the economic side, Great Britain and the United States sent observers. The high authority would soon have to allocate coal and coke, as it had to take over the work of the vanishing Ruhr authority In the spring of 1953 a common market would have to be established, this implied the erection of more or less identical customs barriers against non-member countries and their disappearance, with certain reservations, between members. Coal duties had been almost non-existent up to 1952, steel duties varied between 1%-6% in the Benelux countries, 5%-22% in France, 6%-15% in Germany and 10%-35% in Italy G A T.T (General Agreement on Tariffs and Trade) consented to a deviation from the non-discrimination agreements signed by its members (M. J. B.)

See M J Bonn, *Whither Europe? Union or Partnership?* (London, 1952), Bernard Lavergne, *Le Plan Schuman* (Paris, 1951), Andre Piettre *L'Economie allemande contemporaine* (Paris, 1952)

EUROPEAN DEFENCE COMMUNITY. On May 27, 1952, the foreign ministers of France, the German Federal Republic, Italy, Belgium, the Netherlands, and Luxembourg signed in Paris a treaty establishing the European Defence community (E D.C.), which was defined as "a supra-national community, exclusively defensive in its objectives, with common institutions, common armed forces, and a common budget."

The underlying idea of the treaty was to enable western Germany to make a contribution to European defence without re-creating a German army under the exclusive control of the German government; for this purpose the existing or prospective armed forces of the six signatory states were, with certain stated exceptions, to be merged in a single supra-national organization, which was at the same time to form a growing point for a future federal or confederal union of the six states concerned.

During the second half of the year, however, ratification of the treaty was held up in France and Germany by political or legal controversies, while the other four signatory states were not willing to ratify in advance of France and Germany. In consequence, the treaty was not implemented during 1952, and at the end of the year it was an open question whether the project of the E.D.C., as embodied in the treaty of Paris, would materialize or would remain a dead letter.

The idea of an E.D.C. had first been produced in Oct. 1950, by René Pleven, then French prime minister, as a compromise between the U.S. demand to rearm German contingents for the defence of western Europe and the French refusal to permit the re-creation of a German army. Referring to the proposal, made in May 1950 by Robert Schuman, French foreign minister, to merge the coal and steel industries of France, Germany and other western European states under a common supra-national authority, Pleven declared on Oct. 24, 1950·

The French government had believed that the realization of the coal and steel plan would accustom people to think in terms of European unity before such a delicate question as that of common defence was broached It now proposes that this question should be regulated by the same methods and in the same spirit

The French Assembly endorsed this Pleven plan, while at the same time briefing the French government " not to permit the re-creation of a German army or general staff "

Accordingly, on Jan 24, 1951, the French government issued invitations to all European governments members of the North Atlantic Treaty organization and to the German Federal Republic to meet at a conference at Paris to discuss the Pleven plan for a European army On Feb 5, 1951, the U.S. government declared its " warm endorsement " of the plan. On Feb. 15, 1951, the conference convened with the participation of France, the German Federal Republic, Italy, Belgium and Luxembourg, later joined by the Netherlands, and in the presence of observers from all other European N.A.T.O members The conference was in more or less permanent session, under the chairmanship of Hervé Alphand, leader of the French delegation, from Feb. 15, 1951, to May 8, 1952, when a draft treaty setting up the E D.C. was initialled by the leaders of the delegations of the six countries. Additional meetings of the foreign ministers of the six countries took place in Nov. 1951, Dec 1951, Jan. 1952 and May 1952, while questions relating to E.D.C were also discussed at a meeting of the U S , U K., French and German foreign ministers in London in Feb. 1952 and at the meeting of the N.A T O. council in Lisbon in the same month

The treaty as finally signed on May 27, 1952, was accompanied by a protocol containing undertakings of mutual assistance between member countries of the E D C. and member countries of the North Atlantic Treaty organization, a treaty of mutual assistance between Great Britain and the E D.C., and a tripartite declaration of the United States, Great Britain and France stating that the United States and Great Britain would regard any threat to the integrity or unity of the E D C as a threat to their own security These additional treaties and undertakings on the part of Great Britain and the United States were ratified by them on Aug 1 and Aug 2, 1952, respectively, while the E.D.C. treaty itself, to which the undertakings referred, remained still unratified.

The chief provisions of the E D C. treaty, which comprised 131 articles, were as follows.

The signatories undertook to place stipulated armed forces at the disposal of the E D C , and not to recruit or maintain separate national armed forces except for oversea defence or for the discharge of international missions

The basic unit of the E D C land forces (a small division of the following size infantry units, 13,000 men in peacetime, 15,600 men in wartime, armoured units, 12,700 men in peacetime, 14,600 men in wartime, mechanized units, 12,700 men in peacetime, 14,700 men in wartime) would be composed of troops of the same national origin, but would depend for its supply and maintenance upon " supra-national echelons " They would be grouped into army corps and higher units normally formed of units of different nationalities, higher commands (from corps level upwards) and general staff would be composed of officers of different nationalities Similar provisions were made for E D.C air and naval forces

The period of conscription would, as soon as possible, be equalized in all member countries There would be a common uniform, and a " common doctrine ", common code of discipline, etc , would be formulated as soon as possible

The institutions of the E D C would be a board of commissioners as executive organ (nine members, not more than two of them drawn from any one state, serving six-year terms), a council of ministers (voting by simple majority, but with weighted votes), an assembly, drawn from the six parliaments, and a court of justice to adjudicate between member states and the community The board of commissioners would receive instructions not from individual governments but from the council of ministers The assembly was within six months to make proposals for " an ultimate federal or confederal structure founded on the principle of separation of powers and entailing a system of bicameral representation," to be set up for the six member states

Appropriations and expenditures of the F D C were to be provided for in a common budget, this budget was to be prepared by the board of commissioners, fixed by the council of ministers (which also decided the contributions to be made by each member state) and finally authorized by the assembly

The board of commissioners would, in consultation with member governments, prepare common arms, equipment, supply and infrastructure programmes for the E D C forces Certain weapons (atomic, chemical, and biological weapons, aircraft and heavy naval weapons) were not to be produced in " strategically exposed regions "

The treaty was signed for 50 years and any European country could apply to join The seat of the organs of the F D C and the languages to be used were left open

A secret military protocol accompanying the treaty was freely and without contradiction stated in press reports to lay down, *inter alia*, that the E D C land forces were to comprise 43 national units, of which 14 were to be provided by France, 12 each by the German Federal Republic and Italy, and 5 by the Benelux countries

The negotiation of the treaty had been accompanied by anxious debates in the French Nationale Assembly and the western German *Bundestag*, in which these parliaments had laid down long and largely contradictory lists of conditions for their ultimate ratification of the treaty While some of these conditions were met in the provisions of the treaty, and some others were overtaken by events, strong opposition to the treaty gathered in both the French and western German parliaments during the second half of the year and delayed or prevented ratification Apart from the opposition of Communists and extreme nationalists in both countries, doubts and misgivings were entertained, in Germany because the treaty was feared to close the door to further negotiations with the Soviet Union about German reunification and to set the seal on the partition of Germany, in France because it was feared that the E D.C. would, in view of French overseas commitments, ultimately be dominated by Germany, that as long as it lacked the political substructure of a full federal or confederal union it could not safely contain Germany, and that the U S. and, especially, British association with E D.C. was not close enough

In Germany, the treaty was nevertheless tabled by the government for ratification and the second reading of the ratification bill was passed by the *Bundestag* with a 222 to 164 majority on Dec 6. Then, however, the government postponed the third reading and decided first to seek an injunction from the Constitutional court to prevent the opposition from declaring the bill as constitution-changing and therefore requiring a two-thirds majority A complicated dispute about this constitutional question, and about the additional question of proper procedure before the Constitutional court, was still in progress by the end of the year and made the final fate of the ratification bill in Germany uncertain

In France, the treaty had by the end of the year not even been tabled for ratification, apparently because no safe parliamentary majority was in prospect for it The fall of the government, shortly before the end of 1952, added to the difficulties, and there was talk about re-opening the treaty negotiations.

In the meantime, an interim committee of officers and other experts from the six countries was in permanent session in Paris preparing the implementation of the treaty against the uncertain time when the six national parliaments might

ratify it. The work of this committee was understood to be proceeding harmoniously and well. (S. HR.)

EXCHANGE CONTROL AND EXCHANGE RATES.

The Sterling Area. The weakening of the sterling area's position, reflected in the $1,500 million drain in its gold and dollar reserves in the second half of the year, had been the most spectacular international economic development in 1951. It had been caused in part by the continuing deficit with the European Payments union (E.P U), which was latterly being met fully in gold. Discussion had been held among the Commonwealth finance ministers on the means of halting the drain and each country was to take appropriate measures to ensure that the area as a whole would be in external balance by the end of 1952. For the United Kingdom itself this was to mean a reduction of its deficit with non-sterling countries to £100 million and the maintenance of a surplus of the same magnitude with the rest of the sterling area

Following the Commonwealth finance ministers' conference, new restrictions had already been imposed in Nov. 1951 on U.K. payments to non-sterling countries and the first half of 1952 saw further measures taken by the various countries in the sterling area to achieve the aforementioned aims Licensing controls were tightened in the Commonwealth countries in March and additional steps had to be taken in the summer in Australia, in Pakistan and also in the United Kingdom itself Here the over-all deficit on current account of almost £400 million, recorded in the second half of 1951, was replaced by a surplus of £24 million in the first half of 1952 so that the United Kingdom achieved its first objective of balancing with the rest of the world by the end of 1952 Mainly as a result of the cuts made in imports and also because of the increasing volume of U.S. aid, the drain on the sterling area's gold and dollar reserves had been halted by March and these remained fairly steady around $1,700 million in the second quarter. No doubt because of this improvement the rates for transferable account sterling grew firmer in the summer.

The position of the sterling area remained precarious, however, and the efforts to increase exports were not meeting with the success hoped for. Furthermore, the fall in the prices of some raw materials made it more difficult than had been expected for some of the sterling area countries to improve their balance of payments position.

The Commonwealth Economic conference, which gathered in London from Nov. 27 to Dec. 11, agreed to seek the co-operation of the United States and European countries in a plan to make possible the expansion of world production and trade The plan included international action for the progressive removal of import restrictions by both creditor and debtor countries and the restoration by progressive stages of the convertibility of sterling when conditions would permit. The conference decided that the initial economic discussions with the United States should be entrusted to the British government.

North America. *United States.* The international economic position of the United States remained strong in 1952 and the U.S. dollar was still at a premium in most free markets of the world, with the notable exception of Canada. As the months passed, measures were taken both in the U.S. and abroad to alleviate the disequilibrium which was reflected in the inflow of gold. The current account surplus was reduced mainly because the European coal situation improved, the restocking movement ran its course and the import restrictions which were imposed in some countries to stem the outflow of gold and dollar reserves began to take effect. Furthermore, the amount of U.S. government aid began to increase again, with a rising proportion being devoted to the support of the defence efforts of western Europe.

Canada. Mainly as a result of its improving trade position and the continued inflow of capital from the United States, the Canadian dollar had appreciated gradually in the latter half of 1951 and on Dec. 14 the Canadian monetary authorities had abolished all exchange controls. By the middle of Jan. 1952 the Canadian dollar was at par with the U.S. dollar. Influenced by heavy London buying and also by seasonal factors such as the beginning of the tourist season, it touched U S. $1·04 at the beginning of July. Thereafter, the premium dropped back to about 2% as Canadian purchasers, taking advantage of the high rate, began to purchase securities payable in either U S or Canadian dollars, and as U S. holders of Canadian shares realized their profits.

Latin America. Domestic inflationary conditions, which had sometimes been aggravated by the post-Korean raw material boom, weakened the international economic position of several Latin-American countries Argentina and Uruguay suffered from the sharp fall in wool and linseed prices.

Argentina. Various changes were made in 1952 both in the exchange rate structure and in the system of exchange controls In the summer of 1951 the granting of licences for imports paid with exchange obtained on the free market had been suspended because the demand had increased sharply for non-essential imports, particularly cars, paid for in this manner. As a result the free dollar rate had risen very substantially This system of importing was reinstated in Jan. 1952. The balance of payments position continued weak, however, particularly after the price of wool fell, and in an effort to stimulate exports, the government introduced a series of mixed rates applicable to various products. These new rates all implied a substantial depreciation of the peso. In a further effort to stem the outflow of reserves tighter import controls were instituted at the end of July

Brazil A very high level of imports brought about by a fear of shortages and increased prices following the Korean war had caused a considerable decline in Brazil's foreign exchange reserves in 1951. The foreign exchange position remained difficult in 1952 despite a purchase of $37 5 million from the International Monetary fund in February.

Chile Largely because of inflationary developments at home and a fall in the world market price paid for Chilean copper, Chile's balance of payments position was also weak in 1952 The hopes which had been raised in 1950 that Chile might proceed by stages to a unitary rate proved false. In a further attempt to stimulate agricultural exports new mixed rates were introduced, involving a substantial depreciation of the peso

Continental Europe. There were not many important developments in European exchange control systems in 1952. Such changes as occurred were associated with shifts in the position of various countries either with the dollar area or with the rest of Europe. At the end of 1951 Belgium, Italy, Switzerland and Portugal had built up large surpluses with the E.P U.: the Netherlands, Germany and Denmark were improving their positions; while France and the United Kingdom were accumulating heavy deficits which they had to meet largely in gold. After the spring of 1952, when France and the United Kingdom had taken drastic measures to restrict imports, when Italy had tried to expand them by relaxing import and exchange controls and when Belgium had even gone to the extreme position of curbing exports in order to limit the credit it had to extend to the E.P.U., the transactions became more balanced. The positions of France and the United Kingdom, though still weak, were no longer deteriorating so rapidly, while Belgium was no longer recording large surpluses. On the other hand both Germany and the Netherlands were accumulating substantial surpluses for part of which they were receiving payment in hard currency.

Netherlands. There were few important changes in European rates of exchange. One noteworthy development was the spread of hard currency " retention schemes " which in fact resembled selective and competitive exchange depreciations. The first had been introduced in the Netherlands, which since 1949 had allowed Dutch exporters to retain 10% of their dollar earnings and sell them at a premium in the free market. Although the plan was adopted in an effort to expand Dutch exports to the dollar area, the premium tended to induce Dutch merchants to search for other foreign goods which might be shipped there, and arbitrage developed in several commodity markets. As a result it was widely alleged that the country using the retention scheme gained hard currency that might otherwise have gone to the countries in which the goods originated. In part as a reaction to the steps taken by the Dutch, similar schemes were adopted in five other countries, Austria (for a time and to a limited extent), France, Denmark, Germany and Norway Objections to the use of this device were raised at the annual conference of the International Monetary fund, and an investigation of the prevalence and consequences of the practice was instituted

Austria In Austria export industries had been allowed to retain part of their foreign exchange earnings to meet the cost in foreign exchange of their import needs On Jan. 2, 1952, these quota arrangements were abolished and exporters were required to turn over all their export proceeds to the National bank for immediate conversion into schillings In place of the retention quota, however, preferential treatment in the allocation of exchange for imports was given to the export industries.

Belgium Notably because of its continued strong position in the E.P U , Belgium's gold and foreign exchange reserves rose by the equivalent of U S $150 million in the first half of 1952. The large Belgian surplus caused the E P.U. acute problems, and it was financed partly by receipts of gold and partly by credits granted to E.P U In these circumstances Belgium sought to reduce its surplus with E P U and at the same time strengthen its dollar position Various steps were taken, ranging from the blocking, for a period of up to six months, of up to 25% of Belgian export proceeds, to the remission of export taxes on sales to the dollar area. Despite these measures the E P U had to take special steps involving substantial gold payments to cover its deficit to Belgium Later in 1952 when the demand for steel had become less insistent and when the position of textile exports was rather difficult, the surplus shrank and curbs on exports were made less strict.

Denmark Because of the improvement in the country's foreign exchange position in the latter part of 1951, Denmark's exchange restrictions, particularly those relating to travel allowances for other Scandinavian countries and the U.K , were relaxed somewhat in the first half of 1952. The dollar position remained precarious, however, and in an effort to encourage dollar exports a scheme was introduced on Aug. 15 whereby exporters of Danish products to the dollar area were permitted to import European goods that were still subject to quantitative import controls up to a value of 10% of their dollar exports.

Finland. In order to put an end to uncontrolled transactions in Finnish currency which were taking place at a considerable discount and also to reduce costs for foreign travellers to Finland on the occasion of the Olympic Games, preferential rates were introduced on June 3 for tourist transactions. The premiums for purchases of Finnish currency ranged from 34% to 56% above the official rate, with U.S. dollars and Swiss francs carrying the highest, and Norwegian and Danish currencies the lowest, premiums.

France. Mainly because of inflationary developments at home, deterioration in the French foreign exchange position continued to the beginning of 1952. In February, when the

TABLE I. WORLD EXCHANGE RATES, DEC 31, 1952*

Country	*Currency unit*	*Rate per £ sterling*	*Rate per U S $*
Albania	Lek	140 00	50 00
Argentina (free rate)	Peso	39 00	13 95
Australia	£A	1 25	0 45
Austria	Schilling	59 81	21 42
Belgium	Franc	139 39	50 38
Bolivia (free rate)	Boliviano	280 00	100 00
Brazil	Cruzeiro	51 94	18 72
Bulgaria	Lev	19 04	6 8
Burma	Kyat	13 33	4 778
Canada (free rate)	C$	2 90	1 04
Ceylon	Rupee	13 33	4 775
Chile (free rate)	Peso	375 00	141 00
China	Jenminpiao	69,270 00	23,430 00
Colombia	Peso	5 46	1 95
Costa Rica	Colon	15 74	5 62
Cuba	Peso	2 80	1 00
Czechoslovakia	Koruna	140 00	50 00
Denmark	Krone	19 34	6 92
Dominican Republic	Peso	2 80	1 00
Ecuador (free rate)	Sucre	48 75	17 50
Egypt	E£	0 975	0 349
Ethiopia	E$	7 00	2 48
Finland	Markka	644 8	231 00
France	Franc	980 00	350 00
German Federal Rep	Deutsche Mark	11 76	4 20
Greece	Drachma	42,000 00	15 000 00
Guatemala	Quetzal	2 80	1 00
Haiti	Gourde	14 00	5 00
Hungary	Forint	33 15	11 74
Iceland	Krona	45 70	16 32
India	Rupee	13 33	4 775
Indonesia	Rupiah	31 92	11 40
Iraq	Dinar	1 00	0 357
Ireland, Republic of	£	1 00	0 357
Israel (basic)	I£	1 00	0 357
Italy	Lira	1,750 00	625 00
Japan	Yen	1,004 00	361 00
Jordan	Dinar	1 00	0 357
Lebanon	£L	6 16	2 21
Liberia	L$	2 80	1 00
Libya	£L	1 00	0 357
Luxembourg	Franc	139 39	50 38
Mexico	Peso	24 20	8 65
Netherlands	Florin	10 64	3 80
New Zealand	£NZ	1 00	0 357
Nicaragua	Cordoba	14 00	5 00
Norway	Krone	19 98	7 14
Pakistan	Rupee	9 27	3 31
Panama	Balboa	2 80	1 00
Paraguay (free rate)	Guarani	84 00	30 00
Persia	Rial	91 00	32 50
Peru (free rate)	Sol	43 40	15 50
Philippines	Peso	5 61	2 00
Poland	Zloty	11 20	4 00
Portugal	Escudo	80 50	28 95
Rumania	Leu	31 36	11 20
Salvador, El	Colon	7 00	2 5
South Africa	£SA	1 00	0 357
Spain	Peseta	30 66	10 95
Sweden	Krona	14 52	5 17
Switzerland	Franc	12 25	4 36
Syria	£S	6 16	2 20
Thailand	Baht	35 00	12 55
Turkey	£T	7 84	2 80
United Kingdom	£		0 357
United States	$	2 80	—
Uruguay (free rate)	Peso	7 255	2 73
U S S R	Rouble	11 20	4 00
Venezuela	Bolivar	9 325	3 35
Yugoslavia	Dinar	840 00	300 00

* Official rates if not otherwise stated.

free-market rate in Paris had reached more than Fr. 480 per U S dollar and the stabilization fund was losing substantial amounts of hard currency to E.P.U., the French government imposed strict curbs on imports. Later the French position in E.P U. improved somewhat and the restrictions were eased slightly. However, France's foreign exchange situation remained precarious despite substantially larger U.S. aid.

Germany In the first few months of 1952 Western Germany's gold and dollar reserves fell because its hard receipts from E.P.U., although substantial, were not sufficient, together with Mutual Security agency aid, to cover its dollar deficit. To reduce the dollar gap mainly by eliminating exports of German goods to the dollar area through third countries, the Ministry of economic Affairs introduced on April 1 a system whereby all exporters could retain 4% of their proceeds to import designated goods for export production. In addition, exporters to hard-currency areas were allowed to retain 35% of their proceeds either for the import of various raw materials and other essential goods or for sale to other importers. In the second quarter of the year German gold and dollar reserves rose again, particularly because of the country's growing surplus with E.P.U. On Aug. 14 the German Federal Republic became a member of the International Monetary fund.

Yugoslavia. At the end of 1951 important changes were made in the Yugoslav economic system Greater reliance was placed on the market mechanism and less emphasis was given to the centralized direction of production and trade. In 1952 the relaxation of administrative controls was carried further As of July 1 the monopolistic position of the state foreign trade organization was abolished and authorized enterprises were allowed to do business with foreign countries The licence requirements for practically all exports and most imports were withdrawn, but different types of transactions were made more or less attractive by subsidy and surcharge arrangements Exporters were permitted to retain 45% of their proceeds for their own import needs and also to sell this exchange on the "free" market to other importers who possessed import permits but had not been granted exchange at the official rate However, the Yugoslav National bank, which organized these exchange operations, retained the right to intervene in the market

TABLE II EXCHANGE RATES IN MOSCOW, DEC 31, 1952

Country	*Currency unit*	*Rate in Roubles*	*Country*	*Currency unit*	*Rate in Roubles*
Afghanistan	100 Afghanis	23 66	Mongolia	1 00 Tugrik	1 00
Albania	100 Leks	8 00	Netherlands	100 Florins	105 26
Belgium	100 Francs	8 00	Norway	100 Kroner	56 00
Bulgaria	100 Leva	58 82	Pakistan	100 Rupees	121 05
Canada	C$	4 13	Persia	100 Rials	12 40
Czecho-slovakia	100 Koruny	8 00	Poland	1 00 Zloty	1 00
Denmark	100 Kroner	57 91	Rumania	100 Lei	35 714
Egypt	£E	11 52	Sweden	100 Kronor	77 22
Finland	1,000 Markkas	17 47	Switzerland	100 Francs	93 38
France	1,000 Francs	11 43	Turkey	100 Liras	142 86
Hungary	100 Forints	34 10	United Kingdom	£1	11 20
India	100 Rupees	84 30	United States	$1	4 00
Italy	1,000 Lire	6 42			

Middle East. In the middle east the currencies of some countries weakened in response to the fall in raw material prices. The most striking developments, however, the devaluation of the Israel pound and the weakening of the Persian rial, were brought about by conditions peculiar to those countries.

Egypt. In 1951 when the price of cotton was high, the freedom of Egyptian exporters to dispose of their export proceeds was increased. With the volume and price of cotton exports falling and with the country's transferable sterling balances decreasing, Egypt became short of sterling. To cope with this situation the scope for transactions in "export pounds" was sharply reduced in the spring. In June further measures were taken. Banks were required to ask importers to cover any credit opened for sterling imports by paying in Egyptian currency the total amount of the credit. In addition import licences had to be obtained for most goods which were produced domestically and also for luxury and semiluxury articles.

Israel. Because of the continuing disequilibrium in Israel's balance of payments, the free-market rate for the Israeli pound had weakened steadily in 1951 and the first months of 1952. On Feb. 20, when it had dropped to 50 cents per pound, compared with the official rate of $2 80 per pound, a new exchange rate system was adopted Foreign exchange transactions thereafter took place at three different rates. The old rate of $2 80 per pound was still applicable to government transactions, to essential imports and diamond exports. Institutional remittances, tourist receipts and the proceeds of various exports, notably citrus fruits, were converted at a rate of $1 40 per pound, which was also applicable to goods classified as semiessential. The third rate, $1 per pound, was applicable to other export transactions and, in order to attract private capital from abroad, to most incoming exchange destined for investment.

Lebanon. The exchange rate structure in Lebanon was simplified on May 24 when the government abolished the requirement that companies operating under special concessions (mainly oil companies) should purchase 80% of their local currency needs at the official rate of £L2 21 per U.S dollar. The last of the mixed rates was thus eliminated. Apart from government operations, which continued at the official rate, all commercial and financial transactions were carried on at the fluctuating free rate, which fell slightly in sympathy with the downward trend of the world market price for gold

Persia Following the stoppage of oil production and exports in mid-1951, Persia's monetary reserves had declined gradually. To re-establish the balance between foreign exchange receipts and expenditures a strict import-licensing policy and an exchange certificate system were inaugurated Licences were required for all purchases of exchange which were not to be used for the purchase of certain goods considered essential and foreign exchange was to be furnished only to holders of exchange certificates which could be purchased in the free market from exporters The price of these certificates rose steadily When it reached about 83 50 rials per U S. dollar at the end of April, the Bank Melli was authorized to intervene in the market and buy and sell certificates at 42 50 rials per U S dollar. Since the official selling rate was 32 50 this gave an effective selling rate of 75 rials per U.S dollar.

Far East. *Indonesia* Important changes were made in the exchange rate system in effect in Indonesia. On Feb. 4, 1952, the old exchange rate certificate system was abolished and a new official rate of 11 40 rupiah per U S dollar replaced the old rate of R 3 80, which had, however, had only nominal significance This new rate was applicable to all non-dollar receipts from exports and financial transactions and to all essential imports from countries outside the dollar area. For luxury imports from those countries a 70% surcharge had to be added to the official rate, giving an effective rate of R.19·43 per U.S. dollar. For transactions with the dollar area, a certificate system was retained, the aim of which was to maintain a balance between dollar income and expenditure. Exporters to the dollar area received, in addition to rupiah at the official rate, negotiable dollar certificates which importers of dollar goods had to produce in addition to rupiah at the rate applicable. At first these certificates were marketed at R. 2 per U.S. dollar, giving effective rates for dollar imports of 12 93 and 20·93 rupiah per U.S. dollar respectively. However, the price dropped gradually to R.0 25

per U.S. dollar. Later in the year falling rubber prices caused a drop in Indonesia's foreign exchange reserves and on Aug. 12, in an effort to curb luxury imports further, the authorities introduced additional surcharges, giving two new effective rates of 22·86 and 34·29 rupiah per U.S. dollar applicable to imports of semi-essentials and luxuries respectively.

Japan. There was no change in the Japanese exchange rate structure, but the dollar retention scheme in force since 1949 was changed in July to permit exporters to retain a larger proportion of their foreign exchange proceeds to import goods important either for the export industry or for the rehabilitation of the economy. On Aug. 13 Japan became a member of the International Monetary fund. (*See* INTERNATIONAL MONETARY FUND.) (A. STN.)

EXHIBITIONS: *see* ART EXHIBITIONS; FAIRS, SHOWS AND EXHIBITIONS.

EXPLORATION AND DISCOVERY.

The Norwegian-British-Swedish expedition, 1950-52, returned from Queen Maud land in Feb. 1952 after completing a heavy programme of exploration and scientific work. About 25,000 sq.mi. of unknown country were surveyed. A line of seismic soundings revealed that the ice cap in this part of Antarctica (*q.v.*) conceals a very rugged land surface, with mountain ridges up to 9,000 ft. high. A great deal of meteorological, geological and biological data was collected, and detailed glaciological studies were made.

The British North Greenland expedition sailed on July 8 in the Norwegian sealing vessel " Tottan ". Three dog-teams, consisting of 37 dogs, were collected from Ivigtut, a Danish settlement in southeast Greenland. The voyage northwards was then continued until the 74th parallel of latitude was crossed. The pack was entered on July 25. Ice conditions were easy until Hochstetter Bight was reached. Some difficulties were then encountered, but a clear passage into Young Sound was found on July 27. The ship anchored at Zachenburg, unloading was completed on the fourth day and the " Tottan " sailed for Reykjavik to collect the rest of the stores.

On Aug. 5 the first flight from Young Sound to Britannia lake was made by a Sunderland flying-boat. By Aug. 8, 13 men and a quantity of stores had been transported. The base hut was set up in a small sheltered cove 1½ mi. east of the Unicorn glacier. On Aug. 23 " Tottan " left Young Sound with four men and eight weasel tractors. She was held up by bad ice conditions, and landed them at Cape Rink instead of Walrus Point as had been intended. It was then decided to drive them to Walrus Point when the sea-ice had formed. On Aug. 18 two men set out for the Ice Cap station, to be established in lat. 78° 7′ N., long. 38° 10′ W. They were followed three days later by four others. Light loads only were taken on the difficult stage up the Unicorn glacier, most of the supplies for the journey being taken by air and dropped near a small nunatak at the head of the glacier. The sledge journey proved difficult but was completed on Sept. 13. On Sept. 15 parts of a prefabricated hut were brought by air. Further supplies arrived the following day. While they were being dropped visibility deteriorated and the aircraft crashed about a mile from the camp. It was soon reached by sledge and as the fuselage had not been damaged it was rapidly transformed into a reasonably adequate shelter for the crew. Between Sept. 23-25 they were taken by air to Thule. It was expected that about 11 more flights would complete the provisioning of the station. The wrecked aircraft was used as a storehouse and workshop. On Oct. 17 Commander C. J. W. Simpson, Richard Hamilton and Angus Erskine started on the return journey to Britannia lake, leaving Graham Rollitt, Peter Taylor and Kenneth Taylor to man the Ice Cap station, known as North Ice, through the winter. They would take regular meteorological and glaciological observations.

The Swiss Foundation for Alpine Research sent an expedition led by Dr. Wyss Dunant to climb Mt. Everest, following the route found by the Everest reconnaissance under Eric Shipton in 1951. The great crevasse at the top of the ice fall was bridged and Camp V established in the West Cwm at the foot of Lhotse. The attempt on the summit commenced on May 25 and on May 28 R. Lambert and the Sherpa, Tensing, reached about 28,200 ft. before being forced to retreat. René Dittert with a party of nine men made another attempt, but



Loaded pontoons at Young Sound, Greenland, the base of the British North Greenland expedition which arrived in Greenland in July 1952. The Royal Air Force Sunderland flying-boat (seen in background) flew men and supplies, including dogs, to Britannia Lake.

did not get beyond the South col, 25,850 ft. Gabriel Chevalley, who had reached the South col with Dittert, led a smaller expedition to renew the assault in the autumn. The foot of Lhotse was reached on Oct 26 and the South col on Nov. 19 A party started for the south summit next day, but was compelled by wind and cold to turn back. On Nov 22 the attempt was abandoned.

A British expedition led by Eric Shipton went to Cho Oyu (26,867 ft), a mountain 20 mi. west of Everest, to train climbers and test equipment for an expedition to Everest in 1953. No practical route to the summit could be found except through Tibetan territory, which the expedition was not allowed to enter, so attention was turned to exploration of the surrounding valleys. The principal journey was undertaken by Shipton, R C. Evans, E P Hillary, W. G. Lowe and six Sherpas They crossed a pass from the Imja valley to the Hongu basin and another from the Hongu to the Barun valley, in order to explore the main watershed between Makalu and Everest. Three peaks, between 21,400 and 22,550 ft high, and a saddle in the main watershed were climbed before the weather broke The return was made down the Barun valley When the party had descended to 9,000 ft , Evans and two Sherpas turned eastwards to explore the Lumba Sumba Himal The rest of the party reached the Arun river near the village of Num and continued the march to Dharan and Jogbani.

Professor W. Q Kennedy led an expedition to Ruwenzori in Uganda The objects included studies of the general geology and structure of the area, the relationship of Ruwenzori to the geomorphology and tectonics of the great African Rift valley, the denudation history, including glacial features, and the vulcanicity of the eastern flank. Comparison of new and old photographs provided some indication of the rate of retreat of the glaciers The valleys showed multi-cycle erosion and numerous examples of stream diversion by moraine deposits were found. A gravity survey was carried out and the unique vegetation was studied

Sebastian Snow completed his journey, begun in Oct. 1951, from the source of the River Amazon to the sea. He had decided that the principal source was Lake Ninococha at the head of the River Marañon. He travelled partly on foot and partly by raft as far as Iquitos, and then by steamer to Para, arriving on Aug. 10.

The South Georgian Survey expedition returned to England The Oxford University Exploration club sent parties to Tehri-Garhwal in the Himalaya, and Turkey. Expeditions went from Durham to French Morocco and Iceland, from Cambridge to the Jotunheim in Norway, from Bedford college, London, to Myvatn lake in Iceland. Jean-Noel Malaurie prepared to continue in the Baffin and Mackenzie districts the researches he had commenced in Greenland (*See* also SPELEOLOGY) (A. M. F.)

EXPORT-IMPORT BANK OF WASHINGTON. From Jan 1 to Sept. 15, 1952, the Export-Import bank, as the foreign lending arm of the United States government, approved new loans of $523 3 million bringing the total loans authorized since the time of its establishment in 1934 to approximately $5,800 million. Disbursements during this period were approximately $405 million and repayments $152 million. Outstanding loans and undisbursed commitments of the bank totalled approximately $3,318 million in 48 countries on Sept. 15, 1952.

Loans were for development projects designed to strengthen the economic stability of the free world in the fields of transportation, power development, agriculture and industry including development and expansion of foreign sources of materials essential to U.S. industry in general and the defence stockpile in particular. Such financing is generally limited to the dollar costs of development projects in other countries which increase their productive capacity, thereby improving their foreign exchange position. Loans were also made for the purchase of U.S. raw cotton for use by industries in other countries. The bank also extended credits which assisted U S. suppliers in financing their exports to friendly countries. (S. Sd.)

EX-SERVICEMEN'S ORGANIZATIONS. The World's Veterans' federation (Fédération Mondiale des Anciens Combattants), founded and established in Paris in Nov. 1950 as the International Federation of War Veterans' organizations, held its third general assembly in London during Dec. 8-11, 1952. Five British bodies (the Royal Naval, Royal Air Force, Royal Artillery, Royal Signals and Grenadier Guards old comrades' associations) and the Pakistan Sailors', Soldiers' and Airmen's board had joined the W V F in July, so 16 member nations were represented at the London conference (Belgium, Canada, Denmark, France, Great Britain, Greece, Israel, Italy, Luxembourg, Netherlands, Norway, Pakistan, Philippines, Turkey, United States and Yugoslavia). Among the 80 national associations were 47 French The United States was represented by the American Veterans of World War II (" Amvets ") and three smaller associations, but the two largest organizations, the American Legion and the Veterans of Foreign Wars, remained outside the W V.F Nor was the British Legion a member of the federation. The International Federation of War Prisoners, grouping four national associations, was also affiliated to the W.V F which had a staff of 51 and an annual budget for 1953 estimated at Fr. 201 7 million

The general assembly approved the revised constitution of the W V F. under which its title was changed from International Federation of War Veterans' Organizations. The assembly re-elected Albert Morel (France), Elliot H Newcomb (United States) and W Ch J. M. van Lanschot (Netherlands) as president, secretary-general and secretary-treasurer respectively. During the year the executive board made every effort to develop the universal character of the federation and attempted to enlist associations from the U.S S R. and the people's democracies, but again without success Among resolutions adopted by the London general assembly was one calling for an approach to the German and Japanese ex-servicemen's organizations.

Great Britain. A motion of censure on Sir Ian Fraser, the president, was defeated at the annual conference of the British Legion in Guernsey, on June 1, 1952, only 5 out of 650 delegates voting in favour. The resolution called on the president to resign for allegedly failing to support a campaign to secure increased pensions launched by the British Legion in Nov. 1951. (*See* WAR PENSIONS.) Sir Ian Fraser was re-elected president unopposed. In his presidential address he said that the Legion membership had decreased from 1 4 million in 1946 to 1 25 million. This was a remarkable figure considering that, at a conservative estimate, 150,000 had died, emigrated or rejoined the forces. Since 1945 the total income from Poppy Day, legacies and other sources had been £8·5 million. This had decreased at a yearly average rate of £52,000, while expenditure had increased at an average rate of £31,000. The Legion was thus having to spend about £83,000 a year from capital. On the second day of the conference an amendment to the royal charter and rules was sought to ban members of the Communist party from membership of the British Legion: it was defeated by 430 votes to 126

France. On June 28-29, in Paris, the general assembly of the Union Française des Associations de Combattants (U.F.A.C.) re-elected Marcel Engrand and Henri Jourdan president and secretary-general respectively. By an act of parliament of June 26, 1952, the U.F.A.C. ceased to be the

only organization of ex-servicemen recognized by the government. The U.F.A.C. itself initiated this law in the hope of disarming opposition to itself by the Association Rhin-et-Danube, grouping the ex-servicemen of the First French army (1944-45), and the Fédération Nationale des Combattants Prisonniers de Guerre (1939-45). The U F.A.C. consisted of 47 large and small associations with a total membership of over 2 million ex-servicemen, mainly of World War I.

Germany. The Association of German Soldiers (Verband Deutscher Soldaten), the largest ex-servicemen's organization, presided over by Admiral Gottfried Hansen, published a statement on Sept. 8 proclaiming that the federal parliament was the only body entitled to ratify or to reject the proposed European Defence community. However, the statement went on, no German soldier could be asked again to put on uniform before the problem of so-called war criminals had been solved; they were not asking for the release of real criminals, but considered that soldiers who obeyed superior orders should be amnestied

The Association of War Disabled (Verband der Kriegsbeschadigten) and the Reich League of War Victims (Reichsbund der Kriegs- und Zivilbeschadigten) were the two large organizations representing the interests of war disabled, widows and orphans. The former, presided over by Hans Nitsche, had about 1 5 million members and was controlled by the Social Democrats, the latter grouped together about 500,000 members and was influenced by the Christian Democrats.

Italy. There were two main organizations, the Associazione Nazionale dei Combattenti presided over by Ettore Viola, and the Associazione Nazionale fra Mutilati ed Invalidi di Guerra presided over by Pietro Ricci. Founded after World War I and under Fascist control from 1923-43, they were re-organized on a democratic basis after World War II. (X.)

United States. In 1952, membership of veterans' organizations generally declined. All organizations won at least one issue for which they had worked since the conventions of 1950 when the federal government enacted a G.I. Bill of Rights for Korean war veterans The new law was largely modelled after the G I. bill for World War II veterans and included unemployment allowances.

American Legion. Membership of the American Legion fell to 2·7 million in 1952, a decline of about 100,000 since 1951. At its convention in New York city, Lewis Gough of California was elected national commander. The Legion again stated its opposition to the far eastern policy of the State Department and its support of universal military training.

Veterans of Foreign Wars. The 53rd annual encampment of the V.F.W., held in Los Angeles, gathered only 10,000 members. James Cothran, of South Carolina, became commander-in-chief.

Disabled American Veterans This organization increased its membership to 170,000. Floyd L. Ming of California was elected national commander at the 31st national convention in Boston. The D.A.V. continued to devote its attention to the war-disabled.

American Veterans of World War II ("*Amvets*"). This organization increased its membership to 85,000. The national convention, held in Grand Rapids, Michigan, elected Marshall Miller of Illinois as its commander. The organization had developed a cash reserve and furnished funds to support a war orphans scholarship fund, an Arlington Memorial Carillon fund and other public services.

American Veterans' Committee. The membership of the American Veterans' committee declined to 10,000. The A.V.C. held its sixth annual convention in Washington and elected Curtis Campaigne, jr., as national chairman. He sought to revitalize the A.V.C. by calling for a consistent emphasis on issues of civil rights and civil liberties. (M. Pr.)

EYE, DISEASES OF THE. Toxoplasmosis is a disease of infants and children which occasionally appears in adults as a result of infestation by an organism which had been identified microscopically as a protozoan parasite. The mode of transmission of this parasitic infection from animal to animal or to humans had not by 1952 been demonstrated. The chorioretinitis—inflammations of tissues of the eye—and other ocular changes which occur in human congenital and infantile toxoplasmosis are valuable diagnostic signs of the disease. Before toxoplasmic chorioretinitis was discovered, fundus disease which was frequently observed in the eyes of infants and young children had been variously diagnosed as "foetal chorioretinal infection", "congenital developmental anomaly of the retina and choroid" and "birth injury with chorioretinal haemorrhage". Through the use of proper clinical and laboratory studies, a considerable number of these cases could now be classified as being caused by toxoplasma In those cases of acquired juvenile and adult toxoplasmosis which had been reported, there were apparently no associated ocular lesions.

It was reported in 1952 that the organism of toxoplasmosis had been demonstrated in some types of chorioretinitis in adults. Although the cause of some types of choroiditis in children had been known to be toxoplasmic in origin on the basis of serologic examination, the presence of the organism in adults with acquired choroiditis was in doubt until the recent demonstration of the organism in eye lesions previously undiagnosed or thought to be caused by some other disease, particularly tuberculosis

It was thought that protection of the human lens against cataract formation by X-rays might be provided by the intravenous injection of cysteine if results, which had been successful in experiments on animal eyes, were equally successful in humans. The eye of an untreated animal, when exposed to 1,500 roentgen of X-rays, will become cataractous within a few weeks, but the administration of measured amounts of cysteine just prior to the exposure to X-rays protects the lens from developing a cataract. Another important protective feature was that falling out of eyelashes did not occur. Of a series of chemicals tested, cysteine proved to be the most effective. Large doses of glutathione decreased to a moderate degree the radiosensitivity of the lens. Thiourea also protected the lens from X-ray damage but only to a moderate and equivocal degree. The drugs which did not contain sulfhydrl groups did not have beneficial effects. This discovery supported the chemical mediation theory of biologic effects from radiation against the target theory of direct ionization.

A substitute acrylic lens may be inserted into the anterior chamber of the eye after removal of a cataractous lens The advantage of this procedure over the usual cataract operation is the possibility of useful vision following removal of the cataract without the necessity of wearing "cataract glasses", which permit good vision over a restricted field and are often difficult to adjust for good binocular vision where only one eye is affected and the other eye has good vision. By the use of the implanted acrylic lens, single binocular vision (stereopsis) may be restored without having to resort to use of contact lenses or to await the removal of a cataract from the second eye.

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FAEROE ISLANDS (Faeroerne). 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 of which 18 are inhabited. Pop.: (1945 census) 29,198; (mid-1950 est.) 31,000. Language: Faeroese, akin to Icelandic rather than to Danish. Religion: Lutheran. The capital is Thorshavn, on the island of Stromo (pop. 1945, 4,390). Governor-general, C. A. Vagn-Hansen.

History. On Feb. 1, 1952, the Sjovinnu bank suspended its payments; thus the crisis, which dated from large postwar investments, was not being overcome either by the subscription of new shares or by the Kr. 2 million loan from the Danish government in Aug. 1951. All the share capital of the bank was lost. The Sjovinnu bank reopened on Feb. 27 after having been reconstructed by (1) the subscription of Kr. 500,000 new shares in the islands, (2) a Kr. 1·6 million loan from the Danish government, (3) a further Kr. 1,350,000 government loan guaranteed by the Faeroese Lagting (parliament) and (4) a Kr. 5 million loan from the Danish National bank, also guaranteed by the Lagting. From the E.R.P. aid Kr. 4 million were lent to re-equip the Faeroese fishing fleet. The crisis roused strong Labour opposition to the Sambands party and the Folkeflokkurin, the latter, whose leader Thorstein Petersen represented the employers, being held responsible for the crisis.

Fisheries. Exports (1950, metric tons): iced fish 10,454; salted and dried fish 31,771; salted herring 1,130; whale oil 1,897; whale meat 250; liver oil 1,600; canned fish 34.

Finance. Budget (1950-51 actual): revenue Kr. 9,196,135; expenditure Kr. 8,759,537.

Foreign Trade. Exports (1951): Kr. 75·5 million, including Kr. 24·3 million to Spain, Kr. 12·5 million to Denmark, Kr. 10·8 million to the U.K. and Kr. 8·5 million to Italy. Imports (1951): Kr. 67·2 million, including Kr. 56·3 million from Denmark and Kr. 7·8 million from the U.K. (H. LN.)

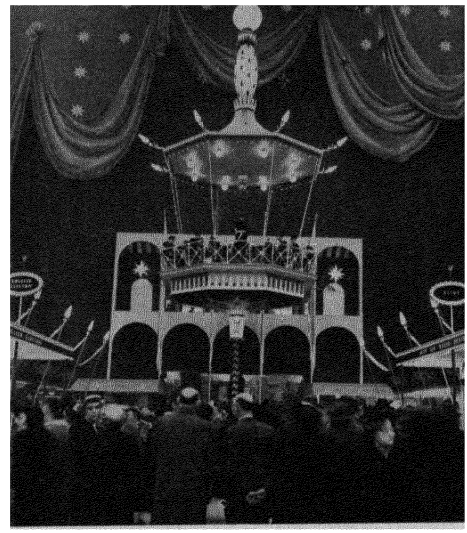
FAIRS, SHOWS AND EXHIBITIONS. The 31st British Industries fair (May 5-16, 1952) was held as usual at Olympia and Earls Court, London, and at Castle Bromwich, Birmingham. The fair was visited by Queen Elizabeth and the Duke of Edinburgh on May 6. A Commonwealth trade day was held at Earls Court on May 14. The attendance of overseas visitors was down by about 25% on 1951, and at the London sections the number of home visitors declined by about 30%. There were 2,472 exhibitors —slightly less than in 1951. The total attendance at Castle Bromwich was 194,891.

The Radio show was again held at Earls Court at the end of the summer season (Aug. 26-Sept. 6). With the extension of television to the north of England a Radio and Television exhibition was held at City hall, Manchester (April 23-May 3)—the first held in the north of England since World War II. More than 1,025,000 persons visited the *Daily Mail* Ideal Home exhibition at Olympia (March 4-29).

The 37th Motor show was held at Earls Court (Oct. 22-Nov. 1). Many of the cars on show were available for immediate delivery for the first time since World War II. This increased the public interest in the show; the total attendance was 462,538—89,000 more than in 1951. The first Commercial Motor Transport exhibition for two years was held in the same hall, Sept. 26-Oct. 4.

Civil and military aviation was shown at the annual flying display and exhibition of the Society of British Aircraft Constructors at Farnborough (Sept. 2-7). A serious accident on Sept. 6 caused 30 deaths, but despite this about 350,000 persons attended the exhibition—140,000 on the day after the accident.

The 5th London Fashion fortnight was held from June 4-18. Consisting of wholesale fashion displays, covering the whole range of women's wear, this event attracted many overseas buyers to London.



The aerial bandstand at the "Daily Mail" Ideal Home exhibition, Olympia, March 4-29.

Agricultural Shows. The widespread outbreaks of foot and mouth disease throughout England, Wales and Scotland caused many show societies to cancel their cattle classes. This naturally affected attendances but, at many shows, these were only slightly below the 1951 figures.

The annual show of the Royal Agricultural Society of England was held for the first time in Devon at Newton Abbot (July 1-4). The Queen spent more than 6 hr. at the show ground on July 2: the total attendance was 93,318, about 40,000 fewer than at Cambridge in 1951.

Ashton Park, Preston, was the venue for the Royal Lancashire Agricultural show (Sept. 3-6). There were 4,204 entries—only 216 fewer than in 1951. The society was considering a permanent show ground for future shows. The Great Yorkshire show was held at Harrogate (July 7-9). The only livestock on show were horses. The largest show in the home counties was the Royal Counties at Guildford (June 17-21). The total attendance was 51,693—1,000 more than at Southampton in 1951. The Three Counties show went to Worcester (June 10-12), and the Bath and West to Wollaton Park, Nottingham (May 28-31). The total attendance was 73,775, 16,000 fewer than in 1951, and about the same as in 1950 when the show was last held in the Midlands. The leading agricultural show in Wales, the Royal Welsh, went to Caernarvon (July 23-25), Scotland's premier show, the Royal Highland, was held at Kelso, Roxburghshire (June 17-20), and Ulster's show, the Royal Ulster, was held at Balmoral, Belfast (May 21-24). All shows mentioned in this section were handicapped by the absence of cattle, sheep and pigs.

Commonwealth. The Canadian International fair was again held at Toronto (June 2-13). This, the only annual international trade fair on the North American continent, again attracted wide interest. Canadian exhibitors occupied 98,000 sq.ft. as compared with only 41,000 sq.ft. in 1951. There were exhibits from 29 countries. Prairie fairs were held at Brandon, Edmonton, Saskatoon, Regina and Calgary, where there was a new record attendance of 433,140. An exhibition was held in Colombo (*q.v.*), to display the work

of the Colombo plan (*q.v.*). This was the most spectacular function in Ceylon for many years. Malta's first trade fair was held in October. The total attendance was 48,200, and there were 100 exhibitors.

From June 19 to 21, the Kenya Royal Agricultural show was held in the New Mitchell park, Nairobi. The Van Riebeeck festival fair at Capetown (*q.v.*), to mark the 300th anniversary of the colonization of South Africa, was opened by E. G. Jansen, governor-general, on March 13. The 44th Rhodesian Agricultural and Horticultural show at Salisbury attracted 56,752 people—a new record.

FALKLAND ISLANDS. British colony and dependencies in the South Atlantic. The colony consists of East and West Falkland and adjacent islands. Dependencies: (1) South Georgia (four whaling stations) with South Orkney and South Sandwich and (2) South Shetland and Graham land. Area of colony 4,618 sq.mi. Pop.: (1946 census) 2,239; (1951 est.) 2,300, mainly of British descent and Protestant. Only town, Stanley (cap., *c.* 1,250). Administration: governor; executive council, 3 *ex-officio* and 2 nominated members; legislative council 3 *ex-officio*, 4 elected, and 2 nominated official and 2 nominated unofficial members. Governor, Sir Miles Clifford.

History. Of the two Colonial Development corporation projects in the colony one, the building of a freezing plant for beef and mutton, continued and was expected to be in production by May 1953; but the other, a sealing project, was abandoned during 1952 because of a fall in the price of oil and a marked falling-off in the number of seals coming to the beaches. A £10,000 grant from Colonial Development and Welfare funds was being made to improve local broadcasting from Port Stanley.

The uneasy political situation in the dependencies continued, with Argentine and Chilean bases established on British territory as well as those of the Falkland Islands Dependencies survey. At Hope bay in Graham land, Argentine personnel fired on a British party landing stores but the Argentine government admitted that it was done in error and there were no repercussions. (K. G. B.)

Education. Nine schools; also travelling teachers. Pupils (1951) 340.

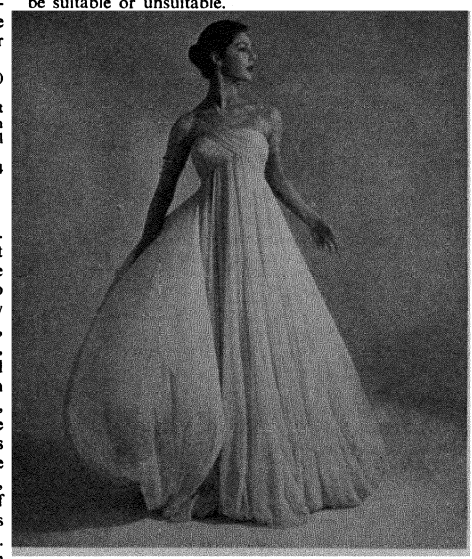
Finance and Trade. Currency: sterling, with local notes. Budget (1952-53 est.): revenue £336,606; expenditure £330,919. Foreign trade (1951): imports £3,312,000; exports £3,723,000. Principal exports: wool, hides and skins.

Industry. Whaling (1951-52 season): catch 2,630 whales; oil 144,614 bbl.; guano 112,383 bags; total value of products £2,358,657.

FAROUK FUAD, PRINCE (b. Cairo, Feb, 11. 1920), the only son and eldest child of King Fuad I of Egypt and great-great-grandson of Mohammed Ali, founder of the dynasty. In 1935, as Prince Said, he was sent to England to complete his studies and while there represented his country at the funeral of George V. His father's death on April 28, 1936, prevented his proceeding to the Royal Military academy, Woolwich, and he returned to Egypt, where a regency council acted for him until his coming of age on July 29, 1937, when he was invested as king in the parliament building. On Jan. 20, 1938, he married Farida, daughter of Zulfikar Pasha; three daughters were born, and on Nov. 17, 1948, the marriage was dissolved. On May 6, 1951, he married Narriman Sadek, the daughter of a government official, and a crown prince, Ahmed Fuad, was born on Jan. 16, 1952. At the end of January there were riots in Cairo and Farouk dismissed his prime minister Nahas Pasha for failing to maintain order. The king's popularity was waning rapidly, particularly in army circles. His circle of flattering courtiers and his way of life caused displeasure, as had also done his handling of the Palestine arms scandal. Thus on July 23 occurred a military *coup d'état* led by Neguib Mohammed, which resulted in Farouk's abdication three days later in favour of his son, who became Ahmed Fuad II. Farouk, his wife, son and three daughters left Egypt the same day. On July 29 Farouk asked President Einaudi of Italy to allow him to stay in Italy for an indefinite period as a private citizen. President Einaudi consented and Farouk and his family moved to Capri for the first part of their exile.

FASHION AND DRESS. No final answer to questions about the waistline was forthcoming during 1952. The phrase "the wandering waistline" was coined at the Paris spring collections and the waist continued to wander to the point of disappearing, throughout the year. High waist, low waist, natural waist, no waist: all had their devotees. The two main camps continued to be led by Dior and Balenciaga. Dior's markedly high waists melted, as the year went on, into a development of his earlier princess dresses—a moulded figurine line, which followed the figure as closely as a swimsuit from high neck through waist to hips, and then flared gently. Otherwise, one designer after another forsook the Dior high-waist camp, and went over to Balenciaga, who put all his strength and authority behind his slack-waisted dresses and middy-line suits. His clothes developed a wonderful ease, being cut just not to touch the body, in contrast to Dior's which never lost contact with it. Each line called for a different type of corsetting, a different figure, a different posture, a different personality. Whether the two could continue to exist side by side or whether one would eventually triumph over the other remained to be seen.

It seemed that, since the end of World War II, fashion was taking a long time to settle into an accepted form which would stand, historically, as the look of the mid-century; but maybe it was part of the character of the time (which fashion faithfully interpreted) to allow this latitude for women to suit themselves—instead of forcing them into a mould that might be suitable or unsuitable.



An evening gown by Griffe (Paris) in shell pink chiffon. The harem skirt flows straight from high draped bust.

Interesting adjuncts to the waistline controversy were a legion of boleros, spencers, minute hug-me-tights; deep yokes, with pretty feminine pleating breaking from them to form an entire dress; belts low slung at the back or following the hemline of jackets; belts buckled across the chest or, on the contrary, cummerbund belts, wide or elasticized, the better to grip the midriff.

Day necklines ranged from the turtle or polo and the high straight Chinese neckband, to the draped cowl and the deep wide round scoop, which was first used for cocktail clothes but came to be seen increasingly for informal dresses. Even suits had deep standaway necks, sometimes filled in with a ribbon tie, a scarf or gilet, but sometimes bare.

Coats narrowed from the sheltering tents of earlier seasons. Loose coats hung straight without surplus fullness and there were many fitted princess coats—logical over the moulded figurine dresses.

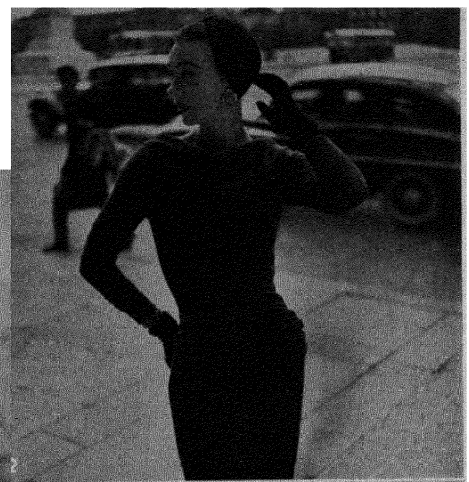
Skirt lengths dropped an inch or maybe two, till 11¼ in. from the ground was the pronounced length; but here again women suited themselves and slightly varying lengths were seen, permissibly. The trumpet skirt shape kept narrow till mid-thigh and then, breaking into flares or deep pleats, invaded even furs.

Speaking of furs—the 100% purchase tax on a fur-trimmed garment had kept fur-trimming to the minimum in England. With the reduction of this tax to the normal level, fur trimming rushed in. Fur collars, cuffs, pockets, bands and linings abounded; together with fur muffs, stoles and capes. Fur fabrics improved enormously and made luxurious linings in couture clothes and whole coats in the ready-to-wear ranges.

The newest and most characteristic hats of the year were the bathing-cap hats, hugging the head and—at their most pronounced—swallowing every vestige of hair. The young and beautiful wore them rejoicing, bandaging their heads with jersey, satin or velvet in lines which extended the shape of the head at the back. Those less favoured in features consoled themselves with little flat top-of-the-head pancakes or modified pill-boxes, or big-brimmed summer straws: another example of fashion's leaving a wide freedom of choice to the individual. Melusine—an enchanting softly furry hat fabric—became a great favourite.

(1) A grey and black check tweed fitted coat trimmed with black seal coney fur collar and cuffs. (2) A jumper suit with cowl neckline by Fath (Paris). (3) A gaucho jacket by Michael of Lachasse (London).







The short evening dress divided into two main types. There were the day-length dresses, usually narrow sheaths, with strapless, halter or camisole tops covered by matching boleros—in dark colours, for wearing at the theatre or the restaurant dinner. And then there were the short dancing dresses, with bouffant skirts falling to around ten inches from the ground. These last began to be seen at young weddings—sometimes for the bride, but more often for the bridesmaids.

There were two types, also, among the full evening dresses: the slender and the wide-skirted—again to suit the wearer and the occasion. The trend for shoulder straps continued, with a special feeling for the one-strap decolletage, and the halter neck, but the strapless look remained firmly established—especially for crinoline dresses

Cocktail clothes began to change character through the introduction of softer fabrics—notably lace and crêpe. Fath's fine jersey sweater over a crystal-pleated lace dress was a new and refreshing note. But the newest-looking skirt—Dior's square Infanta shape—was carried out, of necessity, in the stiffest of moires.

In the matter of fabrics, there were many developments to celebrate. The slub weaves were supreme: the Donegals, the nubbly woollens and linens; the shantungs. Tweeds swept the field for autumn: sophisticated pebbly tweeds which came to town in a big way—especially in black and white.

Fabrics and designs somewhat eclipsed in recent years, but now staging a spectacular come-back, were chiffon, crêpe, lace and all the prints: notably dark motifs on a dark ground, blurred flower prints, and a striking series of prints with fur markings—which brought prints well into the winter picture.

In colours the chief basic shade was grey, especially in its darker reaches; all the sherry colours from pale to dark; the butter colours, the blonds. There were innumerable greens, ranging from palest almond through olive to bottle and fir green. White carried off special honours: white pleated crêpe for day, white lace for afternoon; a cloud of white dancing dresses, long and short; white coats over dark dresses; little round white snowball jackets; and white touches by the million—including white hats—and not only for high summer, but far into the winter. There were good blues in the turquoise and Chinese range, with peacock and kingfisher for accents. The lilacs and the lavenders made a pretty show, and so did the wild-rose pinks for evening.

Formal shoes became even lighter and more delicate, till they were only held to the foot by a cobweb of straps. Stoles multiplied and flourished, in every fabric for every occasion: the newest being ring stoles, just shoulder width, in everything from fur to lace.

The couture scene was enlivened by two newcomers—Hubert de Givenchy in Paris and John Cavanagh in London—who were both immediately successful at a far from easy time. In London, too, Michael of Lachasse launched two of the most successful and widely echoed lines—the " Masher "—a narrow box jacket with an Edwardian look, and the " Gaucho "—a big bold short-coat.

Blouses became so important that they emerged from under the shelter of suits and functioned on their own, linked with their skirts by beautiful belts.

A newcomer to the international fashion field was Spain. A group of Barcelona houses—probably encouraged by Italy's success of the previous year—showed collections in Madrid in August which interested overseas press and buyers.

(A. Ws.)

Men's Fashions. The outstanding trend in men's styles during 1952 was the almost complete abandonment of the matching waistcoat, in favour of a garment in a complimentary or contrasting colour for wear with the two-piece lounge suit for business and semi-formal occasions. In a variety of materials including silk, velvet and corduroy, these waistcoats made a big contribution towards more brightness in men's apparel, a trend which gained momentum during the year. Bolder designs and colours in shirts, socks and ties were to be seen in even the most conservative quarters.

The fashionable double-breasted lounge suit had the jacket in button-2, show-3 style, with fairly long collar and lapels. Sleeves, often, carried 2-in turn-back cuffs, and the trousers had no turn-ups. In single-breasted suits, the vogue was for a rather low-waisted, button-1 style. The shoulders were wide and sloping and the pockets were cut straight or slightly on the slant. Trousers were quite narrow. For leisure wear, the corduroy jacket was much in favour. With side vents and jetted pockets, it was worn with worsted trousers with deep turn-ups. Crêpe-soled suede shoes and a light-weight cap or a hat matching the colour of the jacket completed the picture.

The once utilitarian raincoat came into its own as a fashionable garment. Tailored in several new proofed materials, in a variety of shades, and with a detachable lining for the cold weather, it took the place of the woollen overcoat in many quarters, as the correct attire. In hats, a national census in Great Britain revealed that 56 7% of men wore some form of headwear. Checks in 25 towns showed the snap-brim trilby, in brown and grey, as the most popular style for informal wear.

The Duke of Edinburgh created a stir in style circles when he wore a 1952 version of the Norfolk jacket with full-cut plus-fours. The jacket had two large pouch cross-pockets and two outside vertical pockets Sleeves were close-fitting at the wrists with strap and button fastening The three-quarter length socks were woven in a wide rib. (R. J. My.)

FATS: *see* VEGETABLE OILS AND ANIMAL FATS.

FECHTELER, WILLIAM MORROW, U S naval officer (b. San Rafael, California, U.S , March 6, 1896), was graduated from the U.S Naval academy at Annapolis, in 1916. He served aboard the flagship " Pennsylvania " of the U.S. Atlantic fleet during World War I. He was operations officer of the fleet destroyer command at the outbreak of World War II, and early in 1942 was named assistant director of the Bureau of Naval Personnel. During the campaigns in the Pacific, he commanded the battleship " Indiana ", and later commanded an amphibious group, a carrier and a task force. He was appointed assistant chief of naval personnel in 1945 and deputy chief of naval operations for personnel in 1947; on Feb. 1, 1950, as a four-star admiral, he became commander-in-chief of the Atlantic command and fleet. He served as chairman on the North Atlantic Ocean Regional Planning group. In 1951 he was mentioned for the post of N.A.T.O. supreme Allied commander in the Atlantic, but when Admiral Forrest P. Sherman died, Admiral Fechteler was appointed to succeed him as U.S. chief of naval operations. He assumed the office on Aug 7, 1951. In the summer of 1952 Fechteler made an extensive tour of the far east. After visiting Formosa he declared his belief that the Chinese nationalists were fully capable of defending the island against an invasion from the mainland. He also predicted that the Chinese Communists would sign a truce in Korea.

FEDERAL RESERVE SYSTEM. During 1952 the Federal Reserve system made further progress toward a more flexible open market policy. As inflationary pressures lessened, most selective credit controls were suspended. In May the screening of applications for all financing was ended and the voluntary credit restraint programme was suspended. This action was taken by the concurrence of the board of governors in the recommendation to this effect by the national voluntary credit restraint committee. Finally, the Defence Production act amendments of 1952 ended statutory authority

for any voluntary programme for the control of credit.

The board of governors of the Federal Reserve system amended Regulation W, relating to consumer credit, by removing the prescribed minimum down payment and maximum loan value in connection with home repairs. The board also amended Regulation W so as to exempt all listed articles costing less than $100 from the prescribed minimum down payment and maximum loan value. The board of governors recommended to congress that authority for the regulation of consumer credit be continued after June 30, 1952. Strong opposition to consumer credit control developed, however, and the board of governors suspended Regulation W on May 7 Somewhat later congress repealed the authority for the control of consumer credit.

During the year Regulation X relating to real estate credit was first eased and later suspended. With the concurrence of the Housing and Home Finance agency, the board of governors amended the regulation to permit more liberal credit terms for conventionally financed one-family to four-family housing built after Aug. 3, 1950.

The Defence Production act amendments of 1952 provided for the continuance of real estate credit regulations until June 30, 1953, but made such control subject to new limitations. These provided that no down payment requirement in excess of 5% of the transaction price be imposed if after any three consecutive months the annual rate of construction starts, seasonally adjusted, fell to a level below 1,200,000 starts per year. In accordance with this mandatory provision, after certification by the secretary of labour that new non-farm housing starts were less than a seasonally adjusted annual rate of 1,200,000 units in each of the months of June, July and Aug. 1952, the board of governors suspended Regulation X, including credit terms on both residential and non-residential properties. Under instructions from the administrator of the Housing and Home Finance agency, relaxations on government-aided housing credit were also made, taking effect on Sept 15.

After four years of hearings, in a proceeding under the Clayton act, the board of governors ordered the Transamerica corporation to divest itself of all capital stock in a large number of banks The proceeding attracted wide attention in banking circles but in effect left unsettled the status of Federal Reserve policy toward bank-holding companies. (J K. L.)

FENCING. The Olympic Games at Helsinki in 1952 showed that many of the 32 nations represented in the fencing events had made considerable technical progress since the games held in 1948. France and Italy at men's foil and Hungary and Italy at sabre once more demonstrated their superiority over all other countries but at épée a number of nations were now seen to be eligible for the highest honours. France won the men's team and individual titles decisively at foil mainly owing to the brilliant fencing of Christian d'Oriola who was undefeated in the finals of both events. The ladies' individual foil event provided a surprise win for Irene Camber of Italy who beat Illona Elek, the Hungarian Olympic champion of 1936 and 1948, by one hit when both had tied for the title. Italy won the épée team championship and also provided the winner of the individual event in Edoardo Mangiarotti. Hungary beat Italy in a very close match in the sabre final while the sabre individual was won by Pal Kovacs of Hungary.

In Great Britain the Amateur Fencing association celebrated its 50th anniversary. There was again a marked increase in the numbers of fencers and clubs. An annual weekend conference at which all branches of the organization were represented was inaugurated at Bisham abbey in October.

The British amateur champions were: Gillian Sheen (ladies' foil), U. L. Wendon (men's foil), A. L. Jay (épée) and O. B. Porebski (sabre). (*See* also OLYMPIC GAMES.)

See Roger Crosnier, *Fencing with the Foil* (London, 1951), C.-L. de Beaumont, *Fencing* (London, 1951). (C.-L. DE B.)

FERTILIZERS. A sharp drop in fertilizer consumption in the United Kingdom took place during 1952. The decrease in sales, amounting to about 25% of the previous year's tonnage, was attributed to (i) stockpiling by farmers during the previous season anticipating the withdrawal of the remaining fertilizer subsidy in July 1951; (ii) the steep increase in fertilizer prices, especially of phosphates, in July 1951; and (iii) uncertainty about possible re-introduction of subsidies and fall in prices. Actual consumption was undoubtedly higher than the figures suggest, stockpiling being estimated at about 10% of a normal year's consumption.

TABLE I CONSUMPTION OF FERTILIZERS IN THE UNITED KINGDOM (in tons of plant food)

	Nitrogen (N)	Phosphoric Acid (P_2O_5)	Potash (K_2O)
1939-40	77,100	195,500	85,000
1945-46	164,600	358,700	123,000
1949-50	225,100	460,600	234,000
1950-51	216,000	423,000	226,000
1951-52	181,300	277,100	169,500

To avoid any check in food production the Agriculture (Fertilizer) bill was passed in March 1952 This made a subsidy of approximately 30% payable on all inorganic phosphatic fertilizers bought after July 1, 1951, legislation which had been promised by the minister of agriculture in Nov. 1951. A new subsidy on nitrogenous fertilizers, amounting to about 15% of the cost to farmers, was introduced on July 1, 1952, and at the same time the subsidy on ground rock phosphate was raised from £4 to £5 a ton. Withdrawal of the production charge on home-produced phosphatic fertilizers also led to lower costs.

The prices of fertilizers shown for July 1952 in Table II do not include the subsidy, shown in the last column, which is paid directly to the farmer. The subsidy paid for the year July 1951-June 1952 was estimated at £7 million.

TABLE II. FERTILIZER PRICES IN THE UNITED KINGDOM*

	July 1951 £ s d	July 1952 £ s d	Subsidy £ s d
Nitrate of soda (16% N)	29 15 0	30 15 0	2 8 0
Sulphate of ammonia (20 6% N)	15 3 0	15 18 0	3 3 0
Nitro-chalk (15 5% N)	14 11 0	15 10 0	2 7 0
Muriate of potash (60% K_2O)	20 4 0	19 5 0	none
Sulphate of potash (48% K_2O)	21 11 0	22 2 6	none
Basic slag (15% P_2O_5)	8 0 0	6 14 6	2 4 6
Superphosphate (18% P_2O_5)	14 13 6	12 17 0	4 17 0
Ground rock phosphate (29% P_2O_5)	12 2 0	10 2 0	5 0 0

* Prices per ton for six-ton lots

Estimates made by the Organization for European Economic Co-operation (see *Fertilizers, Recent Trends in Consumption in O.E.E.C. Countries*, 1952) foresaw little or no increase in fertilizer consumption in 1951-52 by participating countries.

World production of fertilizer nitrogen, phosphoric acid and potash rose in each case during 1952, the greatest increase (9 2%) being for nitrogen. New nitrogen-fixing plant came into production in Egypt and thus, for the first time in history, synthetic nitrogenous fertilizers were manufactured in commercial quantities in every continent. The new nitrogen-fixing plant at Sindri, India, was stated to be the largest in Asia, with a capacity of 1,000 tons sulphate of ammonia daily. Production reached only 15,000 tons a month during the first six months of working.

Limitation of exports of sulphur by the United States continued to exert a world-wide influence on the manufacture of superphosphate, each ton of which requires 200 lb. of sulphur as sulphuric acid. In the United Kingdom a greater

proportion of sulphuric acid was made from alternative sources (pyrites, anhydrite) and sufficient superphosphate was manufactured to meet the low level of purchases. Shortage of sulphur restricted production in Australia, New Zealand and South Africa and some rationing of superphosphate and mixing with diluents were necessary. Australia increased production of sulphuric acid from native pyrites by developing deposits and setting up new plant.

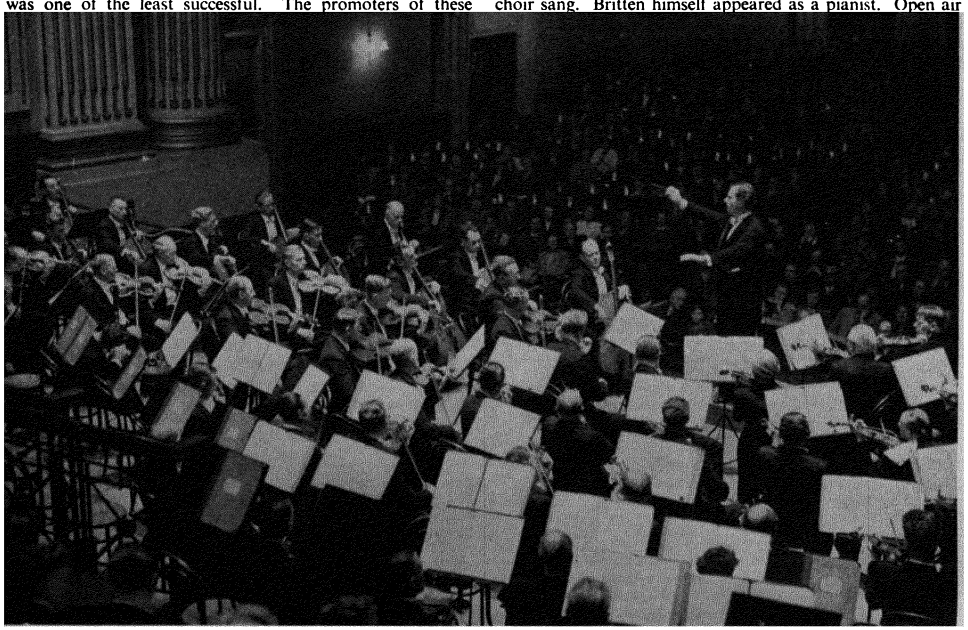
The shortage of sulphur stimulated the search for possible alternatives to superphosphate so that the use of sulphuric acid in manufacture could be avoided (*see* Rice Williams and T. P. Dee, "Alternative Phosphate Fertilizers," *Chemistry and Industry*, London, Aug. 16, 1952). Field trials at Rothamsted and other centres in 1951 and 1952 compared some of these with superphosphate. Some of the results were briefly reported in the Rothamsted *Annual Report, 1951*. Trials with nitro-phosphate (made by the treatment of rock phosphate with nitric acid followed by conversion of the deliquescent calcium nitrate, also produced, to other forms) indicated the importance of granular size. Thus, small granules were found to be more effective than larger. This was also found in U.S. trials.

Experiments on fertilizer placement continued. Application in bands near the seed led to higher yields than broadcast application for beans, peas and potatoes but not with leys (see *Annual Report of the Rothamsted Experimental Station, 1951*). (M. S. SH.)

FESTIVALS. The pattern of festivals in Britain remained virtually unchanged during 1952. There was a certain sense of anticlimax after the expansiveness and experiment of Festival of Britain year. Only Edinburgh had a fully international programme and audience, and it was sad that one of the most enterprising of the festivals, at Cheltenham, was one of the least successful. The promoters of these occasions could not afford to share Sir Thomas Beecham's spirited defence of his Edinburgh concerts—"I like empty halls, the music sounds better".

The sixth Edinburgh festival had its most distinguished guests yet. At the opening ceremony in St. Giles' cathedral, the Duke of Edinburgh and the ambassadors, high commissioners and representatives of 37 countries were present, and heard Edinburgh described from the pulpit as the "City of Concord". The tremendous intensity of the Hamburg State Opera company made a great impression on packed audiences, and Charles Morgan's new play *The River Line* was generally acclaimed worthy of the festival, at once exciting and thoughtful. A revival of Joseph Mitchell's comic opera, *The Highland Fair*, had great gusto, but was without the richness of tradition of the previously successful *Three Estates*. The Atelier quartet gave some exquisitely balanced morning concerts. Once again, however, some of the off-shoots of the festival proper provoked great interest and discussion. The drama in small halls ranged from "Kailyard" to Communist propaganda. The John Grierson film of a Scottish mine disaster, *The Brave Don't Cry*, was thought, apart from its mawkish title, to be as good a British film as had been made for some years. The exhibition of Degas in the national gallery gave great delight. It was significant that for the first time the enormously popular tattoo in the castle was televised throughout the country.

At the other end of the scale of magnificence was the tiny Aldeburgh festival in June. Once again its small-scale pattern was dictated as much by the taste of Benjamin Britten as by the available resources. The ballad opera *Love in a Village*, based on tunes collected by Thomas Arne, was performed with an orchestra of 12. A St. Matthew Passion by a little-known predecessor of Bach, Heinrich Schütz, was given with success. The Copenhagen Boys' choir sang. Britten himself appeared as a pianist. Open air



Rafael Kubelik conducting the Amsterdam Concertgebouw orchestra at the sixth Edinburgh International Festival of Music and Drama.



A party of guns walking to the butts for the first drive on Longdale moor, at the head of Nidderdale, Yorkshire, on Aug. 12. The season opened in fine weather and birds were fairly plentiful.

activities were interrupted by rain. A *Cantata* by Lennox Berkeley was conceived as a tribute to Britten.

In the Regency atmosphere of Cheltenham later in the summer another gallant attempt was made to concentrate on modern music. The City of Birmingham orchestra under Rudolf Schwarz and the Hallé orchestra under Sir John Barbirolli provided the major musical contribution. The former gave a first hearing to a piano concerto by Arthur Benjamin, which the composer frankly admitted was intended to give the soloist a chance to show off. A new symphony for strings by William Wordsworth, in which the influence of Elgar was apparent, found a first hearing after 15 years. Another new work was a string quartet by Richard Arnell, but despite the reduction in the festival's scope, the halls were poor, and anxiety was felt about the future since it appeared that civic co-operation could not be indefinitely relied upon.

At Haslemere in July the 23rd Dolmetsch festival once again gave an opportunity for the hearing of ancient instruments expertly played by a new generation. Recorders, harpsichords, clavichords and an 18th-century organ without a pedal board were played by gifted amateurs. This festival once again proved to be a " collector's piece ".

Once again at Glyndebourne opera came to life in a garden. The performance of Rossini's *Cenerentola* gave opportunity for splendid *coloratura* singing, and the conductor Vittorio Gui added to his laurels during the run of this exclusive festivity.

The Three Choirs festival at Hereford in September was chiefly notable for the appearance as conductor-in-chief of the young Meredith Davies, choir master of Hereford cathedral, who succeeded Sir Percy Howell. The circumstances of this festival, which involve six hours' music a day on hard seats in a cold cathedral, call for a form of zealotry in the audience. There was a full observance of Charles Villiers Stanford's centenary. The principal new work was the setting of a number of psalms by John Gardner under the title " Cantiones Sacrae ". This proved to be a difficult mixture of styles which at times threatened to defeat the choir as well as the listeners. (*See* also MUSIC.) (K. AM.)

FIELD SPORTS. The 1951-52 foxhunting season was generally open, but there were many stoppages due to outbreaks of foot-and-mouth disease. Among the foxhounds, most of the shire packs experienced rather poor scenting conditions. The Pytchley accounted for fewer foxes than usual, but sport with the Fernie was excellent. Of northern packs, the Middleton had an outstanding day on which hounds scored one 4-mi. point in 25 min., and, finding again immediately, scored a 7-mi. point in 65 min. In the south there was much severe frost, and scent was not generally good. In the extreme west, sport was consistently good. In Wales, the Llangibby had their best season for many years, but in Scotland snow and frost interfered with sport. In Ireland, scent was only fair in many parts. The season with harriers and beagles followed the pattern of that of the foxhounds, and the 1952 otterhunting season saw a plentiful supply of otters—especially in the Dumfriesshire and Courtenay Tracy waters.

After an open winter, conditions were generally favourable to game during spring and summer and the excellent prospects for grouse on many Scottish and English moors were largely fulfilled. Better sport was enjoyed than in 1951, and no serious outbreaks of disease were noticed. In north Wales grouse were still patchy, but there was an improvement in the Berwyns. Partridges, however, proved disappointing in many parts of England, despite an early promise of a good season, and even in some of the traditionally good East Anglian districts there was a notable absence of young birds. Speculation on the cause of this dwindling of stocks led to the suggestion that the widespread spraying of crops with certain chemical insecticides and selective weedkillers might be responsible for heavy mortality among young game birds. Wild pheasants had a favourable season in 1952 and with more rearing being done covert shooting was slowly improving, though vermin still presented a problem in areas which were not well keepered.

Hardly had the 1952 salmon fishing opened than great runs of salmon entered some of the east coast rivers, but those who reaped the real benefit were the netsmen, who on Tweed alone took 1,500 fish in one day. But some very good sport was had in parts before the season tailed off into mediocrity, one highlight being the capture on the Hampshire Avon of a 49 lb. salmon, a record for the river. After a summer-like Easter cold winds, drought and heavy thunderstorms combined to spoil summer sport. Foot-and-mouth disease restrictions

further hampered anglers' movements along some rivers. It was then that estuarial fishing for sea-trout came into its own—notably on the Ythan—bringing its rewards in the shape of large catches of finnock and amongst the many sea-trout one of 18 lb. 2 oz., the third largest ever caught in Scotland. (*See* also ANGLING.) (W. Ss.)

FIJI. British colony, *c.* 250 islands, rocks and reefs in the Pacific. Total area: 7,040 sq.mi., incl. main islands Viti Levu (4,011 sq.mi.) and Vanua Levu (2,137 sq.mi.). Pop.: (1946 census) 259,638; (1951 est.) 298,000, incl. 129,896 Fijians, 138,425 Indians and 6,501 Europeans. Religion: Fijians are Christian (mainly Methodist); Indians, 88% Hindu and 12% Moslem. Capital: Suva, on Viti Levu (pop. 1946 census, 25,395). Administration: governor; executive council, 3 *ex-officio*, 2 official and 4 nominated unofficial members; legislative council, 3 *ex-officio*, up to 13 nominated official, 5 European (3 elected, 2 nominated), 5 native nominated and 5 Indian (3 elected, 2 nominated) members. Governors (1952): Sir Leslie Brian Freeston and (from Oct. 6) Sir Ronald Garvey.

History. A severe hurricane struck the islands on Jan. 28, 1952, wind speeds at times exceeding 150 knots. At least 13 people were killed and Suva was extensively damaged. Sugar and banana crops suffered heavily and the gold mines were put out of production for some weeks. Food supplies, however, remained adequate and prompt assistance was given from overseas, particularly by New Zealand. Both the New Zealand and the British governments sent gifts of £10,000 to help to meet the cost of repairing the damage, the extent of which was estimated at more than £1 million. With the separation of the administrations of Fiji and the western Pacific, it was announced on April 1 that the governor of Fiji would retain responsibility for Pitcairn island and take over that for relations with the kingdom of Tonga. The 1st battalion, the Fiji regiment, consisting entirely of volunteers, arrived in Malaya in January and very soon established an excellent reputation in the war against the Communists. This year, for the first time, five Fijian girls were admitted as students to the Central Medical school. (K. G. B.)

Education Schools (1951) 463 primary, secondary 2, technical 2, teacher training college and Central Medical school

Finance and Trade. Currency Fiji pound (£F 111 £100 sterling) Budget (1952 est.) revenue £3,820,067, expenditure £3,818,349 Foreign trade (1951) imports £9,368,137, exports £6,413,576 Principal exports coconut products, gold, silver Production (1951) rice 22,902 tons, sugar 113,200 tons, copra 32,252 tons, gold 95,635 fine oz., silver 24,127 fine oz

FINLAND. Republic of northeastern Europe, bounded N. by Norway, E. by the U.S.S.R., S. by the Gulf of Finland and W. by the Gulf of Bothnia and Sweden. Area: 130,119 sq.mi., including Ahvenanmaa or Åland Islands (581 sq mi.) and inland waters (12,189 sq.mi.) but excluding territory ceded or leased to the U.S.S.R. in 1944. Pop. (1950 census, prelim.): 4,032,538. Language (1950): Finnish 91·26%, Swedish 8 55%; other 0 19%. Religion: Lutheran 96%; Greek Orthodox 1 8%, other 2 2%. Chief towns (1950 census): Helsinki or Helsingfors (cap. 367,462); Tampere or Tammerfors (103,043); Turku or Åbo (101,239); Lahti (44,759). President, Juho Kusti Paasikivi; prime minister, Urho Kaleva Kekkonen.

History. In Jan. 1952 the Agrarian prime minister, Urho Kekkonen, made a rare incursion into foreign politics. Referring to the clause in the 1948 agreement on friendship, co-operation and mutual assistance between Finland and the U.S.S.R., which obliged Finland to take military action only if it or the Soviet Union were subjected to armed aggression through Finnish territory, he observed that such an attack could be made only through Scandinavia. An established and guaranteed Scandinavian neutrality along the lines followed by Sweden for nearly 150 years would therefore be in Finland's interest. This statement evoked surprised comment in Norway and Denmark, and both countries re-affirmed their adherence to the North Atlantic Treaty organization. The question of an all-northern neutral *bloc* continued to be discussed sporadically in Finnish and Swedish political circles, but without further development.

In internal affairs Kekkonen managed to maintain, with difficulty, the precarious coalition of Agrarians and Social Democrats. While representatives of both parties in the government (which also included two members of the Swedish party and the non-party foreign minister Sakari Tuomioja) were willing to compromise on many points, their supporters—particularly those outside parliament—proved more intransigent. Recurrent, though minor, crises concerned the question of prices paid to the agricultural producer. The Social Democrats consistently opposed any increase, maintaining that agriculturalists were already more fortunate economically than any other section of the population. The Agrarians took the opposite view and the question developed into a political rather than an economic problem. In April Kekkonen resigned, but was persuaded by the president to withdraw his resignation, and later reiterated his conviction that political stability could be assured only by a coalition of Agrarians and Social Democrats.

When parliament re-assembled in September the problem became more acute. A less moderate group of Agrarians demanded that the agricultural prices stabilization bill should be amended to prevent prices falling during the coming year. The Social Democrats retaliated by threatening not to vote for a proposed 30% increase in rents. Both parties, under pressure from their extra-parliamentary organizations, refused to give way and in October the entire government resigned. A week later Kekkonen announced that the breach had been healed and that all resignations had been withdrawn. Nevertheless the economic stabilization programme introduced in 1951 was largely successful in arresting inflation and during 1952 the cost of living index rose by only 1%.

On Sept. 19, the agreed date, Finland completed the delivery of reparations which she had been paying to the Soviet Union since 1944. Originally the reparations were to be paid in six years and were calculated to represent U.S. $300 million at their 1938 value. The Soviet Union agreed in 1948 to extend the period of payment to eight years and to reduce the total value to $226·5 million. It was calculated, however, that the rise in world prices since 1938 made the total reparations worth $580 million, or 10·94% of the state expenditure for each of the eight years of payment.

While completion of deliveries relieved Finland of an enormous burden it left it with new problems: 58% of the reparations consisted of the products of the engineering and shipbuilding industries which had been built specially to pay them, Finland, therefore, had to find new markets or risk serious unemployment. The 1950 trade treaty with the U.S.S.R., covering five years, provided for the free export of goods similar to those delivered as reparations. In addition, on the completion of reparations deliveries, Finland received her first visit from members of the Soviet government, when the minister of trade and his deputy went to Helsinki and signed a supplementary agreement allowing for additional exports from Finland to the Soviet Union. A few days earlier a triangular trade agreement between Finland, the Soviet Union and China had been signed in Moscow.

Meanwhile the prosperity which Finland had achieved in 1951 through heavy sales of forest products at high prices began to dwindle. Countries which had stockpiled in the previous year placed fewer orders in 1952, and many sawmills

and woodworking factories were idle during the summer. The autumn saw a revival of trade, though at prices far lower than previously. Plans to stave off the unemployment which might have resulted both from the completion of reparations deliveries and the recession in the forest industries were put into effect, notably in an increased building programme and in a plan for the development of northern Finland and Finnish Lapland.

In July and August the XVth Olympic Games were held in Helsinki, and a further sign of the continued equable level of Finno-Soviet relations was given by Soviet participation for the first time since 1912. The Olympic Games, which were attended by the Duke of Edinburgh and other foreign royalty, were held in an atmosphere of complete international harmony. (W. HL.)

Education. Schools (1951) elementary 6,185, pupils 488,327, teachers 17,228, secondary (middle and lycea) 338, pupils 94,971, teachers 5,559, technical, commercial and special (1950) 457, pupils 25,867, for adults (1950) 80, pupils 3,915, teachers 769. Teachers' colleges 10, pupils 1,730, teachers 137. Universities 3, students 9,273, professors and lecturers 642, other institutions of higher education 6, students 3,746, professors and lecturers 432.

Agriculture. Main crops ('000 metric tons, 1950, 1951 in brackets) wheat 291 (250), barley 187 (196), oats 722 (768), sugar, raw value 20 (19), potatoes 1,210 (1,481), flax fibre 1.0. Livestock ('000 head, June 1950) cattle 1,844, sheep 1,330, pigs 470, horses 382. Fisheries total catch (metric tons, 1950, 1951 in brackets) 65,760 (65,630).

Industry. Industrial establishments (1947) 5,999, persons employed 249,936. Electricity production (million kwh., 1951, 1952, six months, in brackets) 4,428 (2,168). Raw materials ('000 metric tons, 1951) pig iron 101.5, crude steel 133.2, copper, smelter production 21.1. Forest products (1949, 1950 in brackets) sawn softwood ('000 standards) 850 (875); sawn hardwood ('000 cu.m.) 51.4 (46.7) pitprops ('000 cu.m.) 1,134 (869), plywood ('000 cu.m.) 231 (215), cellulose ('000 metric tons) 1,015 (1,194), mechanical pulp ('000 metric tons) 598 (719), newsprint ('000 metric tons) 384 (421), other paper and paper board ('000 metric tons) 287 (350).

Finance and Banking (million markkaa). Budget (1952 est.) revenue 171,397, expenditure 171,357, (1953 est.) revenue 176,917, expenditure 176,843. Total public debt (Dec. 1951, July 1952 in brackets) 130,951 (120,866). Currency circulation (Aug. 1951, Aug. 1952 in brackets) 42,000 (45,800). Gold and foreign exchange (million U.S. dollars, Aug. 1951, Aug. 1952 in brackets) 163.1 (176.0). Bank deposits (Aug. 1951, Aug. 1952 in brackets) 41,300 (55,700). Monetary unit *markkaa* with an exchange rate of Fmk 646 to the pound and Fmk 231 to the U.S. dollar.

Foreign Trade. (Million markkaa, 1951, 1952, six months, in brackets.) Imports 155,464 (102,241), exports 186,883 (76,099) excluding reparations 12,396 (5,220). Main sources of imports (1951) U.K. 14%, Poland 7%, Netherlands 7%, Denmark 5%. Main destinations of exports U.K. 27%, U.S.S.R. 14%, U.S. 6%, Netherlands 5%. Main imports (1951) machinery and vehicles 25%, textiles 17%, coal, petroleum and products 13%, iron, steel and manufactures 11%. Main exports wood and manufactures 39%, wood pulp 33%, paper and products 20%.

Transport and Communications. Roads (1950) 36,518 mi. Motor vehicles licensed (Dec. 1950) cars 26,780, commercial vehicles 34,469. Railways (1950) 3,533 mi., passengers 43 million, goods net ton-mi. 2,120 million. Shipping vessels, 100 gross tons and over (July 1951) 344, total tonnage 555,321. Air transport (1950) passenger-mi. 16.6 million, cargo net ton-mi. 335,000. Telephones (1951) 328,394. Wireless licences (1950) 721,000.

FINNISH LITERATURE. The year 1952 was one of great achievement for Finland in the literary field, and the record autumn book season showed the country's inspiring mental vigour. The fact that culture was an everyday necessity and not a luxury was reflected in the high sales of books and the buying public's discrimination.

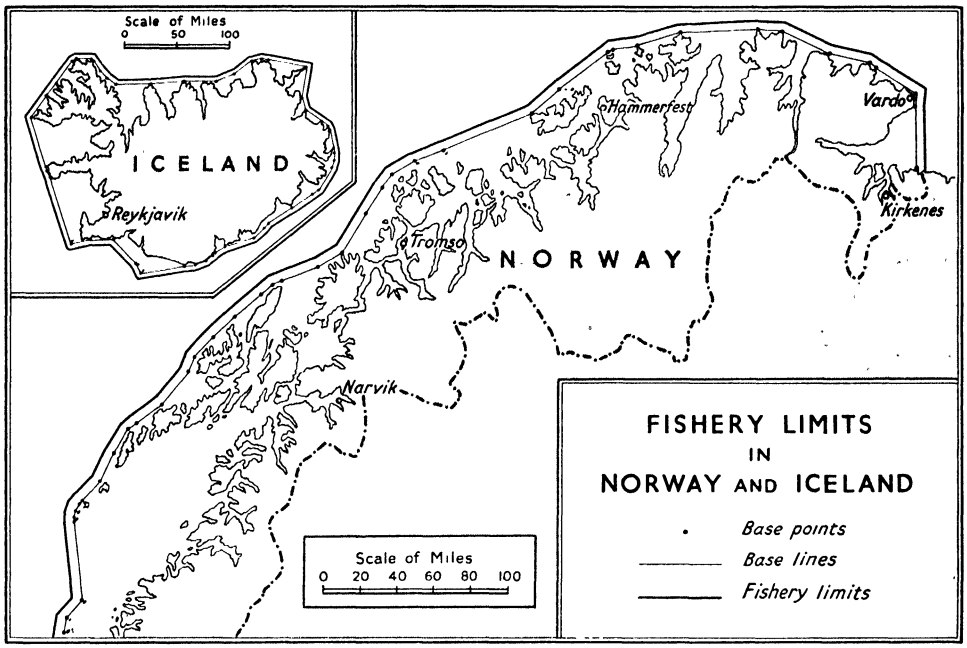
Mika Waltari published another historical novel, *Johannes Angelos*—about the conquest of Constantinople in 1453—in which he showed that barbarism is by no means out of date, "the proletarian writers' Nestor," Toivo Pekkanen, completed his trilogy about the origin and growth of the industrial town of Kotka with *Voittajat ja voitetut;* and the brilliant Oivo Paloheimo contributed an original sequel to abstract literature in *Ratsastus Eedenin,* a generally applicable confession of the way man pendulates between his carnal and his spiritual self. Martti Merenmaa, another of Finland's few real stylists, wrote a fine and sensitive novel, *Kaksi laituria,* about the mystery of artistic creation; another well-written book, about a little country tradesman's search for beauty, was *Johannes vain,* by the promising writer Eeva Joenpelto. A remarkable first novel was *Lasinen pyykkilauta,* by Marko Tapio, from the wilds of central Finland; the book was full of rural lyricism, quiet humour and a philosophy of life astonishing in a boy of little more than 20. An outstanding book for both the connoisseur and the lover of adventure was *Miesten meri,* by K. M. Wallenius, a collection of long stories with a Lapland setting. *Syntynyt Suomessa,* by the cultured Matti Kurjensaari, was a valuable social document in novel form of Finland from the 1920s to the present day.

Poems published in 1952 were, for the most part, also on a high level: particularly noteworthy were *Linnustaja,* by the well-known P. Mustapaa; *Sarjoja,* the swan song of the eminent poet and essayist Aaro Hellaakoski; *Sairas tytto tanssii,* by the talented Aila Meriluoto; and *Tuntematon puu,* by the leading woman poet Aale Tynni, a mature woman's apotheosis of the joy of life and her acceptance of suffering. An interesting biography was the life of the late poet Kaarlo Sarkia by Magnus Bjorkenheim.

A severe loss to Finnish cultural life was the death of both Aaro Hellaakoski and the great humanist Yrjo Hirn. (A. L. BLR.)

FISHERIES. By 1952 the effect on fisheries of World War II, which allowed some stocks of fish to increase and considerably reduced the fishing fleets of some nations, had largely disappeared. Yields from the well-established fisheries had become almost stable, while production in the fisheries in under-developed regions continued to increase. In some fisheries, particularly the demersal fisheries in north Atlantic and western European regions, a state of overfishing was apparent and the need for conservation measures was felt, especially by those engaged in fish catching. The question of the delimitation of territorial waters assumed prominence, partly as a result of the settlement of the dispute between Great Britain and Norway concerning Norwegian territorial waters and partly because of the urgent need for conservation measures in some fisheries.

World Production. During 1952 the Food and Agriculture organization of the United Nations (F.A.O.) published statistics on fish landings and on production of certain fisheries commodities in selected countries from information available up to June 1952. The figures given included those of annual landings between 1947 and 1951 in 21 different countries which with a combined yield of 12,673,000 metric tons together contributed half of the estimated total world production of fish in 1949. In 1950 and 1951 respectively, those countries produced 13,609,000 and 14,044,000 metric tons of fish. The apparent steady increase in yield between 1949 and 1951 was not general for all countries; it was mainly due to increased production by Japan whose fisheries were re-expanding after its severe wartime loss of fishing craft and subsequent restriction of fishing grounds. Japan's fisheries production of 3,797,000 metric tons in 1951 was 816,000 metric tons greater than in 1949 and established it as, once again, clearly the leading fish-producing country in the world. Fisheries production in the German Federal Republic, another country rebuilding its fishing fleets, increased by 167,000 metric tons between 1949 and 1951 when 680,000 metric tons were landed. The U.S. catch in 1951 was 2,345,000 metric tons and comparable figures for other leading fish producing countries whose yields were known were: Norway, 1,818,700 metric tons; United Kingdom, 1,085,800 metric tons; Canada and Newfoundland, 941,400 metric tons; Spain, 569,500 metric tons. All the above figures, quoted



from F.A.O. *Monthly Bulletin of Agricultural Economics and Statistics* (vol. 1, no. 2, Rome, 1952), referred to the round fresh weight of fish landed.

The most significant change in production of fisheries commodities by specified processes between 1948 and 1951, as indicated by the F.A.O. statistics, was the increase in reduction of fish to meal and oil. The United States and Norway, producing respectively 185,600 and 187,400 metric tons of fish meal and 55,800 and 80,000 metric tons of herring oil in 1951, were the chief fish-reducing countries Steady increases were evident in herring oil production by the United Kingdom, Canada and the Union of South Africa which respectively produced 2,500, 15,600 and 15,000 metric tons in 1951, and in fish meal production by the following countries (quoting their 1951 production of fish meal, in metric tons): Union of South Africa, 60,000, United Kingdom, 76,600, Canada, 54,200, German Federal Republic, 54,000; Netherlands, 10,400; Denmark, 20,200

Territorial Waters and Fisheries Limits. The 1951 judgement of the International Court of Justice on a dispute between Norway and Great Britain concerning the delimitation of Norwegian territorial waters concluded that the lines limiting territorial waters as drawn by Norway were justified, the method of using straight base lines between points along the coast, imposed by geography, having been established in the Norwegian system and consolidated by a constant and sufficiently long practice. The Norwegian right to a limit of four miles was not disputed. On May 15, 1952, Iceland introduced regulations extending the country's fisheries limits to lines four miles out from the base lines drawn between the outermost points, islands and rocks off the coast and across openings of bays. Within the new limits all trawling and seine-netting, whether by Icelandic or foreign fishing vessels, was prohibited. The changed limits involved the closure to fishing of two large bays, Faxa bay and Breida bay, to the west, and extensive areas to the southwest and north of Iceland. The reason for the extended limits was stated to be the need to conserve fish stocks depleted as a result of overfishing. Exchanges of notes between Great Britain and Iceland and protests by Belgium and the Netherlands did not resolve the differences of opinion on limits, but Icelandic fishing interests agreed that discussions, based on the need for conservation, should take place in the immediate future in the permanent commission to be set up under the Overfishing convention which, it was expected, would be established in 1953. In retaliation to such closing by Iceland of many productive fishing grounds, the fishing industries of the ports of Hull and Grimsby refused landing facilities to Icelandic fishing vessels.

Elsewhere, Ecuador defined its territorial waters as those within 12 mi. of a line joining the westernmost parts of the coast and adjacent islands, and it was apparent from discussions in the Australian parliament that some waters outside the normally accepted 3-mi coastal belt were considered as Australian waters. Sweden and Denmark sent further notes to the U.S.S.R. in June 1952, reaffirming the view that the question of the delimitation of territorial waters in the Baltic sea did not fall exclusively within the competence of the coastal state and that the dispute concerning the Soviet claim to a 12-mi. territorial belt should be decided by the International Court of Justice at The Hague.

The International Council for the Exploration of the Sea had earlier published, in a report relevant to the 1952 discussions on closed waters, its findings on the question of closing fishing grounds, and especially Faxa bay in Iceland, as a conservation measure. (Conseil Permanent International pour l'Exploration de la Mer, *Rapports et Procès-Verbaux des Réunions*, vol. cxx, Copenhagen, 1948).

International Administration. The 40th and jubilee meeting of the International Council for the Exploration of the Sea,

founded in 1902, was held in 1952 in Copenhagen. By 1952, 11 of the 12 signatory governments had ratified the 1946 International Convention on Overfishing and it was expected that Spain would do so on Jan. 1, 1953, so that the conservation measures would become operative two months later. The co-ordination of research to provide the information on which that convention was based was one of the outstanding achievements of the International council in its first 50 years.

The International Commission for Northwest Atlantic Fisheries met in Canada in June 1952. It recommended, as a measure towards conserving the haddock stock, the introduction of a minimum mesh size of 4½ in for trawlers fishing the Georges bank area off New England.

The activities of F.A.O. in 1952 were widespread. Details of numerous F A O. technical assistance projects in fisheries development, especially in waters off under-developed small countries in equatorial regions, were published in F.A.O. *Fisheries Bulletin* (vol. 5, no 2, Rome, 1952). At an international meeting on the purpose and methods of fisheries statistics, held in Copenhagen in May under the auspices of F.A.O., progress was made towards obtaining improved statistics on topics such as catches, equipment and trade. In February the General Fisheries council for the Mediterranean was established as a technical and administrative body working for the proper utilization of aquatic resources in the Mediterranean. Representatives of 18 countries attended an F A.O. fishery conference at Jakarta to enquire into the extent to which increased fishery yields could contribute to the solution of food problems in countries suffering from malnutrition. The fourth meeting of the Indo-Pacific council, under the guidance of F.A.O., was held in the Philippines in October; plans were put forward for the establishment at Singapore of an Asian training centre for master fisherman.

Japan, Canada and the United States signed the three-power convention to regulate the north Pacific fisheries. Provisions of the convention included that Japan should abstain from fishing halibut, herring and salmon off the coasts of Canada and the United States, and that Canada and Japan should abstain from fishing salmon in the eastern Bering sea.

Great Britain. The total quantity of wet fish caught by British vessels and landed in Great Britain in 1952 was 19,808,000 cwt., worth £43,714,000, as compared with 18,885,000 cwt , worth £45,334,000, in 1951.

The government subsidy to catchers of white fish in inshore, near and middle waters, was continued throughout 1952; nevertheless, some trawlers were laid up for economic reasons and more of the older near- and distant-water trawlers were scrapped than in recent years. In its first annual report, in July 1952, the White Fish authority proposed measures calculated to improve the rate of rebuilding trawler fleets, co-operative marketing and direct contact between fishing ports and inland markets, other help for inshore fishermen, and the freezing of substantial quantities of fish as a winter reserve: it stated that of the fleet of 817 near- and middle-water trawlers of length 70 ft.-140 ft., 637 were built before 1921 and that the current rate of building was not sufficient to maintain the fleet. In the queen's speech at the opening of parliament in Nov. 1952 it was indicated that the government would provide financial help for the building of fishing vessels.

Trawlers completed or due for completion in British shipyards for British owners in 1952 included 13 diesel-driven near-water and 10 distant-water vessels. As the outcome of experience with the pioneer vessel of its type, " Fairfree ", the construction of a large factory-ship trawler for British owners was commenced. This ship was 245 ft. long and fitted for trawling, filleting and freezing catches and storing 600 tons of frozen fish.

British trawlers fished more off Greenland in 1952 than previously, commencing the hazardous fishing, almost exclusively for cod, as early as January.

A trade agreement was negotiated whereby Great Britain would supply cured herring to the value of £850,000 to the U.S.S.R. The Scottish winter herring fisheries in 1952 produced 127,265 crans, as compared with 117,056 crans in 1951, and the summer fishing was the best for many years, 137,181 barrels being cured in Scotland, as compared with 65,710 barrels in 1951, and 61,239 crans being landed at North Shields, as compared with 46,063 crans in 1951. Bad weather, causing severe losses of gear, interfered with the East Anglian herring season which yielded 243,000 crans, worth £892,500, at Yarmouth and Lowestoft in October and November, as compared with 302,000 crans, worth £1,092,000, in 1951. The highest catch ever in a single night, of 314¾ crans, was made by a Lowestoft drifter in Oct. 1952.

Other Countries. 1951 was a record year for fisheries production in Norway, due largely to good herring fishing. The winter and spring cod fisheries of 1952 produced above-average catches, totalling 156,311 metric tons, and the winter herring catch of 790,924 metric tons was unusually large. An increase to 25,000 tons in the export of salted herring from Norway to the U S.S.R. was arranged

The U.S S.R. continued to expand its fisheries; Sweden built for Russia a number of trawlers of 180 ft. length and 750 gross tons It was reported that the U.S S.R. had ordered the building of four 2,540-ton refrigerated fish carriers.

In both the German Federal Republic and the Netherlands there were serious strikes of fishermen in 1952 for better pay and working agreements. In the Netherlands, where the unrest was caused partly by the wide range in the ages of vessels in the fleets, a commission submitted a report to the government on measures necessary to improve the fishing industry, suggesting the scrapping of 250 obsolete vessels, to be replaced, over 10 yr., by 100 new vessels with the addition of 3 new long-distance trawlers.

The U.S. Californian sardine fishery during 1951-52 was most unsuccessful, yielding only 126,541 tons, almost exclusively from southern California, as compared with about 500,000 tons annually from a wider area in the early 1940s. The Portuguese sardine catch in 1951 was 72,000 tons, which was below the economic catching capacity of the industry because of limited markets, a condition expected to prevail through 1952.

Several fisheries projects were started in 1952 in under-developed areas. Peru chartered two Danish vessels for fishing experiments, Brazil obtained instruction by a Swedish ship on Scandinavian fishing methods; Chile bought a Norwegian fishing ship with echo-sounder, and a number of fishing associations were formed within the country; a Thailand company acquired three modern trawlers to extend fishing operations. In Ceylon the operation of a mother ship with canoe fleets was very successful and led to proposals for more such mother ships; motor fishing boats were successfully introduced into the fisheries. The United States gave financial assistance to Indian fisheries whose annual production was reported as 550,000 tons.

The British Colonial Development corporation's fishing scheme for the Seychelles Islands was closed down in its original form in 1952, having suffered a trading loss of £27,900 in six months.

Research. Notable advances were made by Great Britain in the underwater photography of fishing gear in action and the behaviour of fish towards trawls and seine nets. Great Britain also developed underwater television by means of

which fish were seen and identified. Experiments on electric fishing, pioneered by the German Federal Republic, progressed in 1952 when trials were undertaken both of guiding herring into a net in sea-water and of model electric trawling apparatus. Taggings of live cod in the Arctic ocean by English and Norwegian scientists provided results showing the migrations of fish upon which the major Arctic fisheries depend. Scientific evidence was put forward for the existence, in deep Atlantic water, of huge, hitherto unfished, stocks of the redfish, *Sebastes*. (*See* also MARINE BIOLOGY, ZOOLOGY.)
(A. R. M.)

FIVES. *Rugby Fives.* A. D R. Dawes, the open singles holder, retained his title and equalled the record held by P. A. Malt and J G W. Davies by winning the championship for the third time. Dawes defeated J. T. Rogers, the Oxford captain, in one of the best finals seen since the end of World War II. E. Ll. Bailey, the veteran Alleyn Old Boy player, partnered J. F. Pretlove (the 1951 schoolboy champion) and won the doubles championship, defeating J V. Bardsley and M. R. Ricketts in the final. A record number of boys entered the schools competitions, 71 in the singles, and 36 pairs. Oundle school produced the finalists in the singles as well as the winning pair in the doubles M. P. Skliros beat D. W. Dove in the final of the singles Skliros partnering P Grainger defeated the Bedford Modern school pair (B. M. Hebblethwaite and G. R Cooper) in the doubles final Cambridge beat Oxford by 263 to 210 in the university match. (G R. Rr)

Eton Fives P. B H. May and J. W H. May won the amateur championship (Kinnaird cup) for the second year in succession when A. R. Kittermaster and A. R B. Mouldsdale had unfortunately to retire owing to injury after the first game of the final The public school's competition was won by the Eton first pair (D. A C. Marr and D. M. G. Bailey) who defeated another Eton pair (D R Maclean and J. H Illingworth) in the final In the university match Cambridge defeated Oxford by two matches to one. (H. L. B.)

FLAX: *see* LINEN AND FLAX

FLOODS AND FLOOD CONTROL. The year 1952 was remembered for the severe flooding in the west of England which overwhelmed the small north Devon seaside resort of Lynmouth, and the surrounding area, during the night of Aug. 15 (*see* DISASTERS). The primary cause of the flooding was the phenomenal rainfall that occurred on Exmoor and other districts of Somerset and Devon. At Longstone Barrow, which stands at a height of 1,500 ft. along the main watershed of Exmoor, 4 mi. from Lynmouth, the rainfall during 24 hr. was 9 in., of which 5 in. fell in 5 hr. At Okehampton, on the north edge of Dartmoor, the fall amounted to 4 25 in. The heavy rain was associated with a shallow but slow-moving depression along the English channel, and the upper air conditions favoured rainfall of thundery intensity, while the height of Exmoor and Dartmoor caused the rainfall to be concentrated over a relatively small area. In all, the floods struck an area of north Devon and Somerset from Dunster to Tiverton, South Molton and Lynton embracing more than 250 sq.mi. Public utility services and numerous properties were damaged or demolished in many villages, and 18 bridges were either carried away or extensively damaged, thus restricting transport and hampering relief work. The full extent of the damage was estimated at £3-5 million. The number of persons immediately made homeless was 900, and the final death roll was 31, which represented the worst flood disaster in Great Britain since the beginning of the century. Subscriptions to a national relief fund exceeded £1·3 million.

The early part of August was unusually wet and flooding occurred in other parts of Great Britain as a result of thunderstorms. Many places had up to 2 in of rain during a weekend, and over 3 in. was recorded at Douglas, Isle of Man. In Cumberland and Yorkshire several roads were impassable, and a large area of grain crop was flattened in Argyllshire. At Blackpool heavy seas damaged boats and buildings on the front, and thousands of acres of low-lying land on the shores of Morecambe bay were flooded In Belfast, after 30 hr of rain, the Blackstaff river overflowed its banks causing the worst flooding in living memory. About 2,000 houses were affected and over 100 ac. in the Donegal road area of the city were inundated.

During the year further consideration was given to several flood protection schemes, the largest being that dealing with the Great Ouse river which included the provision of works at Lynn down to the end of the training walls, the estimated cost of the works being £6 million. Preparations were begun for a £160,000 scheme to prevent flooding at Gainsborough, Lincolnshire. Fleetwood corporation approved a scheme for coastal protection at an estimated cost of £250,000 planned to be constructed over 3-4 years, and at Selsey, Sussex, a sea defence project was considered, estimated to cost £500,000

Commonwealth. The Ontario government announced in July that approval had been given to the construction of the Glen Allen dam, about 53 mi above Galt, for the control of floods on the Conestogo river. The dam would form a reservoir with a surface area of 3 sq.mi. and was estimated to cost $5 million.

In New South Wales floods in June caused the formation of a lake about 60 mi. long and 50 mi. wide, some 40 mi. southwest of Forbes. Further floods in August resulted in the fifth major flood in five years at Maitland, and kept 2,000 people out of their homes. In the suburbs of Bombay the heaviest July rainfall for 30 years was experienced. With more than 12 in. in 24 hr., and over 6 in. between 6 A M. and 8.30 A.M., the estimated maximum intensity was computed to be 4 in. an hour. The downpour disrupted air, railway and road traffic, and people in the low-lying areas of the city had to shelter in the upper floors of buildings. (It is worth recalling that in Sept. 1949 Bombay suffered from its heaviest downpour with over 28 in. of rain falling in 24 hr) Also in July, heavy rain in the hills caused the Brahmaputra river and its tributaries to rise, and floods spread over upper and lower Assam. In West Bengal, the town of Alipier Duar was partly under water. In August, floods again occurred in Assam when the Brahmaputra river rose and flooded eight island villages. In Bihar it was reported that the state had suffered severe damage from drought in the south, and floods in the north: while 12·5 million people were affected by drought within an area of 18,000 sq.mi. in south Bihar, crops were seriously damaged and 500,000 people were seriously affected by floods in the Kosi river valley in north Bihar. Flooding of the River Gumti, southeast of Dacca (East Pakistan), occurred in July and affected between 25,000 and 30,000 people, sweeping away large areas of rice paddy and jute fields.

Algeria. In September, the River Zarour rose more than 18 ft. in a few minutes when a cloud-burst, lasting for about half-an-hour, occurred over the town of Tebessa in the region of Constantine. The tempestuous torrent swept away mud huts, brick houses, trees and cattle, and 25 persons were reported drowned. The plain of Merdzah, which stretches before the gates of Tebessa, was completely submerged.

Spain. Heavy rain and floods in Navarre damaged crops and livestock estimated at £200,000, and at Allo three persons were drowned and 400 cut off by floods. (J. KD)

United States. The U.S. flood control act, approved July 11, 1952, provided $325,012,800 for flood control work during

the fiscal year ended June 30, 1953. The funds were classified as follows: flood control, general, $255,742,800; emergency fund, $8 million; lower Mississippi river, $60,020,000; Sacramento river, $1 million; Mississippi river emergency fund, $250,000. Of the flood control general fund, $243,670,800 was specified for new construction; $1,650,000 for advance planning, preliminary examinations and surveys; and $6,112,000 for operation and maintenance. Exclusive of the lower Mississippi river and the Sacramento river, flood control construction was continued or begun on 72 projects in 30 states.

The $60,020,000 allotted for the lower Mississippi river project was designated for work in seven states: Kentucky, Illinois, Tennessee, Louisiana, Missouri, Arkansas and Mississippi. Congress also appropriated $1·6 million for a general survey, $465,000 for the Arkansas-White-Red river basin survey and $410,000 for the New England-New York survey.

Floods occurred in many of the nation's major river basins during the year. The most devastating was that of March-April in the Missouri river basin. Flooding on the main stem was caused mainly by excessive local runoff and inflows from the flooded tributaries, as a result of the sudden thawing of a relatively heavy snow cover. Ice jams were important contributing factors in North Dakota. As the flood moved down the Missouri, it surpassed all previous records, including the historic flood of 1881. Because of its long crest and enormous volume, estimated at 10 million ac.-ft., flooding of the more vulnerable points downstream often preceded the crests by nearly a week. Major flooding occurred at Sioux City, Iowa, and points below. To protect the cities of Omaha and Council Bluffs, Iowa, one of the greatest flood fights in history was waged. In the fight that saved these cities from inundation, the corps of engineers, its contractors and army troops put in nearly 1·5 million man-hours of work. About 5 million sandbags were used, 800,000 feet of timber and about 100,000 tons of stone. At the peak some 25,000 people took part in all phases of the levee defences at Omaha and Council Bluffs. Estimated damage caused by the flood was $179 million. Total damage prevented by existing flood control works amounted to an estimated $238,580,000.

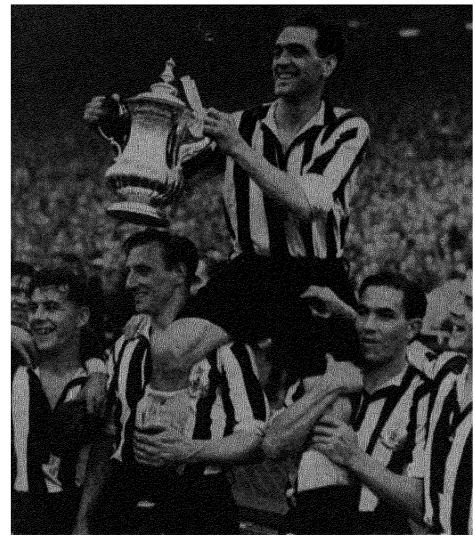
The flood in April 1952 on the Mississippi river above Keokuk, Iowa, was the highest on record and came from melting snow in central and southern Minnesota. Large floods occurred on the Mustinka, Sand, Elk, Crow, Rum and Minnesota rivers. Estimated damage was $20,517,000, with $9 million in Minnesota alone. Damage prevented amounted to an estimated $41,010,000.

Heavy rainfall fell over the state of New Jersey on March 11 and 12, 1952, with heaviest concentration along the watersheds of the northern tributaries of the Passaic river. The heavy runoff accompanying the storm caused total damages estimated at $468,000. The Passaic river was in flood again on April 5-6; and a third flood occurred in the basin on June 1-2. Total damage in the Passaic river basin from these two floods amounted to $1,694,500.

Floods also occurred in southern California during Jan. 1952. The major stream basins affected were Los Angeles river, San Gabriel river, Rio Hondo and Baloona creek. The principal types of property damaged by the flood were industrial, business, residential, road and railway property. Estimated damage from floodwaters was $4,510,000. The damage prevented by existing improvements was estimated at $20·2 million. (*See* also METEOROLOGY; SOIL CONSERVATION.) (G. HB.)

FLOUR: *see* BREAD AND BAKERY PRODUCTS.

FOOD RESEARCH: *see* NUTRITION.



Newcastle United captain, J. Harvey, holds the F.A. cup after his team's second successive victory. Newcastle beat Arsenal 1-0.

FOOTBALL. Association. In the 1951-52 season England and Wales shared the British international championship by drawing with each other and beating Scotland and Ireland. Strangely England's victory over Scotland was its fourth in succession at Hampden Park, Glasgow, whereas it had not won this match in England since 1934. Wales also beat the Rest of the United Kingdom 3-2 in a special match to celebrate the jubilee of the Football Association of Wales. England made a continental tour in which it drew 1-1 with Italy at Florence before a crowd which paid £55,000 for admission and seats, beat Austria 3-2 at Vienna and beat Switzerland 3-0 at Zürich. W. Wright, Wolverhampton Wanderers wing halfback, set up a record by winning his 43rd full international cap in the Swiss game; the previous best was 42 by R. Crompton, a former Blackburn Rovers back.

In the British amateur international tournament Scotland was successful, beating England 2-1 at Wembley, Ireland 2-1 at Glasgow and Wales 3-2 at Inverness. The joint British amateur team was beaten in the preliminary round of the Olympic tournament in Finland; in the final Hungary beat Yugoslavia 2-0; both finalists played the third back system, and both used long accurate passes and kept the ball on the ground as far as possible. Sweden, the holders, beat Germany in the match for third place and did well to get so far since in the previous two or three years they had lost more than 20 of their best players to foreign professional clubs.

Newcastle United became the first club to retain the F.A. cup since Blackburn Rovers' two wins in 1890 and 1891. They had all the luck in the final, however, for Arsenal lost W. Barnes, an international back, early in the game, and, defending with skill and spirit when reduced to ten men, almost stole the lead ten minutes from the end when a header by D. Lishman from F. Cox's corner bounced along the Newcastle crossbar. Just as everyone was resigned to extra time G. Robledo shot the only goal of the match. In the semi-finals Blackburn Rovers, a second division side, lost 1-2 to Newcastle and Chelsea 0-3 to Arsenal, both matches having

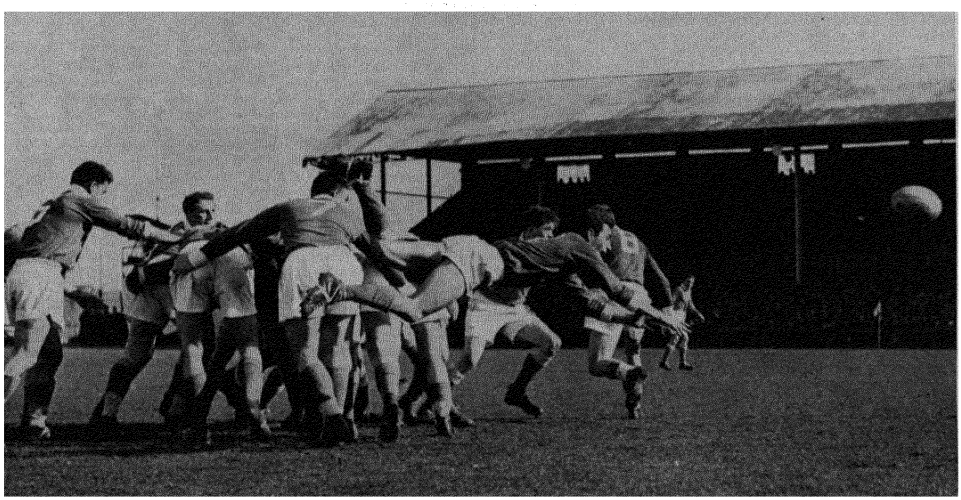
to be replayed after draws at the first meeting. Blackburn equalled Aston Villa's record of reaching the semi-final round 14 times; the two clubs still held the record of six wins in the final. Walthamstow Avenue beat Leyton 2-1 in the F.A. amateur cup final, and Oxford beat Cambridge 2-1 in the university match in Dec. 1951.

Manchester United provided one of the biggest cup-tie surprises by losing 0-2 at home in their first game to Hull City, a second division team captained by the veteran H. Carter, but later they at last won full reward for being the most consistent side in the country since the war by winning the Football league championship by four points from Tottenham Hotspur, the holders, and Arsenal; in the other postwar seasons the United had finished, second, second, second, fourth, and second. Huddersfield Town, who had never before been relegated, and Fulham lost their places in the first division to Sheffield Wednesday and Cardiff City. Plymouth Argyle and Lincoln City won their way from the third division into the second for the second and third time respectively, taking the places of Coventry City and Queen's Park Rangers.

Hibernian retained the Scottish League title, but this time had only four points to spare against Rangers instead of the previous year's ten. In the Scottish cup competition Hibernian lost in the first round to Raith Rovers after two replays, and the cup went to Motherwell who beat Rangers 2-1 after one replay, Heart of Midlothian 3-1 after two replays, and Dundee 4-0 in the last three rounds. This was Motherwell's fifth final but only their first victory there. Clyde and Falkirk were promoted to A division in place of Morton and Stirling Albion.

A committee of investigation consisting of J. Forster (chairman), G. H. Savage, H. Sutcliffe (Yorkshire and England professional cricketer), G. B. Thorneycroft and M. Woosnam (an amateur international at several sports, including association football) was appointed, in Aug. 1951 by the minister of labour, to report on the differences between the Football league and the Players' union and to make recommendations. Its report was published as a white paper in March 1952. The committee thought that the ideal system for transfer of players was on a man for man basis but that this was impracticable. It recommended that there should be a maximum transfer fee of £15,000, divisible into three equal parts, one to go to the F.A., one to go to a professional footballers' benevolent fund and one to go to the transferring club. The committee thought that maximum wages were in the interests of professionals of average ability, but that the maximum might well be raised and that players selected for representative games should be paid substantially more. In fact, soon after, the pay for an Englishman for an international match was raised from £20 to £30, and an arbitration court awarded £50 to Scots for similar games as from the beginning of the 1953-54 season. The committee was in favour of compulsory match bonuses and talent money, but against compulsory benefits. It urged that players should be allowed union or legal representation when answering cases before the F.A. or the Football league. It did not think that either union or players had any right to participate in making the rules of the F.A. or the Football league, but might reasonably expect to be consulted when any change was being made which would affect a player's contract.

Rugby Union. The 1951-52 season was made notable by two touring teams, the South Africans in the British Isles and France and the Fijians in Australia. The South Africans played 31 matches, winning 30, losing only to London Counties (9-11), and scoring 562 points against 167. Their success was gained by observing many basic principles which had been forgotten or overlooked by too many modern teams. They were of excellent physique and tremendously fit. The result of this was that, during the tour, whereas they scored only 213 points against 100 in the first halves they added 349 against 67 after the intervals. Indeed they were down at halftime to North-Western Counties at Birkenhead, South-Western Counties at Bristol, Cardiff, and Ireland, and were level in six other games. To fitness they added complete mastery of forward play and their scrummaging was superb. They had a brilliant pair of half-backs in P. A. du Toit and H. Brewis, an excellent full-back in J. Buchler, and one



The French scrum-half, Gerard Dufau, clearing the ball from a scrum in the Wales v. France Rugby international held at Swansea on March 22. Wales beat France by 9 points to 5.

dangerous wing threequarter in J. K. Ochse; the other backs were not brilliant, but they were essentially sound. F. W. Mellish and Danie Craven formed an almost perfect partnership in management, and the players enforced a strict code of discipline of their own. B. Kenyon, the captain, unfortunately suffered a serious eye injury in the thirteenth game and could not play afterwards; H. Muller then took over the captaincy on the field. South Africa beat Scotland 44-0, giving as fine an exhibition of open forward play as one could imagine; beat Ireland 17-5 in spite of being without R. van Schoor, a centre, for the middle part of the match, beat Wales by a try and a dropped goal to a try, beat England by a goal and a penalty goal to a try; and beat France 25-3.

The Fijians startled Australia by beating club and state sides by brilliant and ceaseless open attack of the most unorthodox kind, and losing once and winning once against the full Australian team. Their physique, speed and will to attack were tremendous and they could pass the ball from one side of the field to the other. Australia also visited New Zealand and each side won one of the two international matches.

Wales won all its four matches in the British home international championship and so won the Triple crown for the ninth time. Wales beat England 8-6 at Twickenham, Scotland 11-0 at Cardiff, Ireland 14-3 at Dublin and France 9-5 at Swansea. But for injuries its successes would have been much more emphatic. Lewis Jones was a cripple for most of the English game on the left wing; R. Willis, scrum half, broke a jaw against Scotland, and C. Morgan, stand-off half, was unable to play against France. The Welsh backs were easily the most dangerous of the year. England, Ireland and France were much inferior to Wales and much superior to Scotland. England beat Ireland by a try in a blizzard at Twickenham, beat France by two penalty goals to a try in Paris, and beat Scotland 19-3 at Murrayfield. Ireland beat France 11-8 in Paris and beat Scotland, with 14 men for three parts of the game, by 12-8 in Dublin. France won 13-11 at Murrayfield.

Middlesex won the county championship, beating Lancashire 9-6 in a memorable final at Twickenham. Middlesex included both England's halfbacks and three of its three-quarters but had to defend desperately against a faster, cleverer and technically better Lancashire back-division, five members of which had played in England's trials. Oxford won their fourth successive victory over Cambridge in Dec. 1951 by 13-0.

The spread of rugby on the continent of Europe was most noticeable and France no longer had an easy passage in the "European championship". Italian and Siamese sides visited England, the Woodpeckers made a Spanish tour, and Oxford university won every match in a visit to Japan.

Rugby League. The New Zealand team which visited Great Britain in the 1951-52 season lost ten of its 28 matches, including all three tests at 15-21, 19-20 and 12-16, but, like its predecessors, was most popular because the players so obviously enjoyed playing rugby and considered the game more important than victory, hard though they tried for it. They were unlucky in the test series, the inability of Hardwick, the best loose forward in the world, to go on the tour costing them dear and their goal-kicker repeatedly failing by inches from all ranges and angles. Hardwick joined the team for a later visit to Australia, and New Zealand won the test series, 2-1. Australia sent a team to England in the autumn and it lost the first test, 6-19.

France retained the home international title on points average over Other Nationalities and England. Wales failed to win a match, and in view of the small number of distinguished Welsh recruits now coming north and the bans imposed on recruiting Australian and New Zealand players, the future of the tournament became so doubtful that a proposal was put forward to abandon it and substitute a series of tests between Great Britain and France.

Wigan won the Northern Rugby league title for the fourth time since the war and the eighth in all, beating Bradford Northern, who had finished top in ordinary games, by 13-6 in the final. They lost the Challenge cup, however, when, to general astonishment, they went down at Featherstone in the third round, and in the autumn they also lost the Lancashire cup, being beaten in the second round at Leigh. In 1951 Workington Town were the first club outside Lancashire and Yorkshire to win the Northern league title and in 1952 they became the first outside the two counties to win the Challenge cup, beating Featherstone 18-10 in the final at Wembley.

An important, and much disputed, alteration was made in the rules during 1952. In recent years after a tackle one player on each side was allowed to act as half-back behind the tackler and his victim and all others had to be five yards behind the ball to be on-side. Now any man behind the ball was on-side. (*See* also OLYMPIC GAMES.) (L. M.)

FORAGE CROPS. The yields of several of the forage crops were lower in 1952 than in the previous year as a result of a dry spell in July which retarded the growth of pastures and of crops such as turnips, swedes and mangolds. The yield of beans for stock-feeding was also lower owing to the attacks of black fly. Farmers used less potassic, phosphatic and nitrogenous fertilizers during the year and this undoubtedly contributed to the lower yields obtained. The consumption of phosphatic fertilizers for the year ending June 30, 1952, was 36% less than for the previous year. On the other hand, hay of good quality and of higher yield than the previous year was harvested from both temporary and permanent grassland.

FORAGE CROPS IN THE UNITED KINGDOM

	Acreage ('000 ac.)			Production ('000 tons)		
	1939	1951	1952	1939	1951	1952
Beans (for fodder)	135	109	128	111	94	99
Peas (for fodder)	37	32	29	23	23	19
Turnips and swedes	712	597	598	10,084	9,931	—
Mangolds	216	264	225	4,069	6,083	—
Other fodder crops (kale, fodder beet, etc.)	258	481	546	—	—	—
Temporary grassland*						
for mowing	1,902	3,088	3,092	2,588	4,166†	4,913†
for grazing	2,191	2,792	2,750	—	—	—
Permanent grassland						
for mowing	5,009	3,129	3,227	5,202	3,150†	3,591†
for grazing	13,764	10,004	9,833	—	—	—
Rough grazing	16,539	17,066	—	—	—	—

* Lucerne, clover and rotation grasses. † Excludes grass mown for silage, drying or seed in Great Britain

SOURCE *Monthly Digest of Statistics* (H M S O, Sept. 1952).

One of the objectives of the price review of Feb. 1952 was to encourage an increase in these crops by means of subsidies on fertilizers and grants for ploughing up old grassland. An increased production of 15% from grassland and 5% from tillage land by 1956 was foreseen.

Statistics collected for the first time relating specifically to fodder beet showed that this crop was increasing in importance in the United Kingdom; in England and Wales alone 68,000 ac. of it were recorded. Farmers were making this change because fodder beet yields a greater amount of dry matter and carbohydrates per acre than do similar crops such as turnips and swedes.

As compared with those of earlier years, the number of pick-up balers in use by 1952 had increased considerably. In England and Wales alone there were 11,430, which was double the number in use in 1950. Similar trends were shown in the numbers of green crop loaders and cutter-loaders, silage cutters and blowers. Increases also occurred in barn



Members of the Royal Forestry Society of England and Wales at Stonor Park, Oxfordshire, in May. They were inspecting the results of experiments undertaken by the Forestry Commission to improve the Chiltern beechwoods by thinning.

machinery, indicating a general increase in mechanizing the harvesting, storage and handling of forage crops.

(O. T. W. P.)

FORESTRY. Great Britain. The Forestry act, 1951, which came into force in Oct. 1951, prohibited the felling of any growing tree over a given diameter without a licence and brought about a fundamental change in British forestry by giving the commissioners powers to attach replanting conditions to a felling licence. The commissioners were also empowered to require an owner to thin a neglected plantation or to fell blocks of trees which were deteriorating.

For the year ended Sept. 30, 1952, the maximum amount of timber licensed for felling was 26 million cu.ft. broad-leaved and 7·1 million cu.ft. conifers. In spite of increased government grants for planting and maintenance, the total acreages planted by private owners and by the state were estimated to be only about half the allotted programme for 1952. Labour shortages and the difficulties in acquiring sufficient plantable land were stated to be the chief obstacles to adequate state planting. Experiments on selective weed-killers were carried out in research centres, particularly in the suppression of fast-growing weeds in forest nurseries and young plantations.

Commonwealth. The British Commonwealth Forestry conference was held at Ottawa in Sept. 1952 and was attended by leading representatives from Great Britain and all parts of the Commonwealth. The agenda covered all aspects of forestry, including policy, silviculture, management, protection, utilization and research activities. The delegates crossed the dominion to the Pacific coast visiting maritime, prairie and mountain forests *en route*.

In Canada federal financial assistance for forest inventories and to reafforest vacant crown lands enabled considerable progress to be made in five out of the ten provinces. Aerial photography was used extensively and experiments were carried out in the measurement of degree of tree cover or "crown closure". Volume tables were then prepared by correlating the crown closure and basal area. Owing to the recurrent damage to Canada's forests from insect attack, a Division of Forest Biology was formed, comprising a unit of forest zoology and a unit of forest pathology. It was found that successful investigations into insect attacks must include a study of the other forms of animal life in the forest community. Canadian experiments on leaving felled trees with the crown intact to reduce the moisture content of the logs by transpiration showed more rapid reduction in weight of the timber but not for all species. Chemical girdling of standing trees was also found useful to reduce weight of the timber in conifers but not in hardwoods.

New Zealand was faced with the problem of the extraction and utilization of the thinnings from extensive areas of young coniferous plantations, particularly *Pinus radiata*. An important project, known as the Murupara scheme, was launched for an integrated sawmilling, timber pulp and newsprint industry to be established in the vicinity of the Kaingaroa State forest. It was expected that the project would require about 23 million cu.ft. of logs a year and that the logging problems involved would require new methods of exploitation, and mechanical cableways were being considered. The National State survey of New Zealand's indigenous forest resources was extended during 1952 and sustained yield management was introduced for certain indigenous forests, notably those of *Nothofagus*.

An inter-African Forestry conference was convened by the Commission for Technical Co-operation in Africa, at Abidjan on the Ivory Coast, and attended by delegates from all African forestry departments.

In Tanganyika the government directed that an additional 17,500 sq.mi. of forest should be reserved by 1960, and a considerable increase in the forestry staff was sanctioned to hasten the survey of large areas of still uncharted forests.

In Gambia the reservation of forests was started with the demarcation of 25 forest parks, averaging 1,000 ac. each, but the legislative council rejected the usual designation of " forest reserves " for these areas.

In Northern Rhodesia, where protection against forest destruction and degradation of the soil was one of the greatest problems of the Forest department, a new forest policy was formulated, in which one of the essential operations was to be the early burning, under control, of the grass and forest litter to prevent more serious fires and damage should the inevitable annual burning be delayed until late in the dry season.

In British East Africa, particularly in Kenya and Tanganyika, the planting of exotic conifers was continued as the most economic means of growing the maximum volume of marketable timber on a given area.

In British West Africa, particularly in Nigeria, the use of mechanical equipment increased for the extraction and conversion of timber, and the sawmills and plywood factories reached a high standard.

In Sarawak measures were taken under the Forest ordnance to increase the control of forest areas by the formation of permanent forest reserves. It was estimated that shifting cultivation was destroying the forests at the rate of about 100 sq.mi. a year.

In Fiji systematic forest management started, 76 sq.mi. of mangrove forests being controlled on a regular rotation for firewood production, but the forest reserves were still very limited.

In British Guiana, detailed topographical surveys and timber enumerations in the large forests of the Crown corporation's concessions were completed and systematic fellings could now be carried out under silvicultural control. An experimental attempt was made to extract crab-wood from above the Camaria falls on the Cuyuni river, but losses were heavy and only 490 logs were delivered to the mills from 745 floated through the falls, so the operation was suspended. It was considered that about 14,000 sq.mi. of forest in the near interior of the Colony could be considered economically accessible and would be sufficient to provide for the needs of the timber industry for 25 years.

Local forest resources in Ceylon were developed by modern methods through the assistance of the Food and Agriculture organization. Plans were made to open up large forests hitherto inaccessible in order to reduce the great quantities of timber still being imported to meet the country's needs. Similar developments were taking place in the Chittagong hills in east Pakistan.

In Cyprus a new £50,000 forestry college at Prodomos was opened for Cypriot and Arab forestry students. This college would serve the needs of the whole middle east area.

Although many of the forestry staff in Malaya were still engaged on whole-time emergency duties, steady progress was made. The Forestry Research institute continued its work under considerable difficulties and the forestry school was enlarged to include students from Borneo.

In North Borneo the monopoly held by a timber company since 1920 was terminated but new concessions were granted, with special safeguards for systematic work and forest control.

Europe. The F.A.O. again gave technical and financial assistance in forestry, particularly in Austria and Yugoslavia. The Austrian government was given help in reafforestation and in the construction of forest access roads and cableways for logging. Forest experts were sent to Yugoslavia to advise on the modernizing of timber extraction and processing methods, and also to install a forest products research laboratory at Zagreb. (A. H. LD.)

United States. The president's Materials Policy commission was appointed by President Harry S. Truman to study the long-range materials problem of the United States and its relation to future needs. Its recommendations on forest resources called for increased attention by the federal government, in co-operation with the states, to reforestation and to the protection of forest lands from fire, insects and diseases. Also recommended were an expansion of technical assistance to small-scale woodland owners and timber processors and a national system of forest credit and forest insurance. Construction of access roads was recommended to open up federally owned commercial timber lands in the western states. The report called upon the federal government to assist the states in establishing systems of compulsory regulation to prevent destructive timber cutting. To relieve tax pressure toward premature cutting, it recommended that the states should substitute yield taxes for *ad valorem* taxes on timber.

A serious epidemic of Englemann spruce beetle was reported in the northern Rocky mountains in the summer of 1952. The insect outbreak was the result of violent windstorms in 1949 which damaged great numbers of trees and provided favourable conditions for development of the beetles. Logging operations were speeded up to salvage as much of the infested timber as possible. In Colorado, a control programme started in 1950 against an epidemic of the same species of insect appeared to have been successful. (*See* also TIMBER.)

(C. E. R.)

See N. N. Janssonius, *Key to the Javanese Woods* (Leiden, 1952), R. S. Troup, *Silvicultural Systems* (Oxford, 1952), W. B. Turrill and E. Milne-Redhead (ed.), *Flora of Tropical East Africa*, introduction and parts 1, 2, 3 (London, 1952)

FORMOSA (TAIWAN). Large island in the western Pacific separated from China by the 90 mi.-wide Straits of Formosa. Area: 13,906 sq.mi., including Pescadores and 75 neighbouring islands. Pop.: (1940 census) 5,872,084; (mid-1951 est.) 10 million, including Chinese Nationalist troops and refugees from the mainland. Language: mainly Chinese. Religion: Buddhist, Confucian and Taoist. Chief towns (pop., 1950 est.): Taipei (formerly Taihoku, cap., 450,800); Kaohsiung (Takao, 275,600); Tainan (229,500); Taichung (Taichu, 207,000); and Chilung (Keelung or Kiirun, 145,200). Governor, Wu Kuo-cheng (K. C. Wu).

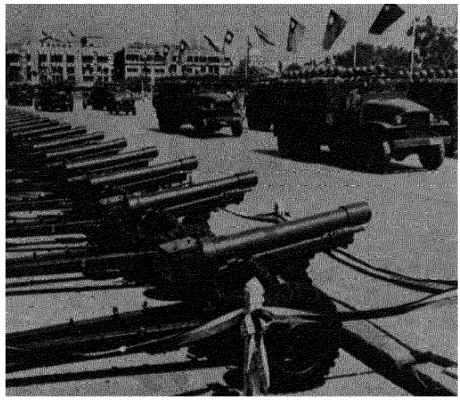
History. To assist the Chinese Nationalist government in the defence of Formosa, the only territory under its control, the United States established a military assistance advisory group on May 1, 1951, under the command of Major-General William C. Chase. It was reported in March 1952 that the United States planned to double the size of its military assistance group (the 360 officers and men then on Formosa) in order to speed the training of 500,000 Chinese troops for defence of the island. The possibility of these troops participating with United Nations forces in the Korean conflict was voiced from time to time during the year, but training for the defence of Formosa remained the objective of the U.S. military assistance programme. (S. NR.)

Education. Schools (1949): primary 1,199, pupils 900,648, intermediate 206, pupils 114,616, higher education, 1 university and 5 colleges with 5,905 students. Illiteracy (1951 est.) 40%.

Agriculture. Main crops (1951-52, '000 metric tons): rice, brown 1,480, sugar, raw 553·4; tea 10, pineapples 42, bananas 102.3, citrus fruits 27.5, tobacco 7.8, jute 10, sisal 3; ramie 1; sweet potatoes 2,100, peanuts 60; wheat 20; barley 2.2, maize 3; millet 5; cassava 120, beans and peas 11. Fisheries (1951-52) total catch, 77,000 tons.

Industry. Production (1951 est., '000 metric tons): coal 1,657; black iron sheet 1.2; cement 389; paper and pulp 28; chemical fertilizers 110; aluminium 5·5; salt 284; cotton yarn 7·2; cotton cloth 56,643,000 yd. In the first six months of 1952, 654 million kwh. of electric power were generated.

Finance. Currency. New Taiwan Yuan (NTY), issued June 1949, with dual exchange-rate system (instituted April 10, 1951) providing for a foreign exchange certificate rate and an official exchange of NTY 15.65 and NTY 10.30 respectively to U.S. $1.00. Budget (1952 est., million NTY) revenue 2,428, expenditure 2,715. Total note issue (April 30,



Troops of the Chinese Nationalist army in Formosa taking part in a military review in Taipei on China's Independence day, Oct. 10.

1952) NTY 565 million. Authorizations by E.C.A. (later M.S.A.) for assistance to Formosa in 1951 totalled U.S. $113 million.

Foreign Trade. (Million U.S. dollars, 1951; 1952, six months, in brackets): exports 98·2 (69·4), imports 85·5 (59·0). Chief exports (1951): sugar (283,500 metric tons valued at U.S. $56 million) and rice (84,900 metric tons valued at U.S. $13 million). Japan was the main destination of exports and main source of imports in 1951.

Transport and Communications. (1951) government railways, *c.* 925 mi.; sugar plantation railways, *c.* 1,625 mi.; forestry railways, 250 mi.; push-car lines serving various agricultural areas, 250 mi. Roads *c.* 16,380 mi., including 3,380 mi. of main highways. Telephone subscribers (1951): 18,000.

FRANCE. Republic of western Europe bounded N. by the English channel, N.E. by Belgium and Luxembourg, E. by Germany and Switzerland, S.E. by Italy, S. by the Mediterranean sea, S.W. by Spain and W. by the Atlantic ocean. Area: 213,010 sq.mi., including the Mediterranean island of Corsica (3,367 sq.mi.) and small Alpine territories ceded by Italy in 1947 (273 sq.mi.). Pop.: (1946 census) 39,829,838; (mid-1952 est.) 42,239,000. Language: French is almost 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 230,000 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; prime ministers in 1952, René Pleven, Edgar Faure and Antoine Pinay (*q.v.*).

History. During 1952 France had three prime ministers. René Pleven (Union Démocratique et Socialiste de la Résistance) who had come into office on Aug. 8, 1951, resigned on Jan. 7; Edgar Faure (Radical) was elected on Jan. 18 and resigned on Feb. 29; Antoine Pinay (Independent) was elected on March 6 and resigned on Dec. 23. Neither Faure nor Pinay had been P.M. before.

Robert Schuman (M.R.P. or Mouvement Républicain Populaire) was foreign minister and Charles Brune (Radical) minister of the interior in all three governments. René Mayer was minister of finance in the Pleven government; in the two subsequent governments the prime minister himself took this portfolio. Georges Bidault was minister of national defence under Pleven and Faure, Pleven under Pinay.

Throughout 1952, successive governments were trying to become masters of the inflationist trends released by the Korean war. These were given fuller scope in France than in most countries, partly because confidence in stability had been undermined by 35 years of progressive inflation and partly because 1951 was an election year. The cost of living index for Paris had reached 144·8 in Feb. 1952, little more than two years after the new basis of 100 had been adopted at the end of 1949. In consequence it was not surprising that the balance of payments deficit which had shrunk to the equivalent of $248 million in 1950 had expanded again in 1951 to $1,058 million. To support the Pinay government's effort at stabilization nearly a quarter of the deputies of General Charles de Gaulle's Rassemblement du Peuple Français (R.P.F.) broke away from their leader, thereby widening the basis of the parliamentary régime and permitting the Socialists to go into opposition without incurring the odium of making it impossible to govern. Although Pinay stood farther to the right than any previous prime minister of the Fourth republic he enjoyed widespread popularity for his attempt to base policy on the defence of the consumer whether employer or employee. The year was unusually free from industrial strikes. The Communist attempt to launch political protest strikes was totally unsuccessful and showed that the party's electoral strength could not easily be transposed to other planes.

Pleven Cabinet. The ratification of the European Coal and Steel community (*q.v.*) on Dec. 13, 1951, by 377 to 235 votes gave the new National Assembly its first occasion to show that, though it had so far proved an inadequate instrument of stable government, it had fine debating qualities. The Gaullist speakers criticized the treaty on the ground that for a united Europe it was an inadequate starting point, which should have been a political federation. This was an argument that was to provide common ground for Gaullists and Socialists when the European Defence community (*q.v.*) was first discussed in February. The Socialist attitude to the Coal and Steel community was, however, one of caution, not opposition. They insisted on the necessity of continued investment to enable the French heavy industry to compete with the German, and on the importance of making the Moselle navigable so as to give the Lorraine-Saar industrial complex a waterway to the sea. These recommendations were incorporated in the law authorizing ratification.

The government's main political preoccupation as 1951 drew to the end was the budget. Indeed it was hope of consolidating a majority to pass it that led the government to postpone with disastrous consequences further discussion of reforms with the Tunisian government, since these plans were causing alarm amongst deputies concerned with the interests of the north African settler community. This concession to the latter proved of no avail, since the Pleven government was at all events defeated by 341 to 243 on Jan. 7 over its measure for balancing the budget. The elements of the budget as proposed were as follows (in '000 million francs):

EXPENDITURE: civilian administration and service on debts 1,365; state equipment 170, economic modernization and equipment 395, reconstruction 400; defence expenditure 950; special accounts 85—total 3,365.

REVENUE: existing taxes 2,665; increased charges for petrol and tobacco 70; U.S. aid 70; new taxes 160—total 2,965.

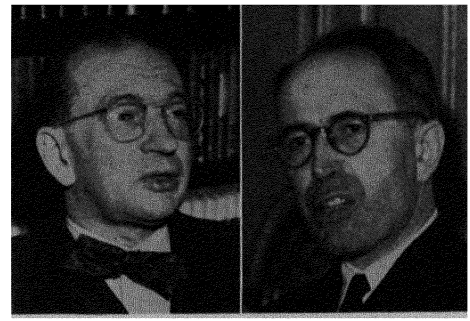
DEFICIT: 400.

The new taxes were to be provided by a 10% increase of most forms of income tax as well as of some indirect taxes. The government was also asking for powers to reorganize the railways and social security so as to diminish the deficits that were a serious drain on the Treasury. These proposed powers, although carefully circumscribed, brought the Socialists into opposition.

Faure Cabinet. It was expected to be long before anyone would win the necessary 314 votes to be elected prime minister but after only 11 days Edgar Faure, the youngest prime minister that either the Third or Fourth republic had known (aged 43), was elected by 401 votes to 101 with the Gaullists abstaining and the Socialists voting for him though they refused to enter his cabinet which was almost identical with his predecessor's. In his programme speech he carefully limited himself to immediate tasks so as to avoid raising unnecessary occasions of differences in his coalition ranging from Socialist to Conservative. He showed himself a remarkable debater and threw himself with great courage into the three principal problems—pacification of Tunisia, obtaining some kind of mandate from the assembly for further negotiations with a view to creating the European Defence community and representing France at the N.A.T.O. Lisbon conference, and finally the budget and associated economic problems. In the second he was to be successful, but the third was to bring him down before he could show what he could do in the first. The urgency of economic problems was shown almost at once by the reintroduction of import quotas on a big scale so as to prevent a ruinous haemorrhage of gold and dollars. An attempt to pilot a prudent form of automatic wage sliding scale bill through the assembly—to replace that voted by Communists, Socialists and Gaullists, which Faure's predecessor had had to let past him into the upper house in the hope of taming it on its return—broke down, so that Faure too had to hope that it could be put right at a later stage.

The three days allotted for a debate on the European Defence community spun themselves out to nine but here at least a resolution was at last agreed upon that gave the French government the possibility of action at Lisbon. Fears and suspicions aroused by the scheme as worked out by the experts were expressed from almost all parts of the house, and from almost as many parts it was declared that if only the United Kingdom had joined the fears would not exist. The national units were found disquietingly big, offering, it was argued, encouragement and facilities to German irredentism, which, it was also argued, was the gravest danger to peace between East and West. The resolution finally passed by 327 votes to 287 authorized the government to go ahead provided the German contingent in the European army was never larger than the French, that no recruitment should start in Germany before ratification, that the sole purpose of the European army should be to protect its members' existing territory, that the European army should only be progressively established in so far as organizations to command and direct it had been created. It was recalled that no state could join N.A.T.O. without the agreement of all its members. The government was asked to obtain an Anglo-American guarantee against the secession of any member of the European Defence community.

When Faure finally left for Lisbon on Feb. 19 almost his last words were a warning that the delay in getting the budget balanced would mean additional burdens. It was further stated at the Ministry of National Defence that rising costs would increase the defence bill from Fr. 950,000 million to Fr. 1,200,000 million. The new proposals laid before the assembly on Feb. 25 were a 15% instead of a 10% increase in taxes, and cuts of 8% in re-equipment and 3% in reconstruction credits. Faure reminded the assembly that a deficit was piling up at a rate of Fr. 1,000 million a day, that the Treasury would soon have difficulty in meeting its obligations, that the country was faced with an increasingly grave deficit in its foreign balance of payments. On Feb. 29 the first article in the bill, *i.e.*, the increase of taxes, was rejected by 309 votes to 283. More than half Faure's own party had abandoned him. After resignation, while still in charge of affairs, he had to ask the assembly to authorize a loan from the Bank of France of Fr. 25,000 million for three weeks so that the French Treasury should not stop payments.



Edgar Faure (left), prime minister of France, Jan. 18-Feb. 29, and Antoine Pinay, March 6-Dec. 23.

Pinay Cabinet. Antoine Pinay, Faure's successor, was equally unexpected in the prime minister's office. His election by 324 votes to 206 was due to the revolt of 27 Gaullist deputies (instead of the expected dozen) against their party's decision to abstain. Pinay, aged 61, was a late comer to the forefront of national politics. In his declaration of policy he accepted the assembly's repeated rejection of additional taxes as final and adopted as principle that expenditure that was long-term investment (*e.g.*, re-equipment and reconstruction) ought to be financed from loans. Uncovered expenditure must be cut. Past offences whether fiscal or political should be covered by amnesty and tax collection in future made much more strict—with the help of a simplified tax-code. Prices must be rigorously held down. There was much in this to attract the more conservative followers of De Gaulle who were at all events very dissatisfied with a policy that was so negative as to seem to court national disaster.

Many of those who had voted for Pinay had not expected him to obtain a majority. The M.R.P. were concerned to find themselves linked to a premier so far to the right. Not all Pinay's own party colleagues were pleased at his success. The Gaullist rebels were uncertain for how long and how far they wished to rebel. The latter declined offers of portfolios and the M.R.P. only came in on condition that foreign policy remained in the hands of Schuman whom Pinay had shown some inclination to replace.

In several respects the situation was more favourable to Pinay than to his predecessors. The leanest period of the year from the Treasury's point of view was past. World prices of raw materials were falling. His predecessor had slashed imports and initiated negotiations for $100 million credit with the E.P.U. which forestalled the necessity of paying large sums in gold or dollars to settle foreign trade obligations. This gave Pinay a good foothold for his anti-inflationist fight, which he pursued logically although the assembly was only a little less unwilling to cut expenditure than it had been to vote new taxes. He passed his amended budget through the assembly on April 13 with Fr. 200,000 million of cuts or credits blocked until covered by loans. This still left about Fr. 400,000 million to be found by loan. The government had stopped the rise in the cost of living which fell from 148·5 in February to 142·8 in June. Pinay finally secured the passage of an automatic sliding scale bill in a form which gave a good deal of satisfaction in principle to its backers but which so fixed the starting point of

calculation that the index figure would have to reach 149 before the basic minimum wage was increased. The 3·5% tax-free loan with the gold value of the capital guaranteed cannot be described as a failure for a total of Fr. 195,000 million of new money had been subscribed when it was closed on July 17. But it was also no triumph and indicated that a great many Frenchmen were quite unprepared to lend their savings in support of the government whose policy they approved. This was notably true of the peasants. Pinay risked their opposition by refusing their demand for an increase in the price of wheat over that of 1951, but offered some compensation by reduction of the prices of industrial products needed by the farmers. The reform of the tax system promised for June had to be postponed till October. On July 6 Pinay's initial success in splitting the Gaullist forces was confirmed by the resignation of 28 deputies from the R.P.F. when the party leaders tried to enforce voting discipline. On July 13 he had the triumph of seeing the parliament go on holiday till October; *i.e.*, on the traditionally appropriate date which had been unobserved for many years.

The summer holidays were not altogether favourable to the Pinay government for by the end of August the cost of living index figure had risen again to 144·8 partly as a result of drought and foot-and-mouth disease. On Aug. 30 Pinay promised action against price rings and declared that stabilization should provide new capital to provide housing. Early in September, recognizing the limits of a merely persuasive approach, he put a ceiling on the prices at the level obtaining on Aug. 31. This was not particularly successful in forcing down food prices. But industrial prices continued slowly to fall and at the end of the month the government felt reasonably safe against a further inflationary burst before the end of the year.

The 1953 budget was prepared on the principle that the expenditure of no civilian ministry might be increased, except that of the Ministry of Education faced with the problem of housing a steadily increasing school population; none the less the civilian budgets did bulge slightly and the military budgets a good deal, so that proposed expenditure amounted to Fr. 3,804,000 million as contrasted with Fr. 3,583,000 million in 1952. Revenue was estimated at Fr. 3,016,000 million as compared with Fr. 2,698,000 million and U.S. aid at Fr. 173,000 million as compared with Fr. 195,000 million. It was hoped to find the missing Fr. 615,000 million by loans and treasury operations. The assembly was rebellious about both cuts in expenditure and proposed reforms of taxation. The government made few concessions on expenditures but abandoned much of the tax reform programme, though asking for powers of decree to introduce similar measures if the assembly had not dealt with the matter by June 1953. A Paris by-election at which a pro-Pinay candidate and former Gaullist triumphed convinced the R.P.F. of the necessity of a co-operation with a government, though not with that of Pinay. Meanwhile the M.R.P., always unhappy in so conservative a coalition as Pinay's, picked a quarrel with him over family allowances. Pinay resigned without waiting for a vote which in the circumstances could only be adverse.

The Communist Rivalries. The Communist party, in the absence of Maurice Thorez, still an invalid in Russia after his stroke in Oct. 1950, suffered a series of defeats beginning with a quite unsuccessful protest strike on Feb. 12, called because a traditional demonstration commemorating left-wing counter-action in Feb. 1934 had been banned. None the less it was decided to hold on May 28 a large-scale demonstration against the presence in Paris of General Matthew B. Ridgway, " the microbe general ". There was no sign of mass participation, but small groups of disciplined Communists attacked the police with great violence. After the rioting had subsided Jacques Duclos was arrested in his car near the area where it had occurred. He was held on the ground that he had been caught " red-handed " (in the promotion of violence), the only condition on which a deputy can be either arrested or prosecuted without the assembly's permission. On July 1, however, a court decided that the police had failed to prove that Duclos had been caught in the act so that he had to be released and the case dropped. Meanwhile proceedings against other Communists were prepared with a view to a trial or trials for conspiracy to be held in the autumn. In spite of the blow to the government's prestige when it failed to make its case against Duclos, that to the Communist party's prestige was much more serious for failing to back its incessant propaganda with mass action. The meetings of the party central committee on June 18 and Sept. 3 and 4 were filled with confessions of error which *Humanité* made public. The party had failed to associate the mass of non-Communists with its disciplined spearhead. It had wobbled between sectarism and opportunism. A fortnight later, André Marty and Charles Tillon were demoted, the first from the party secretariat, the other from the Politburo. They were charged with " sectarianism " and conspiracy within the party dangerous to its unity, as well as with refusing to admit their errors. Two months later on Dec. 7 Marty and Tillon were deprived of all offices and the former was recommended to his cell for expulsion from the party. The *Humanité* had conducted a long campaign against the two men. They could not defend themselves in the party press and did not do so elsewhere.

The imminent return of Maurice Thorez whom Marty had opposed within the party was announced by Duclos at the meeting of Sept. 4, but *Humanité* added that the secretary-general of the party would still have to limit his activities owing to the state of his health. Thorez did not return however. No explanation was given but the cause was probably the demand made on Oct. 15 by Pleven to the assembly for suspending the immunity of five leading Communist deputies including Duclos so that they could be prosecuted on charges of attempting to undermine military discipline in connection with the Indochina war. A similar demand could obviously be made against Thorez. Alain Le Leap,



President Vincent Auriol presenting a marshal's baton to Marshal Alphonse Juin before the Bastille day military parade, July 14.

Communist secretary-general of the C.G.T., and other Communist trade-union organizers were already under arrest. Demands for their liberation were a dominant feature of Communist propaganda at the end of the year.

Robert Schuman imperturbably continued his European policy. He obtained Italian support for his two proposals—one that the assembly of the European Coal and Steel community which met in September should discuss the creation of a supra-national European political executive; the other put forward on July 23, that the Saar territory should be europeanized and Saarbrucken be made the seat of such European institutions as the executives of the Coal and Steel and the Defence communities (*see* also SAAR). The first proposal was important from the point of view of securing a majority in the assembly for the ratification of the European Defence community treaty, which it was argued by its critics presupposed a political authority.

Failure to reach agreement with Germany on the europeanization of the Saar was offset by the unexpectedly small proportion of Saarlanders who took advantage of the Saar elections to protest in favour of reunion with Germany. Schuman interpreted the results as meaning that " only one Saarlander in four rejected the idea of europeanization ". A few days before the elections the French government had announced a long series of concessions increasing considerably the Saar government's control of its own affairs.

(D. R GI.)

Education (1950-51) Elementary schools state infant 3,788, pupils 487,574, private infant 198, pupils 18,289, state elementary 69,970, pupils 3,831,938, private elementary 10,982, pupils 894,474, state higher elementary, pupils 206,180, private higher elementary, pupils 59,914, total elementary 84,938, pupils 5,498,369 Secondary schools state, pupils 459,921; private, pupils 334,248, total pupils 794,169 Lower technical and vocational schools numbered more than 220 Higher education state universities 17, students 139,533, including 38,732 in the law faculties There were 10 other state institutions of higher education, 6 free (Catholic) universities and more than 80 state and private 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 av	1948	1949	1950	1951	1952
Wheat	8,143	7,634	8,082	7,701	7,065	8,398
Rye	769	638	650	606	504	465
Barley	1,074	1,273	1,431	1,572	1,667	1,725
Oats	4,572	3,380	3,225	3,305	3,602	3,303
Maize	541	461	194	404	607	452
Potatoes	17,158	17,544	10,976	14,431	13,459	11,000

TABLE II LIVESTOCK ('000 head)

	Nov 1938	Sept 1949	Sept 1950	Sept 1951
Cattle	15,662	15,434	15,432	15,801
Pigs	7,127	6,424	6,760	6,824
Sheep	9,872	7,510	7,480	7,510
Goats	1,416	1,236	1,283	
Horses	2,692	2,418	2,414	2,397

TABLE III FOODSTUFFS ('000 metric tons)

	1934-38 av.	1948	1949	1950	1951
Meat	1,660	1,500	1,805	1,901	1,800
Milk	14,192*	11,150	13,250	15,000	
Butter	202	160	183	250	
Cheese	270	180	240	250	
Sugar, raw value	971	960	881	1,433	1,266

* 1939

TABLE IV WINE PRODUCTION, IMPORT AND EXPORT ('000 hl)

	1938	1948	1949	1950	1951	1952
Produced	57,908	47,437	42,935	61,334	47,329	51,200
Imported*	16,257	9,894	10,302	12,028	11,000	11,117
Exported†	1,032	620	743	982	632	810

* Mainly from Algeria † Mainly champagnes, clarets and Burgundies

Industry. According to the 1946 census, there were 6,184,000 persons employed in industry as against 6,295,000 in 1936 The 1948 index number of employment in manufacturing was 98 (1937=100), the mid-1951 index number stood at 117 compared with 151 in the United States The index number of industrial production rose between 1946 and 1950 from 73 to 113 and in mid-1951 stood at 131 compared with 197 in the United States.

TABLE V INDUSTRIAL PRODUCTION*
('000 metric tons if not otherwise stated)

	1938	1950	1951	1952†
Coal	46,504	50,844	52,956	55,700
Gas (million cu m)	1,692	2,424	2,436	2,332
Electricity (million kwh)	20,800	33,070	36,115	40,200
Iron ore (35% metal content)	33,180	29,988	33,600	
Pig iron	6,012	7,764	8,748	9,772
Steel ingots and castings	6,216	8,652	9,828	10,868
Cement	4,116	7,416	8,352	
Motor vehicles (Cars	182,400	257,280	313,900	
Motor vehicles (Commercial	39,360	99,360	131,400	
Woven cotton fabrics	158 4	168 0	163 2	
Cotton yarn	249 6	250 8	271 2	
Wool yarn	117 6	127 2	120 0	
Rayon filament yarn	27 9	45 2	57 1	
Rayon staple fibre	5 6	38 6	49 6	

* Excluding the Saar † Annual estimates based on first nine months

In 1950 the number of dwelling units built amounted to 68,050, including 30,120 repaired From Jan 1945 to Dec 1950 only 174,900 dwelling units, including 64,655 repaired, were built The index number of housing (number of dwellings built per year per 1,000 inhabitants) in 1950 was 1 7 compared with 5 0 for the United Kingdom and 6 7 for the United States

Finance and Banking. Figures throughout are Fr '000 million Table VI gives the postwar budget figures with the last prewar budget as a measure of comparison

TABLE VI REVENUE AND EXPENDITURE

	1938*	1949*	1950*	1951*	1952†	1953†
Revenue	53 8	1,498	1,939	2,346	2,893	3,350
Expenditure	52 2	2,173	2,546	2,849	3,583	4,000
Deficit or surplus	1 6	675	—607	—503	—690	—650

* Actual † Estimates

National income (1951, 1950 in brackets) 9,020 (7,225) Public debt internal (Sept 1, 1939) 432 6, external (Jan 1, 1951) 1,287 4, (Jan 1, 1952) 1,254 4 Currency circulation (end of the year) (1938) 112, (1951) 1,883, (Oct 1, 1952) 2,025 Deposit money (Dec 31, 1938) 80, (Dec 31, 1951) 1,795, (July 31, 1952) 1,932 Official exchange rates £1=Fr 980, $1=Fr 350

Foreign Trade In Table VII imports and exports are given in actual values (million current francs) and, in brackets, in the index numbers of quantum, that is, after allowing for changes in prices which had occurred since the base year (1949 =100)

TABLE VII FOREIGN TRADE*

	1950	1951	1952
Imports	1,072,728 (105)	1,599,000 (123)	1,615,945
Exports	1,072,644 (136)	1,480,000 (161)	1,416,494
Adverse balance	84	119,000	199,451

* Including the Saar

Main sources of imports (1950, 1951 in brackets) French Union 26% (21%), U S 12% (11%), German Fed Rep 7% (6%), Belgium-Luxembourg 5% (5%), Australia 4% (5%), U K 4% (4%) Main destinations of exports French Union 36% (37%), U K 9% (9%), Belgium-Luxembourg 6% (6%), Switzerland 5% (6%), U S 4% (6%); German Fed Rep 8% (5%)

Transport and Communications. Railways (1950) 41,272 km including 4,077 electrified Railway traffic (monthly average, 1950; 1951 in brackets): passenger-km 2,200 (2,323) million, goods ton-km 3,244 (3,783) million, goods transported 12 7 (14 7) million metric tons Roads (1950) 715,696 km including 80,231 km of first class national roads Motor vehicles licensed (Jan 1950) 2,295,000 including 572,800 commercial Navigable inland waterways (1948) 8,488 km , cargo (monthly average, '000 metric tons, 1950, 1951 in brackets) loaded 2,986 (3,358), unloaded 2,865 (3,291) Shipping (Jan 1952, Sept. 1939 in brackets) merchant vessels 726 (670), gross tonnage 3,173,224 (2,733,633), cargo in external trade (monthly average, '000 metric tons, 1950, 1951 in brackets). loaded 1,603 (1,884), unloaded 2,627 (3,411) Civil aviation traffic, Air France only (monthly average, 1950, 1951 in brackets) passenger-km 93 2 (105 2) million; cargo ton-km. 3 9 (4 4) million Telephones (1951) 2,405,802. Wireless receiving sets (1950) 6,890,000

See J. Fauvet, *Les forces politiques en France* (Paris, 1951), F. Goguel, *France Under the Fourth Republic* (Ithaca, N Y , U S , 1952)

FRANCO-BAHAMONDE, FRANCISCO,

Spanish army officer and statesman (b. El Ferrol, Galicia, Dec. 4, 1892), graduated from the military academy of Toledo in 1910. On the outbreak of civil war in July 1936 he became leader of the rebels. After a bitter three-year struggle, he emerged as the *caudillo* and *generalissimo* of Spain. During World War II, though his sympathies were pro-German and anti-Soviet, he remained neutral. On June 8, 1947, the Cortes

passed unanimously the Succession act, making Spain a nominal kingdom, confirming Franco in office as chief of the state for life, according him the right to nominate his successor and stipulating that the candidate to the Spanish throne must be at least 30 years old. On Aug. 25, 1948, Franco met Don Juan de Borbón (b. June 20, 1913), the claimant to the Spanish throne, in his yacht off Arcachon. It was unofficially reported that Don Juan was asked by Franco to renounce his own claim and to consent to his son, Don Juan Carlos, the Prince of Asturias (b. 1931), being the next king of Spain. Don Juan, however, refused to "abdicate". On Oct. 22, 1949, Franco arrived aboard the cruiser "Miguel de Cervantes" at Lisbon for a state visit, which reciprocated President A. O. de Fragoso Carmona's visit to Spain in 1929 and was the *caudillo's* first journey abroad since 1941. In 1950 he visited the Canary Islands and the colonies Ifni and Rio de Oro. On Jan. 31, 1952, the Khalifa of Morocco reported favourably on talks with General Franco in Spain. In April General Franco sent a diplomatic mission of goodwill on a tour through the Moslem countries of the middle east, with a broadcast speech in which he praised their national resurgence which he compared with the "decrepitude" of other western European countries. He also made a bid for Moorish favour by implying that he was eager for Moroccan independence. In June he addressed pilgrims at the 35th World Eucharistic congress at Barcelona.

FREEMASONRY. British freemasonry mourned the death on Feb 6 of King George VI, past grand master, and loyal addresses of condolence were sent to the new queen, the queen mother and Queen Mary. An illuminated address presented to Queen Mary and described by her as "a touching and most beautifully executed document" was sent to the library at Freemasons' hall, London, on her request, to be displayed so that "members of the Order might have an opportunity of seeing it from time to time"

Much controversy was created by the publication of a book written by a Church of England clergyman entitled *Darkness Visible*, which claimed to disclose masonic secrets and from which extracts and photographs were published in the press

Lord Scarbrough, the grand master, announced he had created a new district grand lodge of Northern India. To facilitate administration following the partition of India and Pakistan, the district grand lodge of the Punjab had been divided into two sections. The new district, consisting of lodges in East Punjab, would have as its grand master Sir Yadavendra Singhji, the Maharajadhiraj of Patiala.

Elizabeth the queen mother visited Freemasons' hall, London, in October and on Dec. 5 the Duke of Edinburgh was made a freemason there in the Navy lodge. (E. BA)

FRENCH EQUATORIAL AFRICA. Federation in central Africa of four overseas territories of the French Union, bounded W. by the Atlantic ocean, Nigeria and French West Africa, N. by Libya, E. by Anglo-Egyptian Sudan and S.E. by the Belgian Congo. Cameroun, the southeastern part of the former German colony of Kamerun, is under French trusteeship and administered separately. Areas and populations are:

	Area	*Population*	
	(sq mi)	(1936 est)	(1950 est)
Gabon	103,089	409,700	409,000
Middle Congo	132,046	746,800	684,000
Ubangi-Shari	238,224	833,900	1,072,000
Chad	495,752	1,432,600	2,241,000
Total	969,111	3,423,000	4,406,000*
Cameroun	170,231	2,389,500	3,006,000†

* Incl. 20,120 Europeans (*c.* 33% French). † Incl. 12,021 Europeans (10,252 French).

Native pop. mainly Bantu, but semi-Hamitic, semi-Negroid pastoralists in northern savannah districts. Religion: animism; 46% Moslem in Chad; *c.* 280,000 Christians in Gabon and Middle Congo Chief towns: Brazzaville (cap. of A.E.F.—Afrique Equatoriale Française, pop, 1949 est., 83,579, incl. 4,353 Europeans); Bangui (1948 est., 41,000); Fort Lamy (18,300); Libreville (12,600), Yaoundé (cap of Cameroun; 1946 est., 50,000). High commissioner in A.E.F., Governor-General Paul Chauvet Governors: Gabon, Yves Digo; Middle Congo, Jean Chambon, Ubangi-Shari, Louis Grimald; Chad, Ignace Colombani. High commissioner in Cameroun, André Soucadaux.

History. The centenary of Savorgnan de Brazza, founder of the French Congo, was celebrated in Brazzaville in Jan. 1952. Louis Jacquinot, minister of overseas France, was present.

Elections to the territorial assemblies were held on March 30. Throughout A.E.F. the Rassemblement du Peuple Français (R.P.F.) was successful in the first college (for Europeans), but in Middle Congo and Ubangi the Rassemblement Démocratique Africain, which once had Communist affiliations, improved its position in the second (for the local citizen electorate) Some defeated candidates started riots in the Logone region, in which there were 14 casualties In Cameroun the R.P.F. was successful in the first college, the moderates in the second. L Aujoulat, secretary of state for overseas France, who had been elected by the second college, became president of the territorial assembly. The senatorial elections in May had equivalent results.

A court of appeal was established at Yaoundé. Cameroun became independent of A F F judicially as it had already been administratively.

In the economic sphere there was a notable extension of the scheme for cotton in A.E.F. The federation's resources, however, were adversely affected by the fall in world prices, and budgetary cuts were necessary But 75,000 cu m of stripped wood and plywood were produced. Cameroun's railways were repaired, and traffic was doubled as compared with that before World War II. Progress was being made on the Douala-Yaoundé line and on harbour works at Douala. The first textile plant was installed at Brazzaville: it would use locally produced cotton.

The Logone-Chad mission, sent out six years before, was still conducting scientific investigations in the Chad region: soil and water studies were undertaken, and a map was being made. The hypothesis that the waters of the Logone river would be "captured" by the Bénoué river system seemed unlikely to be realized in the near future.

Both A E.F. and Cameroun began experiments in elementary education and short-term technical instruction. A tentative administrative regrouping was undertaken of some villages in the forest region of Gabon.

Education (1952) *A E F* pupils, elementary 88,800, secondary 1,761, technical 2,995, bursaries in France 176 *Cameroun* elementary 157,647, secondary 1,372, technical 446, bursaries in France 206

Finance. *A E F* budget (1951 est), balanced at Fr C F A 8,700 million *Cameroun* budget (1951 est) balanced at Fr C F A 4,682 million Note circulation (Dec 1951) Fr C F A 9,600 million Franc C F A (colonies françaises d'Afrique) = metropolitan Fr 2

Foreign Trade (1951, million Fr C F A) *A E F* imports 18,200 (incl. 12,000 from the French Union), exports 11,700 (incl 8,300 to the French Union), mainly ginned cotton, timber and coffee, also gold, diamonds, vegetable oils, cacao *Cameroun* imports 16,500 (incl 13,000 from the French Union), exports 14,400 (incl 7,200 to the French Union), principally cacao, coffee, almonds, palm oil and bananas, also timber and rubber

Transport and Communications. Motor vehicles (1951) 13,300 Tonnage (metric) handled at ports Douala 650,000, Pointe Noire 300,000 Aircraft landed 4,000

See H Zieglé, *Afrique Equatoriale Française* (Paris, 1951).

(HU. DE.)

FRENCH GUIANA. Overseas *département* on the N.E. coast of South America. Area, incl. territory of Inini,

35,135 sq.mi. Pop. (1946 census) 29,160 (incl. Inini, 5,042). The coastal lowland population is Negro or mixed; Europeans *c.* 5%; Inini, aboriginal Indians. Religion: mainly Roman Catholic. Capital and chief port, Cayenne (pop., 1948 est., 11,700). Prefect, Robert Vignon.

History. In the 1952 senatorial elections, a Radical won the seat. At Cayenne, work was begun on the buildings for the French Institute of Tropical America and for the Pasteur institute. Cayenne island was cleared of mosquitoes by a D.D.T. campaign and by marsh drainage. Electricity was being brought to the coastal communes.

Materials required for the development of the *département* accounted for 37% of the total imports in 1951 (compared with 10% in 1947). A cargo vessel was acquired in order that timber could be exported direct. The output of gold rose to 375 kg. A joint Franco-U.S. mission investigated the tantalite deposits in the Sinnamary region.

Education. One school in each commune; secondary school at Cayenne.

Finance and Foreign Trade (1951, million francs). Imports 2,085 (incl. 1,700 from the French Union); exports 203 (incl. 170 to the French Union), notably gold 125, timber 25. Monetary unit: metropolitan franc.

Transport and Communications. Roads 80 km.; motor vehicles 300. Communications are mainly by sea and river. (HU. DE.)

FRENCH INDIA. Group of four settlements in India. Total area: 193 sq.mi. Pop. (1948 est.): 317,300. Areas and populations of the four settlements are:

	Area (sq.mi.)	*Population* (1938 est.)	(1948 est.)
Pondicherry	112	181,000	222,600
Karikal	52	62,500	70,500
Mahé	23	13,400	18,300
Yanaon	6	5,400	5,900

Language: Tamil. Seat of administration, Pondicherry (pop., 1948 est., 22,572). Commissioner, André Ménard.

History. The directors of policy in French India being pro-French and resisting agitation for union with India, Jahawarlal Nehru, the prime minister of the Indian republic, announced in Oct. 1952 that he would not accept a referendum, and called for the immediate cession of the four territories. The French government replied that the cession of a territory without consulting its inhabitants was anti-constitutional.

The textile industry was in difficulties: raw cotton could no longer be bought from India and so had to come from Pakistan; prices therefore went up. In December a cyclone destroyed a wharf at Pondicherry and flooded the ricefields at Karakal.

Education. Pupils and students (1952): primary 15,000; secondary 1,200; technical 32; undergoing higher education 29. Bursaries in France 24.

Finance and Foreign Trade. Exports, mainly to the French Union, consisted (90%) of cotton goods (41,000 metric tons, worth 55 million rupees). Monetary unit: *rupee* = Indian rupee = Fr. 73·50. (HU. DE.)

FRENCH LITERATURE. The chief literary event of 1952, a year notable for much work of distinction, was the posthumous publication of Marcel Proust's *Jean Santeuil* (1,000 pp., 3 vols., with a preface by André Maurois). In this work, written between 1896 and 1900, most of the later Proustian themes could be discerned. Admiration for Proust was still passionate, and the Société des Amis de Marcel Proust et des Amis de Combray published two bulletins. The award of the Nobel prize to François Mauriac (*q.v.*) was an important triumph for French literature.

Having finished his eight-volume novel *La Mort est un commencement*, Paul Vialar began a new cyclic work, *La Chasse aux hommes*, the two first books of which, *Le Rendez-vous* and *La Bête de chasse*, appeared. Among the many novels that interested the critics and the public were *Les Amours et les haines*, a sequel to *Madame Maillart*, by Claude Aveline; *Lève-toi et marche*, by Hervé Bazin; *Soleil au ventre*, a presentation of the war in Indochina, by Jean Hougron; *Les Saints sont en enfer*, about worker priests, by Gilbert Cesbron; *Le Préau* (Prix des Critiques), a tale of childhood and adolescence, by Georges Borgeaud; *Sylvia*, by Emmanuel Berl; *Antonin*, by Henri Bosco; *Le Hussard sur le toit*, the life of a young Piedmontese carbonaro in 1835-40, by Jean Giono; *La Flamme et le vent*, the thoughts of a Protestant country pastor, by Henri Hatzfeld; *Le Dimanche de la vie*, by Raymond Queneau; *La Jeunesse*



Recipients of important French literary awards: Beatrix Beck, author of "Léon Morin, Prêtre" and Jacques Perry who wrote "L'Amour de rien".

déchirée by Jeanne Galzy; *L'Aventure est en nous*, by Maurice Genevoix; and *Mariage de couleurs*, by Maurice Bedel. François Mauriac produced *Galigaï* and also *Le Mal*, a novel dating from 1924, the English translation of which had been a success. Georges Duhamel produced *Cri des profondeurs*. Marguerite Yourcenar's *Mémoires d'Hadrien* and Jacques Perry's *L'Amour de rien* (a novel of psychological analysis in the Stendhalian manner) won great praise from the critics (notably from Robert Kemp). A collected edition of his works recalled attention to the precocious talent of Raymond Radiguet (1903-23). Pessimism and cynicism characterized the portrayal of personalities and social groups in several novels by young writers: for instance, *Je suis un monstre*, by Jean Meckert; *La Plaie et le couteau*, by Guy Le Clec'h; *Si j'avais voulu*, by Marcel Haedrich; *Les Lézards dans l'horloge*, by Armand Lanoux. Akin to these *romans noirs* was Jean-Paul Sartre's study *Saint-Genet comedien et martyr*, a thoroughgoing eulogy of Jean Genet, vagrant, thief and homosexual but also a talented writer. Yet another provocative book, which incurred very severe criticism, was *Féerie pour une autre fois*, by Louis-Ferdinand Céline, who had been punished with *indignité nationale* for his conduct during World War II.

Amongst poets, Guillaume Apollinaire was brought to the fore with *Tendre comme le souvenir* (about 200 previously unpublished letters to Madeleine, his friend of 1915) and *Le Guetteur mélancolique* (unpublished poems, with a preface by André Salmon); and André Rouveyre and Henri Matisse published a critical essay *Apollinaire*. Mlle. Elvire Choureau produced a new edition of Arthur Rimbaud's *Poésies*; Georges Duhamel published *Vues sur Rimbaud*. Paul Valéry's *Lettres à quelques-uns* made their appearance. Paul Eluard's *Le Phénix* and Pierre Emmanuel's *Babel* are worthy of mention; and the critics commended the books of two old men still moved to write poetry, Charles Maurras (*La Balance intérieure*—humanist in inspiration) and André Salmon (*Les Etoiles et l'encrier*—melancholy and macabre, in the style of Max Jacob).

Memoirs included Romain Rolland's *Le Cloître de la rue*

d'Ulm (recalling his youth at the Ecole Normale Supérieure); Julien Benda's *Mémoires d'infratombe* (full of malicious remarks and scathing character-sketches); Jacques Porel's *Fils de Réjane*; Alfred Fabre-Luce's *Journal 1951*; Edouard Herriot's *Jadis* (2 vols., *Avant la première guerre mondiale* and *D'une guerre à l'autre*); and André François-Poncet's *Carnets d'un captif* (on his experience as a deportee in Germany in World War II). Under the same heading come Benjamin Constant's *Journaux intimes* (ed. Alfred Roulin and Charles Roth; the first complete text, taken from the MSS).

The most important works of literary history were André Billy's *Sainte-Beuve, sa vie et son temps* (Prix des Ambassadeurs); and André Maurois's *Lélia, ou la vie de George Sand*, one of his best biographies Others were Henri Martineau's *Le Coeur de Stendhal*, J. F. Angelloz's *Rilke* and P. Andrieu's *Drieu témoin et visionnaire* (on Drieu La Rochelle, a writer who killed himself at the end of World War II). The Mérimée-Turgeniev letters were edited by Maurice Parturier. Claudel's *Correspondance* with Francis Jammes and Gabriel Frizeau (1897-1938, a middle-class art-lover of Bordeaux) showed how he reconverted them to Catholicism, a success that made up for his failure with André Gide

The 150th anniversary of Victor Hugo's birth was commemorated by the publication of *Pierres*, unpublished writings edited by Henri Guillemin; of *Juliette Drouet, mille et une lettres d'amour à Victor Hugo*, presented by Paul Souchon; of Henri Guillemin's *Victor Hugo par lui-même*, and of Louis Perche's *Victor Hugo* (a study with selections). Louis Aragon, the Communist poet, also published a " Victor Hugo " for the masses, following the line dictated by the U.S S R. and the " peace fighters ". The Communists made an effort to capture Hugo for themselves (since " bourgeois " literary circles were somewhat inclined to disparage or question his worth), as they likewise did for Leonardo da Vinci. The centenary of Paul Bourget (now no longer read) provided an occasion for determining Bourget's place in French literature as the painter of the upper-class society that the two world wars destroyed. Quieter celebrations marked the centenary of the anti-naturalist Elemir Bourges, author of the novel *Les Oiseaux s'envolent et les fleurs tombent*. The 50th anniversary of the death of Zola, who was still esteemed by the people, was marked by discussion of his merits and defects.

Amongst men of letters who died in the course of 1952 were: Jean Tharaud, novelist and essayist, brother of Jérôme Tharaud; André Corthis, writer of romances and member of the *Fémina* jury; the Belgian-born Charles Plisnier, a prolific writer whose last book, *Folies douces*, appeared shortly before his death; Ernest Prévost, a good poet in the classical style, president of the Société des Poètes Français, 1939-46, and Paul Eluard (*see* OBITUARIES), the great poet who embraced Communism.

A vehement controversy broke forth between Jean-Paul Sartre and Albert Camus after Sartre's periodical *Les Temps modernes* had published a sternly unfavourable review of Camus' book *L'Homme révolté*. Raymond Aron joined in, taking sides against Sartre in *Le Figaro littéraire*. The quarrel served to emphasize the importance of political ideology in contemporary literature. Sartre, despite his overtures to the Communist party (held by him to be the only possible defender of the working class), remained anathema to the Stalinists, who denounced him as typical of western literature at its most decadent. (*See* also LITERARY PRIZES.) (A. PR.)

FRENCH SOMALILAND. Overseas territory of French Union in Gulf of Aden, bounded N. by Eritrea, N.W. and S.W. by Ethiopia, S.E. by British Somaliland. Area: 8,378 sq.mi. Pop. (1948 est.): 56,000, incl. 21,000 Danakils, 15,700 Somalis, 5,600 Arabs, 2,000 Europeans (1,260 French). Capital, Jibuti (pop., 1949 est., 22,000). Governor, Numa Sadoul.

History. In Jibuti, as part of the development plan, sanitary improvements, new streets and the construction of a stadium and of buildings for the representative council and for the civil service were begun in 1952.

More salt was sold The tonnage of goods in transit through Jibuti increased by 10%. The territory's budget showed deficits of Jibuti Fr 50 million on foreign account and Jibuti Fr. 792 million on the French account (military expenditure, civil service, salaries, government investments)

Education. Pupils and students (1952) primary 1,400, technical 120 Bursaries in France 3

Finance and Foreign Trade (1951, million Jibuti francs) Imports 3,250, exports 1,241 (coffee re-exported 840, hides re-exported 127, salt 55) Monetary unit Jibuti franc=metropolitan Fr 1 64

Communications (1951) Ships entered 835, cargo handled 612,000 metric tons, 676 metric tons of freight and 5,750 passengers passed through the airport Roads 400 km , motor vehicles 500 (HU. DE.)

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 *territoires associés*, were similar in structure to the overseas territories and had the same electoral privileges; lastly, there were the former protectorates, now styled *états associés*, which could belong to the union only by an act of voluntary accession. Total area of the French Union excluding France proper: approximately 4,593,085 sq.mi.; total population (1948 est.) 78 7 million. Certain essential information on the component parts of the French Union is given in the table. (*See* also separate articles.)

History. The assemblies of the several territories had been set up by various decrees *ad hoc* and so had various names until Jan. 25, 1952, when a new law gave them their definitive organization as the territorial assemblies. The membership was increased. Except in Senegal and in Togo, where there are but single electoral colleges, the double-college system obtains everywhere, the Europeans having their own representatives, who are always fewer in number (sometimes considerably fewer; *e.g.* in the Comoros, where there are 4 Europeans and 20 Comorans) than the local representatives. Elections to the new assemblies took place on March 30.

The Centre and the Right were strengthened by the elections to the Council of the Republic in May. Gaston Monnerville, a coloured man, was re-elected president.

A labour code for the overseas territories was promulgated on Nov. 6. As in France proper, a 40-hour week was introduced.

Albert Sarraut, who celebrated his 80th birthday, was re-elected president of the Assembly of the French Union and continued to demand real powers for it. Fresh members for metropolitan France were elected to the Assembly: the Rassemblement du Peuple Français gained seats from the Mouvement Républicain Populaire and from the Communists. The High Council of the Union met in November. Prince Buu-Loc was appointed high commissioner of Vietnam in France.

The Pinay government took office in March, with Pierre Pflimlin replacing Louis Jacquinot as minister for overseas France, Jean Letourneau remaining minister for associated states and Robert Schuman minister for foreign affairs (responsible for Tunisia and Morocco). With the support of the Centre and of a section of the Right, the government

Country	Area (sq mi)	Population* ('000)	Capital	Status	Rulers and Governors
AFRICA					
ALGERIA	846,124	8,682	Algiers	Group of three départements	Governor-General, Roger Léonard
MOROCCO	153,870	9,200†	Rabat	Protectorate	Sultan, Mohammed ben Yussef Resident-General, Gen Augustin Guillaume
TUNISIA	48,300	3,231‡	Tunis	Protectorate	Bey, Mohammed el-Amin Resident-General, Jean de Hauteclocque
FRENCH WEST AFRICA	1,774,553	16,524	Dakar	Group of territories	High Commissioner, Governor-General Bernard Cornut-Gentile
Mauritania	364,092	518	Saint-Louis	Overseas territory	Governor, Pierre Mesmer
Senegal	81,081	1,992	Saint-Louis	Overseas territory	Governor, Lucien Gray
Sudan	460,308	3,164	Bamako	Overseas territory	Governor, Salvador Etcheber
Upper Volta	121,892	3,070	Ouagadougou	Overseas territory	Governor, Albert Mouragues
Ivory Coast	123,359	2,066	Abidjan	Overseas territory	Governor, Camille Bailly
French Guinea	108,455	2,180	Conakry	Overseas territory	Governor, Paul Siriex
Niger	470,656	2,029	Niamey	Overseas territory	Governor, Fernand Casimir
Dahomey	44,710	1,505	Porto Novo	Overseas territory	Governor, Charles Bonfils
TOGOLAND	20,463	958	Lomé	Trust territory	Commissioner, Laurent Péchoux
FRENCH EQUATORIAL AFRICA	969,111	4,406	Brazzaville	Group of territories	High Commissioner, Governor General Paul Chauvet
Gabon	103,089	409	Libreville	Overseas territory	Governor, Yves Digo
Middle Congo	132,046	684	Pointe-Noire	Overseas territory	Governor, Jean Chambon
Ubangui Shari	238,224	1,072	Bangui	Overseas territory	Governor, Louis Grimald
Chad	495,752	2,241	Fort Lamy	Overseas territory	Governor, Ignace Colombani
CAMEROUN	170,231	3,006	Yaoundé	Trust territory	High Commissioner, André Soucadaux
FRENCH SOMALILAND	8,378	56	Jibuti	Overseas territory	Governor, Numa Sadoul
MADAGASCAR AND DEPENDENCIES	228,589	4,182§	Antananarivo	Overseas territory	High Commissioner, Governor-General Robert Bargues
COMORO ARCHIPELAGO	849	1,695	Dzaoudzi	Overseas territory	Administrator, Pierre Coudert
RÉUNION	970	262§	Saint-Denis	Overseas département	Prefect, Pierre Philip
AMERICA					
SAINT-PIERRE AND MIQUELON	93	4‡	Saint-Pierre	Overseas territory	Administrator, Irénée Darier
FRENCH GUIANA	35,139	29‡	Cayenne	Overseas département	Prefect, Robert Vignon
GUADELOUPE	686	278‡	Basse-Terre	Overseas département	Prefect, Jacques Brunel
MARTINIQUE	427	262‡	Fort-de-France	Overseas département	Prefect, Christian Laigret
ASIA					
FRENCH INDIA	193	317	Pondicherry	Overseas territory	Commissioner, André Ménard
STATE OF VIETNAM	126,608	22,663	Saigon	Associated state	Ruler, Bao Dai High Commissioner, Jean Letourneau
CAMBODIA	69,866	3,748	Pnom-Penh	Associated state	King, Norodom Sihanouk Commissioner, Pierre Risterucci
LAOS	89,320	1,169	Vientiane	Associated state	King, Sisavang Vong Commissioner, Miguel de Pereira
OCEANIA					
NEW CALEDONIA AND DEPENDENCIES	7,654	61‡	Nouméa	Overseas territory	High Commissioner for the Pacific Islands, Raoul Angammare
NEW HEBRIDES	5,700	47	Vila	Franco-British condominium	High Commissioner, Pierre Anthonioz
FRENCH PACIFIC ISLANDS	1,545	56‡	Papeete	Overseas territory	Governor, René Petitbon

* 1948 estimate if not otherwise stated. † 1949 estimate ‡ 1946 census. § 1950 estimate

defended the French position in Morocco and in Tunisia against the demands of the local princes and of the Arab states.

As the U.N. general assembly had decided, despite France's objection, to follow a demand of a group of Arab and Asian states and to place on its agenda two charges regarding the situation in Morocco and Tunisia, Schuman, in a speech on Nov. 10, declared the United Nations "doubly incompetent" to deal with these problems. Neither the nature of the treaties which bound France to the two protectorates, nor the text of the charter which defines the jurisdiction of the organization entitled the United Nations to interfere in Morocco or Tunisia. Schuman stated that France would not let itself be ousted from north Africa. The majority of the peoples concerned knew that France was absolutely necessary to them and that no one could effectively take its place.

The Arab-Asian proposal to appoint an international good offices commission to "arrange and assist" negotiations between France and the two protectorates was rejected and on Dec. 18-19 the general assembly adopted the two resolutions proposed by Latin-American republics expressing trust that France would know how to bring about Moroccan and Tunisian self-government.

Credits under the Investment Fund for Economic and Social Development (F.I.D.E.S.) were redistributed: more was allocated towards helping production, less towards developing roads. The establishment of social services was to be related to territorial resources.

Pflimlin and Oliver Lyttelton, British secretary of state for the colonies, met in Paris to discuss co-operation in Africa, with which the Conseil de Coopération Technique pour l'Afrique (C.C.T.A.) was also concerned.

See A Leroy-Gourhan and J Poirier, *Ethnologie de l'Union Française* (Paris, 1952); H. Deschamps, *Les Méthodes et les doctrines colonales de la France* (Paris, 1952-53). (HU. DE.)

FRENCH WEST AFRICA. Group of eight west African overseas territories of the French Union, bounded W. and S. by the Atlantic ocean, N. by the Rio de Oro, southern Algeria and Libya (Fezzan), and E. and S.E. by Chad and Nigeria. Administration: high commissioner; council of government (civil and military leaders); Grand Council (French metropolitan members; Africans elected by the territorial assemblies [five from each territory]). The eastern part of the former German colony of Togo, under French trusteeship, is administered separately. Areas and populations are:

	Area (sq.mi.)	*Population* (1936 est.)	(1948 est.)
Mauritania	364,092	383,000	518,000
Senegal	81,081	1,791,000	1,992,000
Sudan	460,308	3,569,000	3,164,000
Upper Volta*	121,892	—	3,070,000
Niger	470,656	1,747,000	2,029,000
Ivory Coast	123,359	3,850,000	2,066,000
French Guinea	108,455	2,011,000	2,180,000
Dahomey	44,710	1,351,000	1,505,000
Total	1,774,553	14,702,000	16,524,000
Togoland	20,463	781,000	958,000

* Formed on Jan 4, 1947, from parts of Sudan, Ivory Coast and Niger.

Population: mainly Negro; some Arab and Berber admixture in the savannah; European (1951) *c.* 63,000 (incl. *c.* 50,000 French) in A.O.F.—Afrique Occidentale Française, 841 (1948) in Togoland. Religion: animist (53·4%), Moslem (44·2%); Christian (2·4%). Chief towns (pop., 1948 est., unless otherwise stated): Dakar (cap. of A.O.F.; 1951 est., 330,000), Saint-Louis (62,900), Bamako (1952 est., 100,000); Conakry (38,000); Abidjan (36,000); Porto Novo (31,000); Lomé (cap. of Togoland, 30,100). High commissioner in A.O.F., Governor-General Bernard Cornut-Gentile. Governors: Mauritania, Pierre Mesmer, Senegal, Lucien Geay; Sudan, Salvador Etcheber; Upper Volta, Albert Mouragues, Niger, Fernand Casimir, Ivory Coast, Camille Bailly, French Guinea, Paul Siriex, Dahomey, Charles Bonfils; Togoland, Laurent Péchoux.

History. Elections to the territorial assemblies were held on March 30, 1952. The Rassemblement du Peuple Français gained seats in the first college. In the second college the Rassemblement Démocratique Africain had successes in the Ivory Coast and in the Sudan, while Sedar Senghor's Bloc Démocratique Sénégalais finally routed Lamine Gueye's Socialists in Senegal, the last-named being victorious only in Dakar. Lamine Gueye ceased to be president of the Grand Council of A.O.F. In Togo there was a pro-French majority, but the Comité d'Union Togolaise (the independence party) won eight seats. The senatorial elections confirmed these results: the Socialist senators were defeated in Senegal; and the pro-French Parti Togolais du Progrès was victorious in Togo.

Pierre Pflimlin, minister for overseas France, made two tours of inspection throughout A.O.F. and in Togo. The government submitted a bill to parliament extending Togo's autonomy, it included an executive council partly appointed by the territorial assembly.

The governor of the Ivory Coast, Pierre Pélieu, and his secretary general, A. Cristiani, were killed in an air accident on June 27.

Dakar, with a traffic of 3·5 million tons, became the third greatest French port, on a par with Algiers. The tonnage handled by Abidjan (700,000) surpassed all expectation: the quays of the new port were under construction. Work continued also at Conakry where 750 m. of new quays, with 11 m. depth of water, were in construction. A wharf was built at Sassandra, the western port of the Ivory Coast.

An agreement was concluded with Canadian and British concerns for exploiting the iron mines of Fort-Gouraud (Mauritania).

Work to promote rice-growing was continued in the lower valley of the Senegal. On the Middle Niger 18,000 ha. were already affected by the Niger office's irrigation scheme: 25,000 African farm-workers were settled there, and production amounted to 23,000 metric tons of paddy and 2,000 of raw cotton.

The output of bauxite from the Guinea deposit (Iles de Los) rose to 150,000 metric tons. Plans were envisaged for making the Conakry iron mines yield 1 million metric tons and for exploiting hydro-electricity to make possible the opening of industrial plants.

Education (1952) *A.O.F.* primary schools 1,130, pupils 170,000, secondary schools, pupils 6,435, technical schools, pupils 2,250; students undergoing further education 135, students in France 809. *Togo* primary schools 255, pupils 41,163, secondary schools, pupils 828, technical schools, pupils 237, students in France 96.

Finance and Banking. Note-circulation Fr C.F.A. 28,000. Monetary unit franc C.F.A. (Colonies Françaises d'Afrique) = metropolitan Fr. 2.

Foreign Trade (1951, million francs C.F.A.) *A.O.F.* imports 61,335 (incl. 50,700 from the French Union), exports 38,697 (incl. 32,500 to the French Union), mainly groundnuts and groundnut oils (11,650), palm kernels and palm oil (1,100), coffee (9,500), cocoa (6,150), bananas (1,120), wood (1,100). *Togo* imports 2,330, exports 2,698, mainly cocoa, coffee, palm kernels, copra.

Communications. Motor vehicles 32,000. Ships entered 4,500 (incl. 3,000 at Dakar). Aircraft landed (Dakar) 4,500.

See "Le Travail en Afrique Noire", *Présence Africaine* (Paris, 1952), A. Gouilly, *L'Islam en A.O.F.* (Paris, 1952), H. Deschamps, *L'Eveil politique africain* (Paris, 1952). (HU. DE.)

FRIENDS, THE RELIGIOUS SOCIETY OF.

Membership in London Yearly meeting, which includes Friends in Great Britain, Australia and New Zealand, had increased by 68 to 22,056 by the beginning of 1952. Of this number 20,839 were in Great Britain. Friends in Ireland Yearly meeting (the Republic and Northern Ireland) increased by 13 to 1,990, and there were about 250 Friends in India and 180 in South Africa.

The tercentenary year of the society was marked by the holding of a World Conference of Friends at Oxford (July 28-Aug. 5, 1952). Nine hundred representatives attended from many countries, including Japan, Australia, New Zealand, Malaya, India, South Africa, Canada, Kenya, Madagascar, France, Germany, Norway, Sweden, Denmark, Finland, Poland, Switzerland, Holland, Austria, Jordan and the Lebanon; but much the largest numbers came from the United States and the British Isles. A "Message to All Friends", issued at the close of the conference, expressed profound dissatisfaction with the spiritual state of the Society of Friends and called all members to a new committal to the way of Christ. A further message, addressed "To Men Everywhere", appealed to the peoples of the world to break the "vicious circle of hatred, oppression, subversive movements, false propaganda, rearmament and new wars" in which they were moving, and to "join together . . . to grow more food, to heal and prevent disease, to conserve and develop the resources of the good earth to the glory of God and the comfort of man's distress".

Shortly after the close of the conference nearly 700 Friends of many countries attended further tercentenary commemorations in Lancashire, Westmorland and Yorkshire, visiting some of the places associated with the mission of George Fox in 1652, as a result of which the society was founded. There were also many smaller international gatherings of Friends during the summer. Saffron Walden school, the oldest Quaker boarding school in the world, celebrated its 250th anniversary on July 22, 1952. In the same month a new edition of George Fox's *Journal*, first published in 1694, was issued under the editorship of John Nickalls, librarian at Friends house, London. (B. CA.)

United States. Encouragement of efforts to reduce international tension continued to be a major concern with the Society of Friends. In August the American Friends Service committee published a pamphlet, *Toward Security Through Disarmament*, which suggested ways in which international disarmament might be begun. Local meetings all over the United States, as well as the Friends Committee on National Legislation, took an active part in protesting against the Universal Military Training bill introduced into congress in the spring of 1952.

In August Howard H. Brinton resigned as director of Pendle Hill, a Quaker school of graduate studies near Philadelphia, Pennsylvania. He had served as director for

16 years, during which time Pendle Hill became well known for its programme of informal study and as a centre for conferences and retreats. Through books, articles and addresses Brinton had come to be recognized as a foremost interpreter of Quaker thought. (L. W. R.)

See Howard H Brinton, *Friends for 300 Years* (New York, 1952).

FRUIT. Growers generally experienced better conditions than in 1951, for prices of some raw materials fell and incomes tended to be higher. The improvement was due to significant adjustment to postwar conditions. European production and consumption of deciduous fruit increased, North American production fell. The trade in citrus fruit was barely maintained at the 1951 level.

World production of deciduous fruit was assessed as follows: all apples, 613 million bu. (of 40-42 lb.), table apples, 445 million bu.; all pears, 202 million bu., table pears, 168 million bu.; peaches, 104 million bu.; plums, 2,678,000 short tons; cherries, 1,239,000 short tons; apricots, 637,000 short tons. As compared with the 1935-39 average, apples were 33% higher, pears 53% higher, peaches 19% higher, plums 5% lower, apricots 1% lower. Production of apples in western Europe (including the United Kingdom) was 92% above the 1935-39 level, and of pears, 237%.

World citrus production at 381 million boxes (of 70 lb.), was 39% above 1935-39 This total was made up of oranges 303 million boxes, grapefruit 45 million boxes, lemons 29 million boxes, limes 4 million boxes.

United Kingdom. The results of the Jan. 1951 Census of Fruit Trees, published in May 1952, gave a new and precise record of the extent of new planting since 1944 in England and Wales. The figures are shown in the table.

CENSUS OF FRUIT TREES, ENGLAND AND WALES, JAN 1951

	Under 7 yr.		7 yr and over		Total
	ac	% total	ac.	% total	ac
Dessert apples	20,832	33 5	41,283	66 5	62,115
Culinary apples	4,632	7 0	61,670	93 0	66,302
Pears	5,192	31 5	11,287	68 5	16,479
Plums	7,217	16 9	35,495	83 1	42,712
Cherries	4,250	23 5	13,840	76 5	18,090

Over the country as a whole, 40% of dessert apples and pears were under seven years old, *i.e.*, had yet to come into bearing. For plums, too, new planting was predominantly of gages (1,278 ac of a total of 7,217 ac.). The swing to dessert fruit was most marked in Kent, where 14,217 ac. of a total of 17,939 ac. of top fruit planted since 1944 were under dessert varieties. Cox's Orange Pippin apple accounted for 3,553 ac, and Conference pear for 1,851 ac.

All fruit crops were of exceptional quality and the total weight harvested, 675,000 tons, was virtually the same as for 1951. Apples, however, cropped at 15% below the previous year; but pears were up 40%—a record crop, twice the 1950 output—and plums were an altogether exceptional crop and subject to a wastage of 25-30%. Gross weights of separate crops were (in imperial tons): table apples 472,200, dessert 171,400, culinary 300,800; pears (excl perry pears) 44,500; plums (all types) 190,900; cherries 37,100. The Board of Trade's import quotas restricted shipments from European countries between June 2 and Dec. 31, 1952, as follows: apples £300,000, pears £750,000, cherries £200,000, plums £170,000.

Imports of fresh fruit from all sources for the first seven months were £11,418,000, 20% below 1951. Reductions in the totals for the staple fruits—bananas, oranges, apples and pears—were all of the same order. Biggest relative cuts were in Italian plums, cherries, peaches and grapes. All in all, fruit from Commonwealth sources advanced absolutely and relatively within the whole supply.

Commonwealth. Canada had estimated crops of 12·8 million bu. of apples and 973,000 bu. of pears. The apple crop was the lowest since 1948, below both recent and prewar average. Yields exceeded 1951 levels in British Columbia and Nova Scotia, but production was low in Ontario. Much of the Nova Scotia crop was not of great value. South African growers made a refrigerated shipment of oranges to New Zealand and maintained exports elsewhere. Australian shippers made record shipments of apples and pears in the first six months, with 3,482,000 bu. exported to Europe, including 3,049,000 bu. to the United Kingdom. A record pack of 4 million cases of canned fruit was also reported, 40% being earmarked for the U.K. New Zealand made renewed shipments of off-season apples to the U.S., Canada, and western Germany, helping to fill the gap caused by the lack of Argentinian exports.

United States. The volume of fruit harvested was some 5% lower than in 1951. Citrus fruits cropped at about previous levels (176 million boxes), but most deciduous fruits were down on the year. The commercial apple crop declined from 110 6 million bu. to 96 0 million bu., which was 13% below recent normal. In the western states production moved halfway back to normal with a crop of 39 million bu., but falls were registered in both the central states and the eastern states. Official estimates for other deciduous crops were: peaches 61,437,000 bu., sweet cherries 95,930 short tons, grapes 2,992,900 short tons, sour cherries 105,850 short tons, apricots 172,900 short tons, plums 63,700 short tons, prunes 137,000 short tons, pears 30,879,000 bu. Among citrus crops, 1951-52 output of oranges and tangerines was estimated at 122 4 million boxes, of grapefruit at 40 4 million boxes

Export-programme assistance was not extended to apples, but was continued for oranges and inaugurated for grapefruit, but at the (lower) rate of 40% of the export sales price. School lunch outlet purchases were applied to the 1952 canned peach crop. (R. R. W. F.)

FURNITURE INDUSTRY. The year 1952 was one of uncertainty and unsteady trading. It opened with a cautious optimism which was reflected in firm buying by retailers at the Furniture exhibition at Earl's Court in February. Soon, however, public demand diminished alarmingly, and for some months the industry experienced a trading paralysis which threatened to undermine it.

One of the reasons for this recession was the public's belief that furniture, following the trend of household textiles and carpets, would fall in price. Curiously enough it was in the middle of August, normally one of the worst trading months, that public confidence returned, or the fear of falling prices evaporated. From then until the end of the year demand for furniture increased to such an extent that trading losses were largely eliminated and reasonably sound financial results were achieved by most firms.

The chief reason for uncertainty, however, was the chancellor of the exchequer's failure immediately to implement the recommendations of the Douglas committee in the furniture industry. While carpets, bedding and fabrics came within the scope of the D-scheme in March, furniture was almost the only consumer merchandise to be excluded and utility tax-free furniture continued to be sold. The government stated, however, that it intended to apply the D-scheme to furniture at "an appropriate moment".

This resulted in a state of tension. The industry was unable to plan production and the public was uncertain when, and at what level, a tax would be imposed on furniture. The tension was not relieved until late in December; even then the D-level above which furniture was to bear tax was calculated on the cubic capacity of the articles, and this led to further confusion which had not been resolved at the end of the year.

One of the greatest fears aroused by the introduction of

the D-scheme was that quality would suffer. Under the earlier utility scheme furniture had had to be made to strict Board of Trade specifications, but under the D-plan all standards of manufacture were abolished and there was an obvious temptation for a small minority of manufacturers to debase quality in order to bring their merchandise below the taxation limit British standards of quality were, however, expected to be published early in 1953. Further uncertainty was caused by the abolition of all retail price controls.

Two of the most helpful events during 1952 were the return of hardwoods from bulk buying to private purchase, and the great improvement in the progress of house building which had an automatic effect on the purchase of furniture during the latter part of the year.

The threat of a strike of the 100,000 workers in the furniture manufacturing industry was averted at the last moment by conciliatory machinery. (*See* also INTERIOR DECORATION.)

(L. L.)

FURS. In spite of rather adverse trade conditions during 1952, the British fur trade continued to do fairly well The ten months ending Oct. 31, 1952, showed imports of £18,799,137, as against £21,034,667 for the corresponding period in 1951, and exports of £20,053,695 as against £18,286,481 for the same period in 1951, which showed a satisfactory excess of exports over imports. (Figures for rabbit skins are not included) One of the outstanding features of this period was the disposal of large quantities of Persian lambs, chiefly from South West Africa, which culminated in a three-day sale (Sept. 15-17) when 1,110,505 raw and 36,860 dyed skins were disposed of by auction, and receipts amounted to about £2,500,000. This was a most satisfactory figure, considering the rather dull state of the market and the large quantity offered. A subsequent sale of 720,389 raw and 20,690 dyed skins on Oct. 27-29 resulted in a slight decline, which reflected the general state of the market at that time.

The International Fur Trade federation met in London several times, and in May held a meeting in Paris. The activities of the federation were increasing, and its work was becoming of greater importance year by year.

The British fur breeders again held a pelt show in Jan. 1952 in conjunction with a show of live animals. This attracted considerable attention, and resulted in increased interest in the breeding of British fur animals, mink in particular.

The volume of trade as a whole, and particularly the British home trade, was less than in the same period of 1951, and, generally speaking, there was an overall decline in prices, due largely to the restrictions on imports imposed by many countries. Nevertheless the *entrepôt* trade in London for fur skins continued to develop and London became of increasing importance as a world centre for the marketing of all kinds of fur skins. (F. R. P.)

United States. Despite prices that were generally lower than in 1951, retail sales of fur garments in the United States in 1952 did not show any improvement. Indications were that the total retail volume would approximate that of the past several years—about $250 million. Sales of furs had fallen off considerably since the period immediately after World War II, when they topped $400 million annually.

Mink once again led in popularity, with mutations in strongest demand. Prices of standard dark ranch mink were lower in 1952 as demand for brown mink tapered off slightly. Production of mink on ranches in the United States was estimated at about 2·5 million skins. The other best-selling furs in 1952 were Persian lamb, sheared raccoon, muskrat, mouton-process lamb, squirrel and Alaska seal. In April, at the semi-annual skin auction sale in St. Louis, Missouri, prices declined for black sealskin, but only to a small degree for the brown seal shades. At the October sale, strong demand from dealers and manufacturers boosted the average levels more than 30%, including a sensational rise of more than 50% in blacks. Persian lamb, of which about 4 million skins are imported annually by the United States, was comparatively inexpensive throughout the year, but sold only moderately well.

Credit became tighter in the fur trade during the year, following a high number of insolvencies during 1951. Bankruptcies continued to occur, although not as frequently. The greater difficulty in obtaining credit was said to have held back over-extension by manufacturers

Two legislative acts had an effect on the fur trade The first was the ban on seven Russian furs, ermine, kolinsky, weasel, marten, mink, muskrat and fox, which started on Jan. 5, 1952. Still permitted entry were several other important Russian furs, including Persian lamb, squirrel, marmot and sable.

The other act was the Fur Products Labelling act, which became effective in August. It was designed to prevent consumer confusion, and specifically prohibited misleading descriptive material in advertisements. In addition, specific regulations were imposed on comparative price advertisements which required the retailer to substantiate any claims made in featuring his merchandise to the public. Also of importance in the labelling regulations was the requirement that the country of origin be specified on imported furs.

There were a few fur trends in 1952. The attempts to revive the popularity of long-haired furs—principally the fox family—met with a little better success than in 1950 and 1951. Blond furs continued to be sold, including otter, opossum, sheared raccoon, nutria and beaver, but sales were restricted mainly to the larger cities.

Unemployment was high during most of the off season (January to June) and in many shops continued high into the normally busy season. Manufacturers continued to claim that retailers were over-cautious in their buying, and retailers continued to blame the 20% federal excise tax for consumer resistance. (E. SN)

GABON: *see* FRENCH EQUATORIAL AFRICA.

GAMBIA. British colony and protectorate on the west coast of Africa surrounded by the French territory of Senegal Area: colony (excl. parts administered as protectorate) 29·4 sq.mi ; protectorate (incl. those parts) 3,974 sq.mi. Total pop. (1951 census): 279,297, incl. 252,000 in the protectorate. Language: many tribal dialects, Hausa Religion: mainly Moslem, some pagan; *c.* 5,000 Christians in Bathurst. Capital, Bathurst (pop., 1944 local census, 21,152). Administration: governor; executive council, 1 *ex-officio*, 5 official and 4 unofficial members; legislative council, 3 *ex-officio*, 5 elected and 2 nominated members. Governor, Sir Percy Wyn-Harris.

History. In Feb. 1952, it was announced that two elected members of the legislative council had been appointed as members of the government without portfolio.

Early in 1952 the Colonial Development corporation sent an expert mission to review the progress of the irrigated rice scheme, for which capital sanction of £1,115,000 had been given in Feb. 1950. By the end of 1951 £300,000 had been spent on irrigation and drainage works. The transport adviser to the secretary of state for the colonies visited the territory in March to examine the structure and working of the Marine department and to advise on problems of road and river transport. The seven-year plan of development was revised to take into account rising costs of labour and materials.

Oliver Lyttelton, the British colonial secretary, visited Gambia in June, and in September the president of Liberia made a brief call at Bathurst. (W. H. Is.)

Education. School enrolment (1951) primary 3,120, secondary 110. **Finance and Trade.** Monetary unit. West African pound (£WA 1 = £1 sterling) Budget (1951 actual) revenue £1,144,825, expenditure £1,171,028 Foreign trade (1951) imports £3,998,000, exports £2,949,000 Principal export groundnuts (53,791 tons)
See Lady Southorn, *The Gambia* (London, 1952)

GAMBLING: *see* BETTING AND GAMBLING.

GAS. The report of the Gas council for 1952 showed that the industry was making steady progress. The net surplus amounted to £1,440,916 and most of the area boards showed a profit on the year, the exceptions being the North Western board with a loss of £511,324 and the North Eastern board with a loss of £31,311.

The most important event during the year for the gas industry, as well as for the coal and electrical industries, was the publication of the Ridley report. This committee was set up by the Ministry of Fuel and Power with the following terms of reference. " In view of the growing demands for all forms of fuel and power arising from full employment and the rearmament programme, to consider whether any further steps can be taken to promote the best use of our fuel and power resources, having regard to present and prospective requirements and in the light of technical developments."

In its report the committee recommended complete freedom of choice on the part of the consumer between the various fuels. It coupled with this a proviso that the tariffs offered to the consumer should be on a sound economic basis. In other words, neither gas, nor coal nor electricity should so arrange their prices or their tariffs that consumers would be tempted to adopt their particular fuel because of special subsidized inducements.

The gas industry had long claimed that the amount of coal used up in the manufacture of gas for domestic cooking and space heating was only half that required by the electrical industry The Ridley report accepted this viewpoint as far as peak-load electricity was concerned, but not for electricity used off-peak. This meant that the gas and electrical industries were left to compete with one another for these domestic loads, provided they quoted prices which reflected their true costs of production, distribution and sales.

It was expected that keen competition would result between these two industries and that this would be to the benefit of the consumer in service and efficiency. On the other hand, the tendency was for the two industries to collaborate where collaboration would cut down costs and negotiations were taking place on the joint reading of gas and electric meters.

Another important feature during the year was the preparation for research in both the short-term and long-term fields. The British Gas council established its second research station during the year at Birmingham and for operational purposes this station was to be under the control of the West Midlands Gas board.

The minister of fuel and power approved the Gas council's programme of research which embraced efficiency of carbonization, efficiency of water gas production, complete gasification, production of peak load gas, purification, recovery of sulphur, disposal of liquor effluents, flame and combustion, measurement of gas, domestic uses of gas and industrial uses of gas. A research liaison committee was set up with representatives of each area board and the University of Leeds, to keep the directors of research informed of problems arising in the industry.

A considerable improvement took place in the supplies of coke, which in the winter of 1950-51 had been considerably depleted. Stocks of coke mounted steadily during the year and it became possible for the ministry in November to make available an additional 10 cwt. of coke for every household for the winter period. The exports of coke also increased as a result of the easier position.

The sales of gas cookers during the year decreased slightly mainly owing to the ban on publicity by the Ministry of Fuel and Power. They were nevertheless still at the high level of between 700,000 and 800,000 a year. As many of them were sold in substitution for old black cookers with a lower efficiency, this could be regarded as a satisfactory saving in the requirements of coal production. It was interesting to notice that in new housing estates more than 80% of the tenants were choosing gas cookers in preference to electric and solid fuel cookers.

Increasing prices of coal and transport and increasing wages inevitably produced increases in the price of gas in most parts of the country. Although these increases were received philosophically by the public, the area boards did their best to cut down costs of operation, to keep the increases down to the minimum.

A high light of the year was the International Cookery exhibition at the Royal Festival hall, where teams from 19 different countries showed what could be done in the way of variety, using the ingredients available to the British housewife in the shops.

A number of films were produced during the year showing how gas could be used to advantage in the home for laundry, cooking and all-round household efficiency. Various booklets were printed for specialized users of gas showing them how to achieve the most efficient types of installation

The area boards reported improvements and extensions of manufacturing plant and further integration of gas supplies, which have helped them in the provision of new towns and new housing estates (L HDN)

GAS TURBINES: *see* JET PROPULSION AND GAS TURBINES

GEMS. Synthetic emeralds of American origin appeared on the market in increasing numbers, having probably been smuggled into the country. It became evident that within the near future all emeralds would have to be investigated scientifically with a view to determining the exact nature of their origin. Whilst the vast majority of these synthetics were cloudy and of poor quality, some were capable of deceiving any gemmologist not in possession of the fullest equipment No single decisive identifying factor was discovered; microscopic examination for inclusions, as in the case of the Vernenill synthetic corundums, was not found to be conclusive and, in fact, only the summing-up of a whole series of tests could provide any definite result. The product was definitely not the result of flame fusion but might be a hydrothermal process, the technical methods used remaining a secret The time required for the growth of such crystals must be lengthy and somewhat expensive, but this might prevent the market from becoming flooded with the material Up to £20 per carat was suggested as a likely price for fine specimens, but even this figure compared favourably with natural stones of similar quality.

A new type of *soudé* emerald was encountered. This comprised two parts of synthetic spinel fused to a central section containing the colouring agent and imitation flaws. On account of the difference in lustre no difficulty was encountered in its immediate identification; in fact, the original quartz or beryl variety, in spite of their inferior hardness, remained the better imitation. These new composite stones were found to be also made in very small calibré sizes.

Surface-hardened synthetic rutile was a noteworthy advance in the production of this very soft material and provided a means of making it more resistant to normal wear. An applied microscopically thin surface layer of synthetic corundum did not affect its remarkable optical properties.

A new gemstone was reported. This, previously regarded

as yellow or brown peridot, was given the name of Sinhalite. It had an entirely different chemical composition from peridot but somewhat similar physical constants. (*See* also DIAMONDS; MINERALOGY.) (F. E. LK.)

See Sir James Walton, *Physical Gemmology* (London, 1952)

GENETICS. Somatic Crossing-Over in Micro-Organisms. The classical Mendelian method of genetic analysis inevitably involved sexual reproduction, for in its absence the recombination of hereditary factors was impossible. Consequently, the genetics of organisms lacking a sexual phase could never be satisfactorily investigated. In 1952 G. Pontecorvo and J. A. Roper invented a technique making such analysis possible for the first time. Working with the fungus *Aspergillus nidulans*, which ordinarily contains only nuclei with the haploid number of chromosomes, they were able to produce strains carrying diploid nuclei, heterozygous for certain known pairs of genes. With vegetative reproduction such strains remained indefinitely diploid, but occasionally yielded cells which were homozygous for one or more of the genes. It was deduced that these homozygotes had arisen as a consequence of somatic crossing-over, similar to the normal meiotic crossing-over except that there was no reduction in the number of chromosomes. The use of this technique made possible the recombination of genes without sexual reproduction, and the identification of linkage groups and sequences of genes in moulds, yeasts and bacteria where a sexual cycle is often unknown. Furthermore the artificial production of improved strains of such asexual organisms for industrial purposes became technically much easier than hitherto.

Bacterial Genetics. Important developments in the mechanism of recombination of hereditary factors in the bacterium *B. coli* were reported by W. Hayes, who found evidence of a *unidirectional* transfer of genetic material from one cell to another during the recombination process. Treatment of one kind of cell (donor) by certain destructive agents, such as streptomycin, did not lead to any appreciable loss of ability to transfer genetic material; similar treatment of cultures containing another kind of cell (receptor), however, resulted in a complete inhibition of the recombination process. It was concluded that the donor cells contained their genetic material in some region inaccessible to the action of streptomycin, and that such genetic material could be transferred to a receptor cell even when the donor cell itself had been "killed" by the streptomycin. The nature of the resistant element containing the genetic material and of the difference between donor and receptor cells was unknown

Paramecium. Further progress in the study of antigen inheritance in the ciliate protozoon *Paramecium aurelia* was announced. In variety 1 of this species, proof was obtained of the existence of genes at three independent loci (*g*, *d*, *s*) Such genes determined the specificity of the antigens formed on the surface of the organism. Each race of *Paramecium* contained characteristic alleles of each of the three genes and there was a series of multiple alleles at each locus. These genes fixed the range of potentialities which a given race possessed, yet the decisive control over formation of a given type of antigen was exercised by the cytoplasm, which was shown to exist in a number of sharply distinct states. There was one cytoplasmic state favourable for the expression of the *g* alleles, a second for the expression of the *d* alleles and a third for the *s* alleles. Finally the state of the cytoplasm could be controlled, to some extent, by the external environment, notably the temperature. Thus the importance of each of three factors—nucleus, cytoplasm and environment—was clearly demonstrated. Only if there was a suitable interaction between all three could a given antigen be formed.

Mutation. Quantitative studies of gene mutation had always been rendered extremely difficult on account of the great rarity with which individual genes mutate. By making use of the S system of incompatibility alleles found in a number of plants, D. Lewis perfected a method whereby a rare mutation could be selected out of a vast number of non-mutant pollen grains. He then investigated the mutation rates of four S alleles in *Oenothera organensis*, both spontaneously and under the influence of X-rays Two of the alleles did not mutate at all in a total of 8×10^7 gene divisions The other two alleles yielded two types of mutation, called "permanent" and "revertible", respectively. All the permanent mutations involved a loss of one part of the activity of the gene, *i.e.*, the part concerned with the physiology of the pollen grain, but there was no change in the activity of the part concerned with the physiology of the stylar tissue. Consequently, these experiments revealed that the S genes, hitherto regarded as units, consisted of at least two sub-units Simultaneous mutation of both sub-units was never found, either spontaneously or with X-rays, amongst 2×10^8 gene divisions. The view that a gene, defined as a unit of Mendelian segregation, was not exactly the same thing as a gene defined by some other property, such as mutation, was therefore strengthened and it became more difficult to give a single satisfactory definition of the gene.

Sex-Linkage in Mice. Apart from man, mammals had hitherto shown few examples of sex-linked genes It was therefore of interest that two such genes were discovered in 1952, namely "bent tail" and "tabby". The data so far obtained indicated complete sex-linkage for both these genes, *i.e.*, there was never any crossing-over between them and the chromosomal regions controlling sex determination. Both mutants were dominant over their wild type alleles, while in the case of "tabby" females, the homozygotes were more extreme than the heterozygotes. Males containing a single mutant "tabby" gene were similar in appearance to female homozygotes, containing two mutant genes.

During the year an outstanding new text-book of general genetics, by A. M. Srb and R. D. Owen, was published. This was the first book of its kind to include adequate accounts of recent developments in the genetics of micro-organisms, the role of the cytoplasm in heredity, and population genetics

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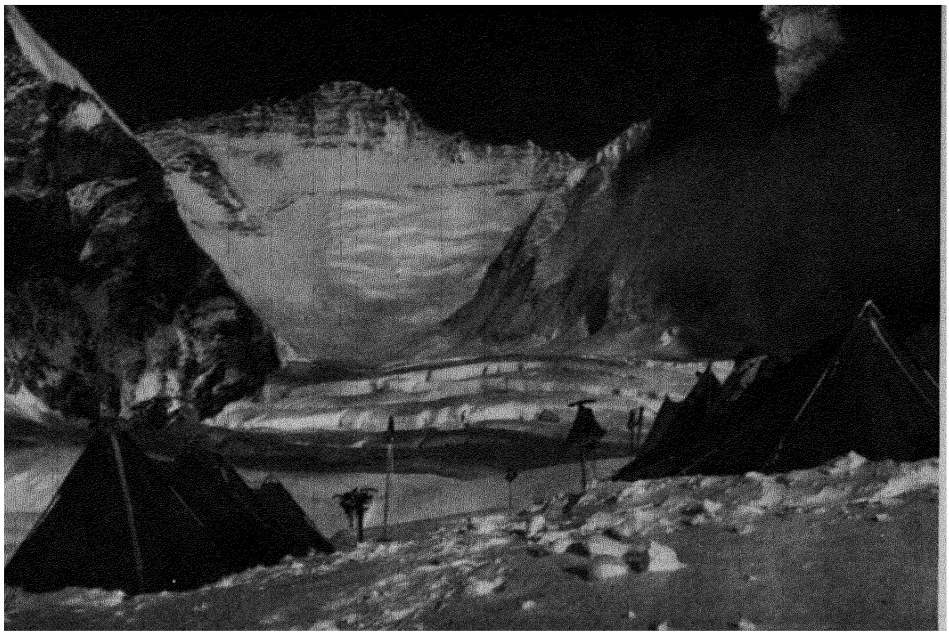
GEOGRAPHY. The annual meeting of the Institute of British Geographers was held at University college, Aberystwyth, in Jan. 1952, under the presidency of Professor A. G Ogilvie of the University of Edinburgh. More than 120 members and associates attended, including some from the dominions and colonies, as well as some from Germany and France. Professor Ogilvie's presidential address dealt with the time element in geography. Professor S. W. Wooldridge of London opened an interesting discussion on the applicability of geography.

The British Association for the Advancement of Science met in Belfast in Sept. 1952 under the presidency of Professor A. V. Hill (*q.v.*). The presidential address to the geography section was given by Professor R. Ogilvie Buchanan of the London School of Economics; he reviewed certain aspects of settlement in the overseas dominions. Many papers were given on the geography of Ireland and more especially on Ulster; a whole morning was devoted to a joint discussion with the economics section on the location of industry in Northern Ireland. Mrs. J. M. Graham's paper on transhumance in Ireland aroused considerable interest. The



A photograph taken by the Mount Everest expedition inside the Western Cwm of Mount Everest looking towards Lhotse. This picture was taken from camp III. Raymond Lambert and the Sherpa Bothia Tensing reached 28,215 ft. on May 28.

geographical glossary committee of the British Association continued to publish its definitions of words in the vocabulary of geography (see *Geographical Journal, 118*: 69-70; 209-10; 345-46).

The gold medals of the Royal Geographical society of London were awarded to H. W. Tilman, well-known for his journeys of mountain exploration in central Asia and the Himalaya, and to Paul-Emile Victor for his work on the Greenland ice-cap and especially for his geophysical researches.

In the summer of 1952 a series of geographical meetings was held in the United States. The third Pan American consultation on geography took place in Washington, D.C., at the end of July. This conference was followed by the centenary celebrations of the American Geographical society in New York city. The joint annual meeting of the Association of American Geographers and the National Council of Geography teachers was held in Washington immediately before the 17th International Geographical congress which met, also in Washington, Aug. 8-15. The congress was held in conjunction with the eighth general assembly of the International Geographical union.

The history of 100 years of work by the American Geographical society was recorded by J. K. Wright in *Geography in the Making: The American Geographical Society, 1851-1951* (New York, 1952). The same author also contributed to the *Geographical Journal* of London a paper on " British Geography and the American Geographical Society, 1851-1951 " (*Geographical Journal, 118*: 153-67). Professor Preston James's presidential address to the Association of American Geographers, entitled " towards a further understanding of the regional concept ", was a spirited defence of the concept of the region, an idea which had recently suffered attack (*Annals Association of American Geographers, 42*: 195-222).

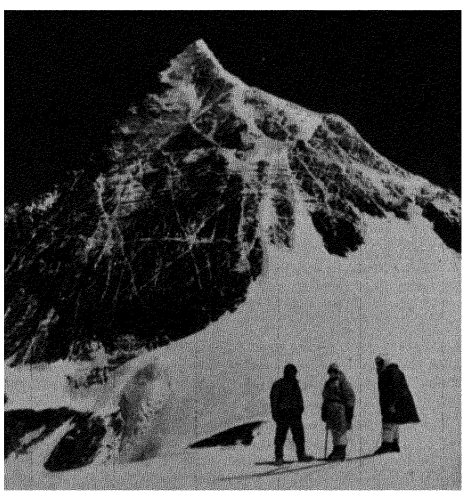
About 1,500 geographers attended the International Geographical congress at Washington which met under the presidency of Professor George B. Cressey of Syracuse university. The congress itself was preceded by long excursions, and more excursions took place at the close of the meeting. The main programme of the congress was arranged under 12 sections. These were on geomorphology; climatology; hydrography; demography and cultural geography; urban and rural settlement; resources, agriculture and industry; trade and transport; cartography; historical and political geography; biogeography; regional geography; and the teaching of geography. There were also 12 commissions on the following subjects: geographical utilization of aerial photographs; agrarian geography; bibliography of ancient maps; industrial ports; international map of the world; medical geography; periglacial morphology; population; regional planning; soil erosion; terraces; and inventory of world land use. In addition to the meetings of sections and commissions there were two general sessions on world food supply and on tropical Africa. It was decided to accept the invitation of Brazil to hold the next International Geographical congress at Rio de Janeiro in 1956 and Professor L. Dudley Stamp of London was elected as its president.

The commission on world land use survey published a report on its activities to the International Geographical union. It was proposed to prepare a series of land use maps on the scale of 1:1,000,000; a master key for the classification of categories of land use had been made. A number of studies made in various parts of the world proved the practicability of the proposed classification.

Two valuable pieces of research appeared in periodical

literature. A. A. Grigoryev, a member of the U.S.S.R. Academy of Sciences and a medallist of the Russian Geographical society, contributed a paper on " Soviet plans for irrigation and power " to the London *Geographical Journal, 118*: 168-79. The American Geographical society continued the publication of its series of maps which would eventually become an *Atlas of Diseases*. The fifth of these maps showed the world distribution of dengue and yellow fever. The sixth showed the world distribution of plague. These maps were accompanied by full bibliographies and by geographical commentaries (*Geographical Review, 42*: 283-86; 628-30). This work had been carried on under the direction of Jacques M. May, who was also the chairman of the Commission on Medical Geography at the International congress.

The year was notable for the publication of a number of books on the history of maps. A new edition of R. V. Tooley's *Maps and Map Makers* (London), was followed by A. Humphreys' and R. A. Shelton's *Decorative Printed Maps of the 15th to 18th centuries* (London). Professor Gordon Manley's *Climate and the British Scene* (London) was a notable contribution to its field, well-illustrated and full of detailed scientific knowledge presented with a wealth of historical and literary allusions. Much work continued to appear on urban geography. Professor R. E. Dickinson's *The West European City* (London) was a comprehensive treatise with abundant bibliographies. Professor Joachim H. Schultze's article on the town of Jena was a valuable addition to the growing number of geographical studies of individual towns (" Die Stadt Jena ", *Wissenschaftliche Zeitschrift der Friedrich-Schiller-Universität Jena*, vol. 3, 1951-52, 43-74). The article described the impact of industrialization on an old university town. Many comparisons could be made between the recent histories of Jena and Oxford. G. R. Crone's pamphlet *Modern Geographers*, published by the Royal Geographical society of London, was a useful outline of the progress of geography since 1800 and contained biographical sketches of leading geographers from Alexander Humboldt to Halford Mackinder and Isaiah Bowman. The same society also published the second of its research series of monographs, *The Origin of the Broads* (London), by J. N. Jennings of



Three members of the Mount Everest expedition, with the south peak of Everest towering behind them.

University college, Leicester. The first volume of Professor Johann Sölch's very detailed study of the British Isles was published after his death in 1951. This book, *Die Landschaften Der Britischen Inseln*, vol. I, *England und Wales* (Vienna) was nearly 900 pages long. Its Austrian author had completed a second volume on Scotland and Ireland before his death and this book of 500 pages was published during 1952. Austrian geography suffered another loss in the death of Hugo Hassinger, who was killed in a road accident in March in Vienna. The American geographer W. L. G. Joerg died suddenly in January and Professor C. B. Fawcett, the British geographer, died in September. (*See* also ANTARCTICA; CARTOGRAPHY; EXPLORATION AND DISCOVERY.) (E. W. GT.)

GEOLOGY. Public Events. The principal event of 1952 was undoubtedly the holding of the 19th International Geological congress in Algiers. One of the issues discussed was whether to form an international scientific union and so have a permanent body to represent geology with consequent recognition by the United Nations Educational, Scientific and Cultural organization. It was thought that there was no immediate need for this. It was, however, decided that each country participating should arrange to have one person or body representing the geological interests of that country internationally. Hitherto international geological congresses, which had been held successfully every four years (except during World Wars I and II), had been carried on each time by an *ad hoc* committee organized in the inviting country. In addition to the sessions at which many papers were read there was an ambitious programme of excursions throughout northwest Africa. It was decided to accept the invitation of the Mexican delegates to hold the 20th congress in 1956 in their country.

The third Conference on Carboniferous Stratigraphy and Geology was held at Heerlen, Netherlands, in June 1951. It was generally agreed that the Carboniferous was a unity which should remain classified as a system and that the upper and lower parts should be classified as sub-systems (*Bull. Geol. Soc. Amer., 62*, 1479, New York, 1951).

In China the status and importance of geology was raised by the formation of the new Ministry of Mines and Geology, with J. S. Lee as minister. The universities in China underwent a drastic reorganization so as to concentrate facilities into fewer large " comprehensive " universities. The geological departments of three universities in Peking were fused in a new technological college of geology which was established as the leading academic institution of geology in China.

The British North Greenland expedition sailed during the year and this, the largest British polar expedition since Captain Scott's, included extensive seismic work over the ice-cap as well as geological investigations of exposed rock.

General Geology. In *The Planets, Their Origin and Development* (Yale and Oxford, 1952) H. C. Urey summarized much data bearing on the geophysical and chemical aspects of the solar system and in this connection a review of theories bearing particularly on the origin and constitution of the moon and earth was attempted.

The Internal Constitution of the Earth, being the second revised edition of vol. vii of *The Physics of the Earth*, edited by R. Gutenberg, appeared in 1951 (New York) and gave a useful summary of knowledge in this field.

Methods for determining the age of igneous rocks using the accessory minerals were described by E. S. Larsen, N. B. Keevil and H. C. Harrison (*Bull. Geol. Soc. Amer., 63*, 1045-52, New York, 1952). Most of the radioactivity in igneous rocks lay in zircon and other accessory minerals, while most of the lead was concentrated in the potassium minerals. The latter was mainly primary and the former

radiogenic. The age of some Precambrian rocks was claimed with an accuracy of 90%.

Igneous and Metamorphic Petrology, by F. J. Turner and Jean Verhoogen (New York, 1951), was one of the first comprehensive texts in petrogenesis at an advanced level.

At a meeting of the Challenger society M. Black gave a review of present knowledge of the origin of chalky oozes and summarized much recent unpublished work The Cretaceous and Tertiary strata included deposits, such as chalks and Globigerina marls, which in many respects resembled modern Globigerina ooze. Some were interstratified with other deep-sea deposits and probably had an abyssal origin; others, such as the European chalk, were associated with shallow-water sands and muds and contained benthonic invertebrates suggesting depths around 100 fathoms. Some recent writers had claimed chalk as an inorganic precipitate, but its intimate structure closely resembled a modern coccolith ooze and differed widely from precipitated oozes, such as the aragonite muds of Florida and the Bahamas. Chalk was a mixture of two powders, the coarser consisting of disintegrated molluscan shells and foraminifera; the finer consisted of coccoliths and their disintegration products. Typical soft chalk contained only a negligible proportion of material whose organic origin was not evident, and mineralogically was calcite with no trace of aragonite. In contrast, the modern precipitated oozes contained relatively little shell material and a great abundance of minute crystals or aragonite, with hardly a trace of coccoliths. Such a deposit could not give rise to ordinary chalk. Typical chalk probably accumulated under a sea of no great depth, but below the level of maximum coccolith production (30 fathoms in the modern Atlantic). Recent work on oxygen isotopes indicated that the surface water was quite warm and the bottom only slightly cooler.

Regional Geology. *British Isles.* The third edition of *The Concealed Coalfield of Yorkshire and Nottinghamshire*, by W. Edwards (Memoir Geological survey, H.M.S.O., London, 1951), summarized much of the recent work in the most important coalfield of Great Britain. This also included results gained in the exploration for oil

Doris Reynolds described the Geology of Slieve Gullion, Foughill and Carrickcaran, in Ireland (*Trans. Roy. Soc. Edin*, vol. 57, part 1, no. 4, 1951), showing it to be the denudation relics of a gigantic volcano. Gabbros and granophyres were claimed to be highly metamorphosed basaltic and rhyolitic lava flows, agglomerates and tuffs, together with some gabbro sills, forming a horizontal layered sequence. A Tertiary ring-dyke of granophyre and felsite encircled the layered rocks which formed within a caldera. The transgressive granophyres were supposed to have been intruded, forming a pyroclastic glassy tuffisite derived from basement Caledonian granodiorite and emplaced by rising gas streams. Apparent chilled edges of the earlier basaltic rocks were shown to have been induced by the incandescent tuff flows.

Gravity measurements in Ireland were published by A. H. Cook and T. Murphy (Dublin Institute for Advanced Studies, *Geophysical Memoirs*, no. 2, parts 3 and 4). Most of northern and central Ireland showed positive Bouguer anomalies and north of Dundalk a large positive anomaly might reveal a centre of Tertiary igneous activity. Otherwise the exceptional negative anomalies lay over granites.

Eurasia. The European arctic region was surveyed briefly in *Geologie des Barentsschelfes* by Hans Frebold (Berlin, 1951).

Since the establishment of the Arabian-American Oil company at Dhahran in 1935 its geologists have explored and mapped many hundreds of square miles of country and discovered the centre of Saudi Arabia to consist of an almost undisturbed series of sedimentary systems ranging from Palaeozoic to Tertiary. The most important as a landscape-builder was the Jurassic It formed the Jebel Tuwaig, a limestone cuesta about 500 mi. long, running north-south down the middle of the peninsula and dipping gently towards the Persian gulf. From a marine Jurassic sequence over 1,000 m. thick were collected large numbers of almost all kinds of invertebrate fossils. The first publication on these to appear was a memoir on the ammonites. They ranged in age from Lower Toarcian to Kimeridgian and included remarkable new genera The memoir was prefaced by a summary of the general geology and stratigraphy, written by the chief geologist of the company (W. J Arkell, "Jurassic Ammonites from Jebel Tuwaig, Central Arabia," *Phil. Trans. Roy. Soc.*, Ser. B., no. 633, vol. 236, pp. 241-313, London, 1952).

Africa. R. W. Hey carried out an investigation of the Pleistocene deposits and geomorphology of the Cyrenaican coast, between Benghazi and Derna. Abundant traces of marine shore-lines were found at many different levels A detailed study of these suggested that their present elevations were due to movements of sea-level, rather than of the land. The movements themselves appeared to have taken place roughly in accordance with the much-disputed schemes of L. de Lamothe and C. Depéret. Three kinds of Pleistocene continental deposits were observed: alluvium and tufa, associated with the numerous coastal wadis, and consolidated dune-sands, generally near the modern shore. Most of these deposits were believed to have been laid down during the Last (Wurm) Glaciation From their nature, and from an examination of their associated animal and plant remains, it was concluded that northern Cyrenaica underwent, during the Last Glaciation, climatic changes remarkably similar to those which are thought to have occurred in southern Italy.

Three official sheets of the geological map of Morocco were published to a scale of 1:500,000 and a large new memoir appeared: *Histoire Stratigraphique du Maroc*, by E. Roch (Mémoire 80, *Protectorat de la Rép. Française au Maroc*, Toulouse, 1950).

North America. In *The Tectonics of Middle North America* by P. B. King (Princeton, 1951) an excellent description of the structure of the United States of America and southern Canada east of the Cordilleran system was given. This was not a compilation of the usual sort but the product of the author's mature researches over many years.

North American Geosynclines were classified by G. M. Kay (*Geol. Soc. Amer. Mem., 48*, New York, 1951).

The Geological Society of America published a new map, *The Pleistocene Eolian Deposits of the United States, Alaska, and parts of Canada*, on a scale of 1:2,500,000. Correlations of the Cretaceous formations of the western interior of the United States by W. A. Cobham and J. B. Reeside (*Bull. Geol. Soc. Amer., 63*, 1011-44, New York, 1952) was no. 10b of the series of correlation charts of North American Sedimentary formations and was prepared by the committee on stratigraphy of the National Research council.

South America. The geologic structure and orogenic history of Venezuela was described by W. H. Bucher in Memoir 49 of the *Geol. Soc. Amer.*, New York, 1952. This was to accompany the Tectonic map of Venezuela published earlier. The third volume completed the *Descripcion Geologica de la Patagonia* by E. Feruglio (Buenos Aires, 1950) and described the Quarternary geology of the region. (*See* also MINERALOGY; OCEANOGRAPHY; PALAEONTOLOGY.)

(W. B. HD.)

GERMAN LITERATURE. The most important feature of German literature in 1952 was probably the decisive victory of the cheap pocket-editions with their new methods of production and distribution and their low

price-level. A large part of production was again taken up by confessional and autobiographical reflections on the years 1933-45, and of special interest to the historian were Franz von Papen's *Der Wahrheit eine Gasse* and Hjalmar Schacht's *76 Jahre meines Lebens*. The autobiographical element was also predominant in most of the war novels, of which Gerhard Kramer's *Wir werden weiter marschieren* and Dieter Meichsner's *Weisst Du warum?* should be mentioned. The outstanding work in this field was, however, Theodor Plievier's second novel about the Russo-German front, *Moskau*. The survival of the human mind amid the horrors of the concentration camp was the subject of Erich Maria Remarque's *Der Funke Lebens*.

Four great novels came from established writers of German fiction: Leonhard Frank, in *Links wo das Herz ist*, described the course of his life and his attachment to the "left"; Max Brod's *Der Meister* was an intriguing interpretation of the life of Jeschua (Jesus), seen through the eyes of the Greek Meleagros (St. John), the Jew Jason (Judas Iscariot) and Jeschua's foster-sister Schoschana; Hermann Kasack's second novel, *Das grosse Netz*, gave a satirical and partly allegorical description of contemporary life against the background of a German provincial town, and Marianne Langewiesche's novel *Der Oelzweig* described a recreation of the Deluge in the 20th century. Amongst less exacting and more entertaining writings were Hans Leip's *Die Sonnenfloete*, and a love story, a satire and a thriller combined in *Die Tote von Beverly Hills*, by Curt Goetz. Younger novelists did not compare too well with the "old guard", although Severa Dennstedt's *Von der Kiste zum Eigenheim* deserves mention as a well-told story about postwar problems being overcome by humour and optimism. The outstanding novel of the younger writers was *Vergessene Gesichter*, by Walter Jens, about an asylum for ex-actors facing decline of life and fame.

The most noteworthy shorter stories of the year were Ernst Juenger's *Besuch auf Godenholm*, his brother Friedrich Georg Juenger's *Die Pfauen* and Luise Rinser's *Ian Lobel aus Warschau*, describing the effects of a stranger intruding into the peace of a Bavarian gardener's family.

Rudolf Alexander Schroeder continued his spiritual poetry with *Sonntagsevangelien in Reimen*, and two younger poets firmly established their reputations: Hans Egon Holthusen with a new collection, *Labyrinthische Jahre*, and Rudolf Hagelstange with a long poem in free rhythms, *Ballade vom verschuetteten Leben*.

Gottfried Benn published three essays on the individual and society under the title *Die Stimme hinter dem Vorhang*. Biographical documents of special interest were *Reden und Schriften*, about the publisher Anton Kippenberg, and Carl Zuckmayer's *Die langen Wege*, written for the occasion of his receiving the Goethe prize. *Unsichtbare Flagge*, by Peter Bamm (the pseudonym of Curt Emmrich), was a doctor's account of his experiences on the Russian front.

Heinrich Fischer's edition of Karl Kraus' posthumous works, *Die dritte Walpurgisnacht*, with a brilliant introduction, was one of the many important works of literary criticism which appeared in 1952, and Paul Fechter's *Geschichte der deutschen Literatur*, F. Lennart's *Die Dichter unserer Zeit*, Wilhelm Schneider's *Liebe zum deutschen Gedicht* and Hermann Pongs's *Im Umbruch der Zeit* (a thorough analysis of the greatest modern novels since James Joyce) should also be mentioned. (R. W. Lt.)

GERMANY. Country of central Europe, bounded N. by the North sea, Denmark and the Baltic sea, E. by Poland, S. by Czechoslovakia, Austria and Switzerland, and W. by France, Luxembourg, Belgium and the Netherlands. From 1949 Germany was partitioned into two states with a special provisional régime for Berlin (*q.v.*). Areas and populations of the two states and Berlin are as follows:

	Area (sq mi)	*Population* (1939 census)*	(1950 census)*
German Federal Republic†	94,738	39,350,121	47,712,500
German Democratic Republic	41,379	15,157,123	17,313,734‡
Berlin	344	4,338,756	3,336,475
Total	136,461	58,846,000	68,362,709

* Within the 1945 boundaries † Excluding the Saar (*q.v.*) ‡ 1946 census

Language: German, with small admixture of Lusatian (260,000 in the Kottbus-Bautzen area), Polish (150,000, mainly in Westphalia) and Danish (120,000). Religion: (1938 est.) Protestant 62·7%; Roman Catholic 32·5%; Jewish 0·7%; other 4·1%; (1950 census, Federal Republic only) Protestant 50·7%, Roman Catholic 45·2%.

GERMAN FEDERAL REPUBLIC. Chief cities (with population over 200,000, 1950 census): Bonn (cap., 115,394); Hamburg (1,605,606); Munich (831,937); Essen (605,411), Cologne (594,941); Frankfurt-on-Main (532,027); Dortmund (507,349); Dusseldorf (500,516); Stuttgart (497,677); Bremen (444,549); Hanover (444,296); Duisburg (410,783); Wuppertal (363,224); Nuremberg (362,459); Gelsenkirchen (315,460); Bochum (289,804); Kiel (254,449); Mannheim (245,634), Lubeck (238,276); Brunswick (223,760); Wiesbaden (220,741); Oberhausen (202,808). President of the republic, Theodor Heuss, federal chancellor, Konrad Adenauer (*q.v.*). Allied high commissioners in 1952: British, Sir Ivone Kirkpatrick; French, André François-Poncet, U.S., John J. McCloy and (from Aug. 1 to Dec. 31) Walter J. Donnelly.

GERMAN DEMOCRATIC REPUBLIC. Capital, Berlin-Pankow Chief cities (1946 census): Leipzig (607,655); Dresden (467,966); Chemnitz (250,188); Magdeburg (236,326), Halle (222,505). President of the republic, Wilhelm Pieck; premier, Otto Grotewohl Chairman of the Soviet Control commission, Army General Vasily Ivanovich Chuykov.

History. During 1952, in spite of much propaganda, exchanges of notes between the western powers and the U.S.S.R. and proposals and counter-proposals from Democratic and Federal Germany, the possibility of re-unification of Germany seemed to have receded

The Exchange of Notes. On March 10, the Soviet government sent identical notes to the U.S., British and French governments urging immediate four-power talks to draw up a draft peace treaty with Germany. The notes outlined the principles upon which a peace treaty with Germany should be based. The most important terms were: (a) Germany should be restored as a single, independent, peace-loving state with its eastern frontier on the Oder-Neisse line; (b) Germany should undertake not to enter into any coalitions or military alliances; (c) Germany should be permitted to have its national armed forces (land, air and naval) necessary for the country's defence.

The three western governments, after consultation with the German Federal government, replied on March 25. They insisted that the conclusion of a peace treaty with a re-united Germany required the formation of an all-German government expressing the will of the German people; such a government could "only be set up on the basis of free elections in the Federal Republic, the Soviet zone and Berlin", such elections could only be held in circumstances which safeguarded the national and individual liberties of the German people. In order to ascertain whether the first essential conditions existed a U.N. commission had been appointed to carry out a simultaneous investigation in the Federal Republic and in the Soviet zone; the three western governments would be glad to learn what facilities were afforded in the Soviet zone to enable the commission to carry out its task.

On April 9 the Soviet government rejected the proposal that the U.N. commission should verify the existence of conditions for the holding of all-German elections; it

proposed instead that the question of all-German elections should be studied by a commission consisting of representatives of the four occupying powers.

On May 13 the three western powers declared that they were ready to begin negotiations on German unity, the election of a free all-German government and the conclusion of a peace treaty with that government when understanding had been reached on the scope of the negotiations and the fundamental problems to be examined. The three governments insisted on the necessity of holding free elections in all parts of Germany and again asked the Soviet government to make practical and precise proposals for an impartial commission of investigation.

On May 25, on the eve of the signature of a series of contractual agreements between the three western powers and the German Federal government, the Soviet government, ignoring the main point of the Allied notes of March 25 and May 13, presented a lengthy denunciation of the contractual arrangements to be signed at Bonn, describing them as paving the way for the restoration of " aggressive western German militarism " and drawing the German people " into the preparation of a new war ". However, the Soviet government again proposed an immediate four-power meeting on the German question.

On July 10 the three western powers proposed that there should be an early meeting of representatives of the four governments, but only to discuss the first step towards the ultimate formation of an all-German government; viz., the appointment of an impartial commission, not subject to veto or control by the four powers, to determine whether conditions for free elections existed.

On Aug. 23 the Soviet government asked for a four-power conference to be called " not later than October " to discuss (1) the preparation of a German peace treaty; (2) the formation of an all-German government; (3) the holding of all-German elections; (4) the time limit for the withdrawal of occupation forces from Germany.



Konrad Adenauer signing the contractual agreements formally terminating occupation and giving sovereignty to the Federal Republic at Bonn, May 26.

On Sept. 23 the western powers insisted on the need for free all-German elections before the negotiation of a peace settlement and the formation of an all-German government. The reply renewed the proposal for an early four-power meeting " to discuss the composition, functions and authority of an impartial commission of investigation with a view to creating the conditions necessary for free elections."

On Sept. 19, a deputation of five members from the *Volkskammer* presented to Hermann Ehlers, speaker of the *Bundestag*, the Democratic Republic's newest proposals: a joint commission with equal representation from both republics, which should prepare plans for re-unification, and an agenda for the future peace treaty conference on Germany. The deputation, which received a hostile reception from the public in Bonn, was allowed to remain only 48 hours in the Federal Republic, and was told that the *Bundestag* reply would be delivered later.

German Federal Republic. Between the western democracies and the Federal Republic great progress toward closer understanding was made during 1952. The general contract, signed at Bonn on May 26, and the agreement on German participation in the European Defence community (E.D.C.) signed the following day in Paris, when ratified would make the Federal Republic an equal partner in the western world, and enable it to contribute to the defence of freedom.

The treaties were approved by the *Bundestag* at the first and second readings (July 10 and Dec. 6) but the third was postponed on Adenauer's initiative until the Federal constitutional court should have decided whether under the constitution they could in fact be ratified by a simple majority.

Sir Ivone Kirkpatrick, British high commissioner, declared that British commitments in Europe were definite and undisputed, and that Great Britain had actually stationed in Germany a larger and more effective force than that of any other western European state (Jan. 23).

Ratification of the general contract and the E.D.C. agreement was strongly opposed by the Social Democrats who at their annual congress at Dortmund (Sept. 24-28) declared they would seek revision of these treaties if they came to power; they stressed that re-unification of Germany should be the first aim of the Federal Republic's foreign policy.

Through the European Coal and Steel community (*q.v.*), in force from July 25, Allied restrictions on German heavy industry were removed and the International Ruhr authority ceased to function. As to the participation of the Federal Republic in European defence, details of the size and equipment of a future German contingent were settled by the N.A.T.O. council at Lisbon, on Feb. 26: the Federal Republic was granted 12 divisions for defence. (*See* EUROPEAN DEFENCE COMMUNITY.)

The future status of the Saar played an important role, both in international and internal discussions. Whether that territory was to retain its existing status until a peace treaty was signed, or be returned to Germany, or be " Europeanized ", was still to be settled. (*See* SAAR.)

Alcide De Gasperi, premier and foreign minister of Italy, officially visited Bonn as guest of the federal government (Sept. 20-23). He was returning the visit of Chancellor Adenauer to Rome in 1951.

In the financial field, the London conference on German debts ended (Aug. 8) with the Federal Republic agreeing to pay DM. 14,300 million (DM. 6,000 million prewar obligations, DM. 1,500 million interest charges and DM. 6,800 million postwar debts). Settlement was hailed in western Germany as a significant advance toward the Federal Republic's re-entering the international money market and as freeing the way for much-needed international loans for industry.



Wilhelm Pieck, president of the German Democratic Republic (above, in white suit) at a ceremony in East Berlin in July during the construction of a new block of workers' flats.

Elections for the new southwest *Land* of Württemberg-Baden (March 9) resulted in a government of Socialists (S.P.D.), Free Democrats or Liberals (D.V.P.) and the Refugee party (B.H.E.), although the Christian Democratic union (C.D.U.) was the leading single party (34% of votes). Reinhold Meier became premier and by this arrangement of parties the federal government coalition lost its majority in the *Bundesrat* or Federal senate. Elections in Hesse (May 4) increased the Social Democratic hold over that state.

After a seven-day debate, the *Lastenausgleich* (sharing burdens of war and postwar losses) legislation was passed (May 16). Proceeds of a levy on personal property, shares or other assets would be used to compensate persons who had lost possessions during and after World War II. The levy would be paid over a period of 30 years and was calculated to yield about DM. 2,150 million annually. Total claims exceeded DM. 60,000 million.

Another much-debated law, the *Betriebsverfassungsgesetz*, which established works councils and regulated the participation of workers' representatives on controlling boards of certain basic industries (coal, iron and steel), was approved by the *Bundestag* by 195 votes to 140 (July 19).

The biggest event in the political field was the death of Kurt Schumacher, chairman of the S.P.D. (*see* OBITUARIES). He was a great and intransigent leader, of indomitable will and unflinching purpose. His successor, Erich Ollenhauer, was elected at the party conference at Dortmund by 357 out of 363 votes.

The neo-Nazi S.R.P. (Sozialistische Reichspartei) dissolved itself (Sept. 12) following interminable internal bickerings, and after the federal government, a few months earlier, had petitioned the Supreme court to declare it illegal. Whether the S.R.P. had really disbanded or merely gone underground was uncertain.

An All-German People's party (Gesamtdeutsche Volkspartei) was formed in Frankfurt-on-Main on Nov. 30, under the leadership of Gustav Heinemann (formerly C.D.U.) and Frau Helene Wessel (formerly Zentrum). It stood for a united and neutral Germany.

Economically, the year registered great advances. Following the coming into force of the European Coal and Steel community, practically all restrictions on Ruhr production ceased to operate, though the International Ruhr authority would not be dissolved before Feb. 10, 1953. For the first nine months of the year, German coal production totalled 91,640,000 tons (88,350,000 in the same period of 1951). In July steel production was the highest since 1938, 1,378,000 tons. It was expected that steel production in 1954 would exceed that of 1937 (17,800,000 tons).

The break up of the industrial cartels, according to the Allied High commission law no. 27 (May 1950), was practically completed. The Krupp combine, for instance, which after losses through bombing and dismantling was estimated to have a value of DM. 297 million, was decentralized into a number of separate projects. The present owner, Alfred Krupp, was awarded £30 million compensation for loss of property and would also retain holdings in many enterprises.

By 1952 the German mark was one of the "hardest" currencies thanks to increased production, foreign trade balance, E.R.P. aid and hard work. In the European Payments union, the Federal Republic was in August a leading creditor with a surplus of $405·8 million. Since 1945 the federal government had spent DM. 28,000 million in aiding refugees and homeless.

On July 28 the Federal German Republic joined the International Monetary fund and on Nov. 25 ended the last Allied controls over the western German foreign trade and currency.

German Democratic Republic. The Soviet-occupied zone of Germany became more isolated from western influences, making it increasingly difficult to obtain reliable information regarding developments there, especially as most of the official reports were propaganda. At the same time, however, great efforts were being made to persuade the Federal Republic to reject U.S. policy, which would annihilate Germany, and accept "German" policy, which would save it.

Relations between the German Democratic government and the eastern bloc of states controlled from Moscow continued to become closer. Klement Gottwald, president of Czechoslovakia, revisited Wilhelm Pieck, president of the German Democratic Republic (March 10-12). Nikolay M. Shverink, chairman of the presidium of the Supreme Soviet of the U.S.S.R., visited Berlin on Oct. 8, on the occasion of the third



The east German delegation that visited Bonn in September. Left to right, H. Homann, K. Hamann, E. Goldenbaum, O. Nuschke, and H. Matern.

anniversary of the foundation of the German Democratic Republic. On Oct. 27, Mátyás Rákosi, premier of Hungary, paid an unofficial visit to east Berlin.

During May, the Democratic Republic announced several measures which aimed to secure more isolation from the west. Interzonal permits were from May 17 to be issued only by the *Volkspolizei*, zonal borders were to be more rigidly controlled because of "spies" and "saboteurs" and entry of west Germans and west Berliners into the Soviet zone was to be regulated by a new special pass. On May 27 telephone communications between west and east Berlin were cut and a no-man's-land of 3·1 mi. was created along the whole extent of the western frontier of the German Democratic Republic.

The formation of a German people's army had been proceeding for some time, but an excuse for speeding up the process came when it was obvious that the general contract and the E.D.C. agreement between the Federal Republic and the western powers would be concluded. On May 1 Pieck threatened the creation of a defence force if the Bonn agreement were signed; on June 18 the *Volkskammer* approved a resolution for the establishment of a "national army", on Sept. 16 it was announced that recruitment had started. Because of lack of success the Ministry of the Interior ordered on Sept. 26 that from each *Kreis* (district) 5% of the population must join the new force. It was expected that by the end of 1952 the Democratic Republic would have 12 divisions totalling 180,000 men, and double that number by 1954. One of the results of these new measures was that from July to September 43,200 Germans escaped to west Berlin and the Federal Republic.

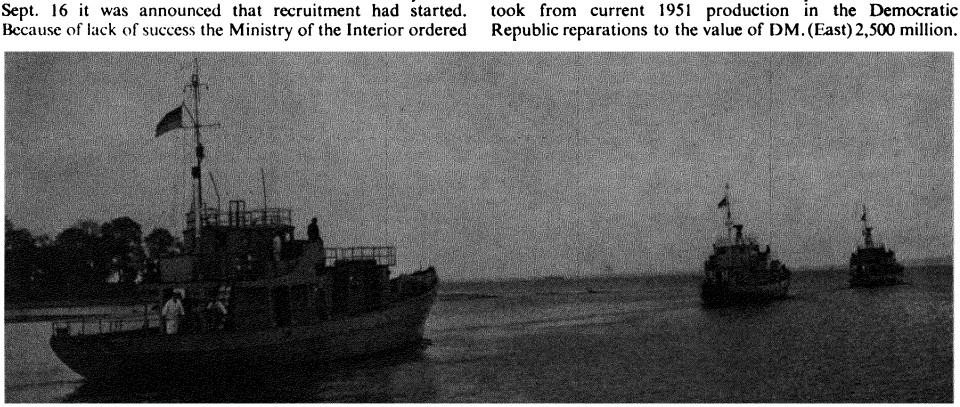
A labour service, under the title "Service for Germany" was approved on July 24 for youths of both sexes 17 years old. They would receive uniforms, food and lodging, and one mark a day as pocket money.

A Soviet system of administration was introduced into the Democratic Republic on July 23, when instead of the former five *Länder* (states) there were created 14 new *Bezirke* (provinces), each containing 15 to 16 *Kreise* (districts). The new move was intended to remove historical divisions, and to give more power to the Communist party officials.

This policy, which continued in both industry and agriculture, was also applied most determinedly in cultural matters. Simultaneously, the negative side of this policy, viz., exclusion of all western cultural influences, was carried still further. In August permits were refused for 5,000 east German Protestant clergy and laymen to attend the World Lutheran congress at Hanover. A special synod of the Evangelical Church met in east Berlin (Aug. 12) to discuss the abnormal situation which included the German Democratic authorities' refusal to allow theological students trained in western institutions to hold pastorates in eastern Germany, plans to close theological faculties in eastern universities and the withholding of financial grants to churches on the least excuse.

Revision of the whole system of justice, particularly of the criminal law, announced in October, brought the Democratic Republic into line in matters of justice with the system applied in the U.S.S.R. Henceforth, any judge could be dismissed by the Ministry of Justice, and decisions by individual judges would be replaced by collective judgements.

On Feb. 8 the *Volkskammer* approved the economic plan for 1952, whereby industrial production would be increased by 13·7% over the previous year; in agriculture, by 10%. Employment in industry would increase by 154,000. The report on 1951 production stated that the plan was not everywhere fulfilled, and that there was a lack of raw materials and of electricity supplies. According to reports of the Ministry for all-German Affairs in the Federal Republic, the U.S.S.R. took from current 1951 production in the Democratic Republic reparations to the value of DM. (East) 2,500 million.



Three of the four German fishing vessels that in 1952 formed the naval forces of the German Federal Republic and were later replaced by more modern motor boats. Germany was still debarred from having large warships.

In the prisons and concentration camps of the Democratic Republic there were *c.* 200,000 Germans, according to estimates published at Bonn on Sept. 26. (J. E. Wt.)

Education. *German Fed. Rep* Schools (May 1950) elementary 28,779, pupils, 6,314,452, teachers 130,618; higher elementary 579, pupils 196,067, teachers 6,011; secondary 1,488, pupils 620,488, teachers 28,872; universities 16, students 74,258, professors and lecturers 3,450, Roman Catholic theological and philosophical faculties 12, students 3,400, technical colleges 7, students 22,810 The Free University in western Berlin had 2,000 students in 1951 *German Dem Rep* Universities 5, students (1948) 12,269, teaching staff 671 In addition there was the University of Berlin with, in 1948, 5,634 students and 157 professors and lecturers

Agriculture. Main crops ('000 metric tons, 1950, 1951 in brackets) *German Fed Rep* wheat 2,614 (2,949), rye 3,021 (3,034); barley (1951, 1952 in brackets) 1,688 (1,680), oats (1951, 1952 in brackets) 2,835 (2,600), potatoes 27,959 (24,103) *German Dem Rep* (1949, 1950 in brackets) wheat 926 (815), rye 2,025 (2,130), barley 458 (515), oats, incl mixed grains, 1,087 (1,140), potatoes (1950, 1951 in brackets) 14,645 (11,160)

Livestock ('000 head) *German Fed Rep* (1950, 1951 in brackets) cattle 10,883 (11,453), pigs 9,698 (12,054), goats 1,445 (1,347), sheep 2,020 (2,048), horses 1,629 (1,570), poultry 48,064 (50,676), turkeys 464 (416), geese 2,807 (2,419), ducks 988 (902) *German Dem Rep* (1949, 1950 in brackets) cattle 2,879 (3,615), pigs 2,620 (5,705), goats 1,398 (1,644); sheep 723 (1,085), horses 665 (772), poultry 15,764 (19,902)

Production ('000 metric tons) *German Fed Rep* (1951, 1952, six months, in brackets) milk ('000 hl) 147,288 (78,141), butter 276 (138), meat 1,344 (696), sugar, raw, (1950, 1951 in brackets) 1,017 (1,059) *German Dem Rep* Milk (1949) 2,358, butter (1949) 64, meat (1949) 419, sugar, raw, (1950) 833, (1951) 771

Fisheries *German Fed Rep* (total catch, metric tons, Jan -June 1951, Jan -June 1952 in brackets) 189,898 (184,473)

Industry. *German Fed Rep.* Persons employed (Sept 1951) 14,884,500, unemployed (Aug 1952) 1,107,000 Index of industrial production (1948 100), 182 in 1950, 218 in 1951 and 217 in July 1952 Production ('000 metric tons, 1951, 1952, estimate, in brackets) coal 118,920 (121,500), lignite 83,124 (82,301), electricity (million kwh) 51,360, gas (million cu m) 10,752, crude oil 1,368 (1,760), iron ore (25% metal) 12,924, pig iron 10,692 (12,876), steel ingots and castings 13,500 (15,800), copper 141, lead 77, zinc 141, aluminium 74, cement 12,204, building bricks (million) 4,608, motor cars (no) 267,376 (301,139), commercial vehicles (no) 92,724 (267,376), cotton yarn 324, woven cotton fabrics 217, wool yarn 92, rayon filament yarn 54 (21), rayon staple fibre 128 (46) *German Dem Rep* Coal production (1951) *c.* 2 5 million metric tons, crude steel, 1,548,000 tons, lignite, *c* 100 million tons

Finance and Banking. *German Fed. Rep.* (DM million) Budget (1951-52 est) revenue 17,738, expenditure 18,357, (1952-53 est) balanced at 26,000 National income (1950, 1951 in brackets) 71,000 (90,100) Bank deposits (May 1952) 9,430 Currency circulation (June 1951, June 1952 in brackets) 7,780 (9,440) Monetary unit *Deutsche Mark*, official exchange rate (Nov 1952) £1 = DM 11 76, $1 = DM 4 20 *German Dem. Rep* (DM [East] million). Budget. (1950 est) balanced at 13,500, (1951 est) revenue 21,751, expenditure 25,488. Currency circulation (Dec 1951) 3,331 Although theoretically at par with the western mark, the free exchange rate in Berlin was (Dec 1952) DM (West) 1 00 = DM (East) 8 00

Foreign Trade. *German Fed Rep* (DM million 1951; 1952, six months, in brackets) imports 14,678 (7,840), exports 14,536 (8,011) Main sources of imports (1951). U.S 18%, Netherlands 7%, France 5%; Sweden 5%, U K. 3%. Main destination of exports (1951) Netherlands 10%, France 8%, Belgium-Luxembourg 7%, Sweden 7%; U.S. 7%; Switzerland 6%, U K 6% Main imports (1951) cereals 12%, raw cotton 8%, coal and petrol 7% Main exports (1951). machinery and vehicles 27%, coal and coke 11% *German Dem Rep* Imports and exports were together estimated at DM (East) 700 million in 1949 and DM (East) 1,200 in 1950 Nine-tenths of exports were taken by the Soviet Union and the people's democracies (Soviet Union 50%, Poland 23%, Czechoslovakia 10%), 85% of imports were supplied by the U S S R. and its satellites

Transport and Communications. Railways (Dec. 1951). *German Fed Rep.* 30,734 km.; *German Dem Rep* 14,400 km. Railway traffic (*German Fed. Rep* , monthly average, 1951) passenger-km 2,400 million, goods ton-km. 4,588 million, goods carried 21,440,000 tons. Roads (Dec. 1950). *German Fed. Rep* 127,621 km , including 2,116 km of Autobahnen; *German Dem. Rep* 54,900 km Motor vehicles licensed (*German Fed Rep.*, Dec. 1950) 2,155,355, incl. 987,583 motorcycles Shipping (July 1951) 1,037,718 gross registered tons Cargo in western German ports in external trade (monthly average '000 metric tons, June 1951; June 1952 in brackets) loaded 901 (879), unloaded 1,650 (1,980). Telephones (Jan. 1951): *German Fed. Rep.* 2,393,013, *German Dem Rep.* 332,200. Wireless receiving sets (1950): *German Fed Rep* 7,730,000.

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GIBRALTAR. British fortress colony on a peninsula from S W. coast of Spain at western entrance to Mediterranean Area: 2 12 sq.mi. (incl. reclamation). Pop. excl. armed forces (1951 census) 22,848 Language Spanish (50% also speak English). Religion: mainly Roman Catholic Administration: governor; executive council, 4 *ex-officio* and 3 unofficial members, legislative council, 3 *ex-officio*, 2 nominated and 5 elected members Governors (1952) General Sir Kenneth Anderson and (from May 9) Lieut.-Gen Sir Gordon MacMillan.

History. An income tax ordinance was enacted in April 1952 and the tax would be collected for the first time in 1953. Economic conditions continued to be satisfactory, with an increase in the manufacture of tobacco and in the volume of shipping using the port. The Louto high school for girls was reopened in September after the interior of the building had been completely redesigned and modernized. A new junior school was also opened at Grand Parade. The 400-year-old King's chapel, the shrine of all the corps and regiments that took part in the capture and subsequent sieges of the rock, had been damaged by the explosion of the ammunition ship "Bedenham" in 1951 It had now been restored and was reopened by the new year, and in February the governor unveiled two new stained glass windows.

(K G. B.)

Education. Schools (Dec 1951) primary and infant 18 (1,964 pupils), secondary 5 (1,127 pupils)

Finance and Trade. Currency sterling, with local notes Budget (1952 est) revenue £879,127, expenditure £922,950 Foreign trade (1951) imports £6,150,000, exports £838,000

See H W Howes, *The Gibraltarian* (Colombo, 1952)

GIELGUD, (ARTHUR) JOHN, British actor (b. London, April 14, 1904), great-nephew of the actress Ellen Terry, was educated at Westminster school, and studied for the stage under Lady Benson and at the Royal Academy of Dramatic Art, London. He first appeared on the stage, at the Old Vic, Nov. 7, 1921, as the herald in *Henry V.* During his early years he played a variety of parts including Felix in Karel Capek's *The Insect Play* (1923), Romeo in *Romeo and Juliet* (1925), Nicky Lancaster (in succession to Noel Coward) in *The Vortex* (1925), Baron Nikolai in Anton Chekhov's *The Three Sisters* (1926), Ferdinand in *The Tempest* (1926) and Oswald in Ibsen's *Ghosts* (1928). He returned to the Old Vic in 1929 for a Shakespeare season, and in 1930 gave his first performance as John Worthing in Oscar Wilde's *The Importance of Being Earnest*, which he revived in 1939 (twice) and 1942, and in which he toured Canada and the United States in 1947. His first popular success, however, was as Richard II in Gordon Daviot's *Richard of Bordeaux* (1932), which he also produced By now one of the most promising actors on the English stage, he excelled in Shakespeare, to whose plays his sensitive speaking-voice and commanding presence were well adapted. His Hamlet, which by 1950 he had played 500 times, was considered by many critics to be the finest of the half-century. He gave notable performances as Macbeth, King Lear, Benedick and Leontes He also played in Webster (Ferdinand in *The Duchess of Malfi*), Congreve (Valentine in *Love for Love*) and Dostoievsky (Raskolnikov in the dramatized version of *Crime and Punishment*). His best-known modern part was Thomas Mendip in Christopher Fry's *The Lady's*

Not For Burning, which he produced with Esmé Percy, 1949. In Dec. 1952, he commenced a season at the Lyric, Hammersmith, in which he played Mirabell in Congreve's *The Way of the World* and Jaffier in Thomas Otway's *Venice Preserved*. Gielgud also appeared in several films including *The Good Companions* (1932), *The Secret Agent* (1937) and as Disraeli in *The Prime Minister* (1940). In 1952 he went to the U.S. to play Cassius in the Metro-Goldwyn-Mayer production of *Julius Caesar*, thus breaking his long declared avowal not to play Shakespeare on the screen.

GILBERT AND ELLICE ISLANDS: *see* PACIFIC ISLANDS, BRITISH.

GIRL GUIDES: *see* YOUTH ORGANIZATIONS

GLASS. Exporters of glass, particularly those on the continent of Europe, in 1952 felt a recession as a result of the restriction on imports of glass and glassware in various markets. Owing to the limitation of their export markets British manufacturers of lead crystal domestic glassware usually decorated by cutting, engraving and etching had to find a market for 50% of their output and, therefore, made representations to the British government for the elimination of the heavy burden of purchase tax of 100% on their wares. A special concession reducing the tax to 66⅔% was granted, but did not solve the problem. In Australia continental competition and a sales tax of 66⅔% led to the closing of the Australian cut glass industry.

Foreign competition was also felt by the U.S. glass industry and the union representing glass blowers made a strong appeal to congress for further protection for the industry. The American Glassware association lodged an application with the U.S. administration for an increase in the tariff rates on blown glass.

In the case of glass containers, production in the U.S. showed a drop in 1952 of about 8% as compared with the previous year. In Britain, glass container production in 1951 was a record at over 25 million gross, but there was a slight reduction in 1952. Reports were received of decreases in glass container production in other countries.

International collaboration continued and was marked by a meeting of the International Commission on Glass in England in June 1952. It was decided that on the retirement of Professor W. E. S. Turner, Dr B. P. Dudding, also of Great Britain, should be elected president, M. H. Vandecappelle was to follow Dr Dudding as secretary of the commission. The European Glass Manufacturers' federation, representing the glass container industries of western Europe, held its second meeting in June in England under the presidency of Dr. S. B. Bagley and exchanged information on common problems relating to the production of glass containers.

Technical progress continued and new products were marketed. Although trials had been made for many years on glass fibre/resin car bodies, attempts at commercial production were first seen in 1952. It was estimated that the cost of a glass fibre/resin body produced in the United States was $650 as compared with $3,000-$5,000 for the normal type of body. A sailing yacht, the largest glass-hulled boat in Europe, made entirely of glass fibre, was built in Portsmouth and launched in September.

The world shortage of selenium continued, as did the search for substitutes for the decolourizing of glass made in tank furnaces. Every endeavour was made to economize in the use of selenium, and in Britain information on economies was exchanged between manufacturers through the Society of Glass Technology and the department of glass technology of Sheffield university. (D. RR.)

GLIDING. The world gliding championships, held at Madrid, July 3-12, were won by P. A. Wills of Great Britain from a field of 56 representing 18 countries; G. Pierre (France) was second and R. C. Forbes (Great Britain) third. Wills and six others in the first 14 flew the new all-British Slingsby Sky sailplane. The winner of the two-seater competition was L. V. Juez, of Spain. Held concurrently was a congress of the International Scientific and Technical Organization for Soaring Flight (OSTIV). There were no British national championships, but Wills set up a new British altitude record of 22,430 ft. at the Madrid meeting.

Among world records confirmed was that of 395·7 mi. to a declared goal by V. I. Efimenko (U.S.S.R.) in a Soviet A-9. Notable duration flights, each submitted as a world record in its class, were made by French pilots from Alpilles, southern France: C. Atger remained aloft in an Air-100 single-seater for 56 hr. 15 min., and A. Carraz and G. Branswick for 53 hr. 4 min. in a 2-seater C.M.7. L. Edgar and H. Klieforth (U.S.) climbed to a height confirmed as 44,255 ft. (gain 34,427 ft.) from Bishop, California, in a Pratt-Read sailplane.

In Britain gliding continued to be a popular feature of the instruction given to cadets of the Air Training corps and Combined Cadet force, and primary gliders were supplied to several of the larger schools. (G. D. H. L.)

An Australian national distance record of 259 mi. was set up by K. Colyer on Dec. 25, 1951, in an Olympia sailplane, and a goal and return record of 126 mi. by M. Waghorn in an Olympia sailplane.

Several new sailplanes were designed and built during the year: in Poland a "tail-first" sailplane, the I.S.-5 Kaczka, and a two-seater sailplane, the SZD-9 Bocian; in France the Fauvel A.V.36, a tail-less sailplane; in Denmark a 2-seater sailplane, the Polyt III; and in Germany, the Spatz, a single-seater sailplane for advanced soaring training flights.

In the United States, the 19th National Soaring contest was held at Grand Prairie, Texas, Aug. 12-30. Richard Johnson, flying an RJ 5, set up a world speed record of 53 8 m.p.h. for a triangular course and also earned the title of national champion. William Coverdale established a new world "out and return" goal flight record of 268 mi. in a Schweizer 1-23 sailplane.

A new source of atmospheric energy for soaring was revealed by Joachim Kuettner of the Cambridge (Massachusetts) Research centre of the U.S. air force in a paper entitled, "Soaring on Traveling Waves in the Jet Stream".

See Fox Geen, *The A B C of Gliding* (London, 1952). (B. SK.)

GOA: *see* PORTUGUESE OVERSEAS TERRITORIES.

GOLD. Production. No pronounced trend could be observed in the output of the leading gold-producing countries during 1952. The high cost of mining operations and the low price commanded by gold were again obstacles in the way of higher production.

Canada. In 1951, for the first time since the end of World War II, the output of gold showed a slight diminution. The earlier rising trend appeared to be resumed in 1952. During the first seven months of the year extraction was at a rather higher rate than in 1951.

South Africa. During the greater part of 1952 output was running at a higher rate than any recorded since 1946. But the rate for 1952 was still nearly 500,000 oz. short of the postwar record established in 1945.

United States. Production in the United States—the country where the world price of gold is in effect determined—is generally subject to wide fluctuations. During the greater part of 1952 output was running at a substantially lower rate

than that recorded for 1951, which in turn was the lowest since 1946.

Prices and Movements. During the early part of the year the market was weak. Gold was offered by big producers such as South Africa and Australia, as well as by certain countries in the Soviet orbit. At the same time the Bombay market encountered difficulties, and for a time demand from Bombay stopped altogether. On balance the price of gold fell from about $39 to less than $38 per fine ounce, at which point far eastern buyers came in and steadied the price. The rally, however, was not carried through, and in May the price fell below $37. This weakness was probably connected with the success of the loan launched by the French prime minister, A. Pinay. The loan contained a guarantee that its capital value would not fall below its equivalent in French minted gold at its then current price. To the extent that this guarantee appealed to investors, it diminished their demand for physical gold.

WORLD PRODUCTION OF GOLD
(thousands of fine ounces)

	1946	1947	1948	1949	1950	1951
Australia	824	938	891	893	861	896
Belgian Congo	331	301	300	334	339	352
Brazil	175	167	157	183	195	200*
Canada	2,828	3,070	3,530	4,124	4,441	4,393
Chile	231	169	164	179	186	174
Colombia	437	383	335	359	379	431
Gold Coast	586	558	672	677	689	699
India	132	172	180	164	197	226
Mexico	421	465	368	406	408	394
Philippines	64	209	288	334	394	
South Africa	11,927	11,200	11,585	11,705	11,664	11,516
Southern Rhodesia	545	523	514	528	511	487
U.S.S.R.	2,000*	2,000*	2,000*	2,000*	2,000*	2,000*
United States	1,462	2,165	2,025	1,922	2,389	1,895
World Total	23,539	24,005	24,959	25,879	26,579	26,018

* Estimated or provisional figure. SOURCE: Union Corporation, Ltd., London.

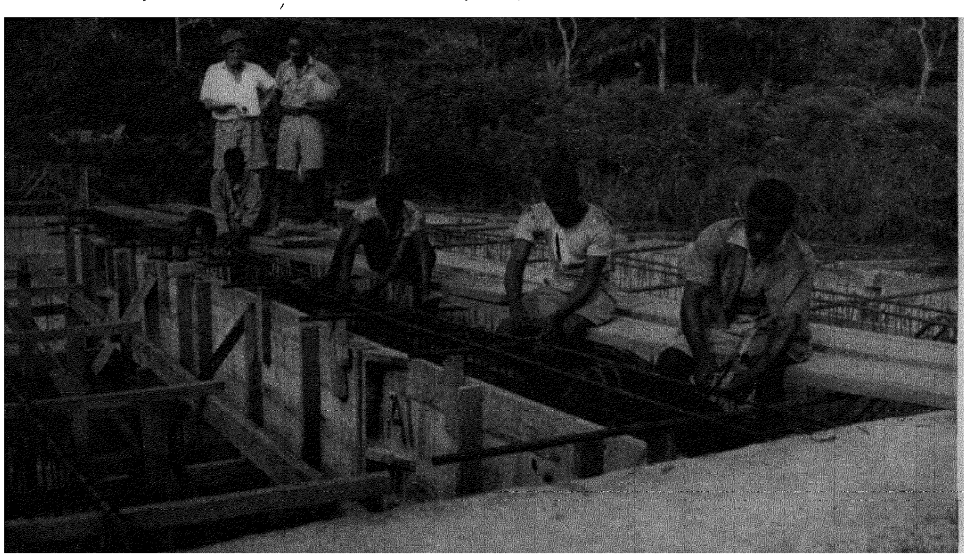
The latter part of the year brought an extension of the development initiated on Sept. 28, 1951, when the International Monetary fund sanctioned the sale of non-monetary gold at premium prices. During the third quarter of 1952 producers in Australia, West Africa, Rhodesia and New Zealand were given permission to sell their entire output on the free market for payment in dollars. The industrial affidavit was waived. A progressive weakness in the free market was the result. Some authorities believed that almost the entire output of new gold was flowing in this direction. Towards the end of the year the price of gold on the continent of Europe and in the far east was approaching the lowest level recorded for many years.

The price of gold was the great problem before producers during the year. At the September meeting of the International Monetary fund, the South African minister of finance pointed out that the price of gold had risen by 36% only, and that of world imports by 250%. He was, however, warned that the U.S. Treasury had no intention of raising the price of gold.

During the year the reserve of gold in the United States increased substantially. Thanks to concerted measures by the member states, the sterling area succeeded in raising its stock of gold and dollars. Gold stocks also increased in France, the Netherlands and Sweden, and, more strikingly, in Belgium. There was a slight reduction in Switzerland, and a very substantial one in Canada. (W. H. JN.)

GOLD COAST. British colonies (Gold Coast colony and Ashanti) and protectorate (Northern Territories) on the west coast of Africa, bounded W. and N. by the French territories of Ivory Coast and Upper Volta, and E. by Togoland under United Kingdom trusteeship. Togoland under U.K. trusteeship, the western part of the former German colony, is administered with Gold Coast (N. part with Northern Territories; S. part with Gold Coast proper).

	Area (sq.mi.)	*Population* (1931 census)	(1948 census)
Gold Coast (incl. protectorate)	78,802	2,869,854	3,735,652
Togoland	13,041	293,724	382,768



Africans working under British engineers on one of the six permanent bridges across rivers in Togoland, part of the continuation of a new motor road from Kadjebi to Papasi.

Total pop. (1951 est.): 4,333,000. Language: tribal tongues; Hausa. Religion: fetishism; Moslem and Christian minorities. Chief towns (pop. 1948 census): Accra (cap., 135,926); Kumasi (78,483); Sekondi-Takoradi (44,557). Administration: governor; prime minister; cabinet, 3 *ex-officio* and 7 other ministers; legislative assembly, 37 members elected by territorial councils (colony proper 11, Ashanti 6, N. Terr. 19, southern Togoland 1), 33 (rural) elected by 2-stage voting (adult suffrage; electoral college), 5 (municipal) elected directly, 6 elected by the chambers of commerce and mines (only 2 have voting rights) and the 3 *ex-officio* ministers. Governor, Sir Charles Noble Arden Arden-Clarke; prime minister, Kwame Nkrumah.

History. The 1952 session of the legislative assembly was opened on Jan. 29 by the governor with a speech prepared by ministers. Local government elections started in April. In February a commission of enquiry under Sir John Maude started an investigation into health needs. In March an amendment of the constitution provided for the replacement of the leader of government business by a prime minister taking precedence next after the governor. Kwame Nkrumah became prime minister on March 21.

It was announced that when proposals for self-government within the Commonwealth of Nations had been formulated by the colony's government after consultation with the chiefs and the people, they would be examined and discussed jointly by the British and Gold Coast governments.

The first meeting of the West African Inter-Territorial conference was held in Accra in July under the chairmanship of the governor of Nigeria. The conference, which consists of 8 members drawn equally from the Nigerian Council of Ministers, the Gold Coast cabinet and the executive councils of Sierra Leone and Gambia, concerned itself mainly with inter-territorial and international collaboration in west African social, economic and research matters. In August the visiting mission of the United Nations Trusteeship council arrived in Togoland.

It was stated in the assembly in April that the " new deal for cocoa " had shown that most farmers were ready to have diseased trees cut out; steps would be taken to deal with the recalcitrant minority. In April a mineral duty ordinance applied the broad principles of gold duty to all minerals, including bauxite which had not been taxed hitherto. The object was to increase the tax paid by the mining industry while continuing to assist lower-grade mines.

In April it was announced that work was to start on a new harbour at Tema, 18 mi. east of Accra. £20·75 million was approved by the assembly for the port and town and ancillary road and rail connections. In May talks took place in London between Gold Coast ministers, representatives of the U.K. government, Aluminium Limited of Montreal and the British Aluminium company, on the Volta river project which Tema harbour would serve. The projected works were a dam, a hydro-electric plant and an aluminium plant. In June further talks in Accra were opened by Oliver Lyttelton, the secretary of state for the colonies. A white paper (Cmd. 8702) was issued in November. It proposed to set up a Preparatory commission to examine the scheme and estimated the total capital expenditure at about £100 million initially, rising ultimately to £144 million. This would be shared among the different parties. (W. H. Is.)

Education. Primary school attendance (1951): 271,784. University college (1951-52): students, 340; professors and lecturers, *c.* 100.

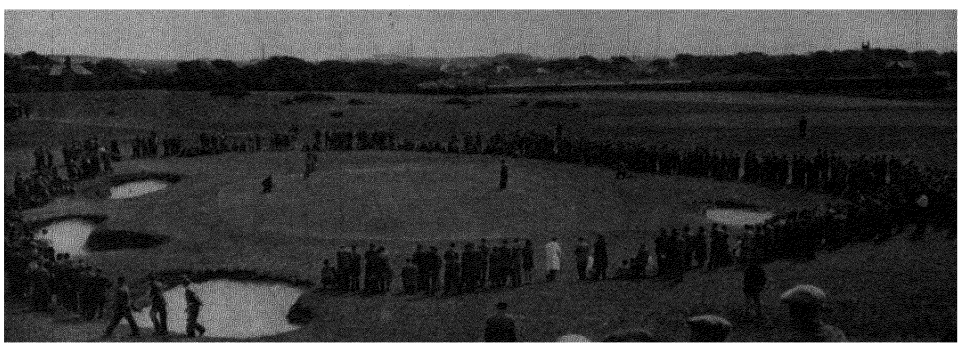
Finance and Trade. Monetary unit: West African pound (£WA 1 = £1 sterling). Budget (1951-52 est.): revenue £20,575,340; expenditure £20,051,670. Foreign trade (1951): imports £63,330,000; exports £91,350,000. Principal exports: cocoa, gold, manganese and timber.

See F. M. Bourret, *The Gold Coast* (Oxford, 1952).

GOLF. The 1952 golf season in Britain had a familiar appearance. A. D. Locke (South Africa) won the open championship at Royal Lytham, Lancashire, finishing one stroke ahead of P. W. Thomson (Australia). This was his third victory in four years and proved that he had few equals in the history of the game. F. Daly, who was third in the open, played almost unbeatable golf in winning the match play championship at Walton Heath, Surrey, for the third time in six years. In one of the rounds against A. Poulton, Daly won at the 30th, a world record for the number of extra holes in a major event.

Perhaps the most memorable occasion of the summer was the first victory by a British team in the women's Curtis cup match against the United States. The U.S. team were defeated after a most exciting match under exacting conditions at Muirfield, East Lothian. But for an extraordinary collapse by one player Britain would have won more easily than 5-4. Despite a formidable U.S. entry for the women's championship at Troon, Ayrshire, only one, Miss M. Murray, reached the semi-final. Two of the British Curtis cup team fought out the longest final in the history of the championship. Miss M. C. Paterson beat Miss F. Stephens, the outstanding British woman golfer of her generation, at the 38th hole.

For the third successive year the amateur championship produced a final between United States golfers. J. Harvie Ward showed great skill in mastering difficult greens at Prestwick, Ayrshire, and easily defeated F. R. Stranahan who had twice previously been champion. D. A. Blair, a Scotsman,



F. R. Stranahan and J. Harvie Ward, both from the United States, in play in the final of the British amateur golf championship at Prestwick, Ayrshire, in June, when Ward won the title.

beat the reigning champions of Britain and the United States, R. D. Chapman and W. B. Maxwell, on the same day and J. B. Carr reached the semi-final for the second time in succession. The English title was won by E. W. Millward who beat T. J. Shorrock, a left-handed player, on the last green at Burnham, Somerset. P. F. Scrutton won the Brabazon 72-hole stroke play tournament at Ganton, Yorkshire.

Three British professionals, H. Weetman, F. Daly and J. Panton, each won two major tournaments but the winner of the Vardon trophy was not decided until the last event of the year—the Masters, which was played at Mere, Cheshire, and won by Weetman. This was a further indication that a new generation of professionals was gradually taking the place of those who had dominated the game since World War II. Throughout the summer the steady improvement of young players—P. Alliss, A. J. Harman, R. P. Mills, B. J. Hunt and others—was an encouraging sign. Harman achieved a notable performance in defeating D. J. Rees and M. Faulkner in the match play championship. Hunt and Alliss won the two assistants' tournaments.

At Worthing in June T. Haliburton set up new British records for low scoring with a first round of 61 and a total for two rounds of 126. In spite of this remarkable start he did not win the event. In a challenge match at Walton Heath in September T. H. Cotton and F. Daly easily defeated A. D. Locke and E. C. Brown. Cotton showed that he was still one of the finest golfers in Britain.

The outstanding golfers in Europe were F. Van Donck (Belgium) and U. Grappasonni (Italy). Van Donck made several moderately successful appearances in Britain and reached the final of the match play championship for the second time. Grappasonni won the Swiss open. The Belgian and German championships were won by A. Cerda (Argentine) and the Italian by E. C. Brown. The French open was won by Locke. Among a team of British women golfers who toured Scandinavia in August Miss J. Bisgood won the Swedish championship and Miss E. Price the Danish. In the autumn Lord Brabazon of Tara became captain of the Royal and Ancient Golf club, St. Andrews.

(P. A. W. T.)

United States. A new international series began at Seattle, Washington, for the America's cup in which amateur teams from the United States, Canada and Mexico took part. The United States representatives included Charles Coe, captain, Frank Stranahan, Harvie Ward, Ken Venturi, Sam Urzetta, Joe Gaghardi and William Campbell, and they won with a point score of 12, Canada being next with 10 while the Mexicans tallied 5 points.

The U.S. national amateur championship was held at the same place. Jack Westland of Everett, Washington, became the oldest player ever to win the championship. At the age of 47 Westland, who had been a finalist also in 1931, emerged as victor in the all-match play event by defeating Al Mengert of Spokane, Washington, 23 years old, by 3 and 2 in the final.

The women's U.S. national amateur championship, held at the Waverley Country club, Portland, Oregon, was won by Mrs. Jacqueline Pung, a 29-year-old Honolulu department store clerk, who beat Shirley McFedters, a 21-year-old university student, from Long Beach, California. She became the first woman from Hawaii to win the trophy.

Julius Boros, a 32-year-old professional from Bridgeport, Connecticut, and Mid Pines club, Southern Pines, North Carolina, won the U.S. open championship at the Northwood Country club with a 72-hole total of 281. Boros later won the "world's" championship at Chicago's Tam O'Shanter course, gaining the $25,000 purse after a play-off with Cary Middlecoff, 68 to 70, after both had tied at 276 for 72 holes.

New Code. The newly adopted rules for the game came into effect on Jan. 1, 1952. The code had previously been agreed upon by representatives of the Royal and Ancient club of St. Andrews and the United States Golf association, with a view to standardizing regulations throughout the world. The most important change was that the stymie was abolished.

(L. A. WN)

GOVERNMENT DEPARTMENTS. The following were the chief officers of the more important public departments in the United Kingdom on Dec 31, 1952.

Admiralty, Board of	
First Lord	J P L Thomas
Parliamentary and Financial Secretary	Commander A H P Noble
Permanent Secretary	Sir John Lang
Agriculture and Fisheries, Ministry of	
Minister	Sir Thomas Dugdale
Parliamentary Secretaries	Lord Carrington
	G R H Nugent
Permanent Secretary	Sir Alan Hitchman
Air Ministry	
Secretary of State	Lord De L'Isle and Dudley
Parliamentary Under Secretary	George Ward
Permanent Under Secretary	Sir James Barnes
Cabinet Office	
Secretary to the Cabinet	Sir Norman Brook
Civil Aviation, Ministry of	
Minister	A T Lennox-Boyd
Parliamentary Secretary	J D Profumo
Permanent Secretary	Sir Arnold Overton
Civil Service Commission	
First Commissioner	A P Sinker
Colonial Office	
Secretary of State	Oliver Lyttelton
Minister of State	Henry Hopkinson
Parliamentary Under Secretary	Earl of Munster
Permanent Under Secretary	Sir Thomas Lloyd
Commonwealth Relations Office	
Secretary of State	Viscount Swinton
Parliamentary Under Secretary	J G Foster
Permanent Under Secretary	Sir Percivale Liesching
Customs and Excise, Board of	
Chairman	Sir William Croft
Defence, Ministry of	
Minister	*Earl Alexander of Tunis
Parliamentary Secretary	Nigel Birch
Permanent Secretary	Sir Harold Parker
Development Commission	
Chairman	Countess of Albemarle
Duchy of Lancaster, Office of the	
Chancellor	Lord Woolton
Education, Ministry of	
Minister	Florence Horsbrugh
Parliamentary Secretary	K W M Pickthorn
Permanent Secretary	G N Flemming
Exchequer and Audit Department	
Comptroller and Auditor-General	Sir Frank Tribe
Food, Ministry of	
Minister	Gwilym Lloyd-George
Parliamentary Secretary	Charles Hill
Permanent Secretary	Sir Henry Hancock
Foreign Office	
Secretary of State	Anthony Eden
Minister of State	Selwyn Lloyd
Parliamentary Under Secretaries	Marquess of Reading
	Anthony Nutting
Permanent Under Secretary	Sir William Strang
Forestry Commission	
Chairman	Earl of Radnor
Fuel and Power, Ministry of	
Minister	Geoffrey Lloyd
Parliamentary Secretary	L W. Joynson-Hicks
Secretary	Sir John Maud
General Register Office	
Registrar-General	George North
Health, Ministry of	
Minister	Iain Macleod
Parliamentary Secretary	Patricia Hornsby-Smith
Permanent Secretary	Sir John Hawton
Health, Welsh Board of	
Chairman	H. H Davies

Home Office	
Secretary of State and Minister for Welsh Affairs	Sir David Maxwell Fyfe
Parliamentary Under Secretary	Sir Hugh Lucas-Tooth
Parliamentary Under Secretary (Welsh Affairs)	Lord Lloyd
Permanent Under Secretary	Sir Frank Newsam
Housing and Local Government, Ministry of	
Minister	Harold Macmillan
Parliamentary Secretary	A E Marples
Permanent Secretary	Sir Thomas Sheepshanks
Information, Central Office of	
Director-General	Sir Robert Fraser
Inland Revenue, Board of	
Chairman	Sir Eric St John Bamford
Labour and National Service, Ministry of	
Minister	Sir Walter Monckton
Parliamentary Secretary	H Watkinson
Permanent Secretary	Sir Godfrey Ince
Law Officers' Department	
Attorney-General	Sir Lionel Heald
Solicitor-General	Sir Reginald Manningham-Buller
Lord Advocate's Department	
Lord Advocate	J L Clyde
Solicitor-General	W R Milligan
Lord Chancellor's Department	
Lord Chancellor	*Lord Simonds
Permanent Secretary	Sir Albert Napier
Lord Privy Seal	
Lord Privy Seal	H F C Crookshank
Materials, Ministry of	
Minister	Sir Arthur Salter
Permanent Secretary	Sir James Helmore
National Debt Office	
Comptroller-General	N E Young
National Insurance, Ministry of	
Minister	Osbert Peake
Parliamentary Secretary	R H Turton
Permanent Secretary	Sir Geoffrey King
Paymaster-General	
Paymaster-General	Lord Cherwell
Pensions, Ministry of	
Minister	D Heathcoat-Amory
Parliamentary Secretary	Brigadier J. G Smyth
Permanent Secretary	Sir Arton Wilson
Post Office	
Postmaster-General	Earl De La Warr
Assistant Postmaster-General	L D Gammans
Director-General	Sir Alexander Little
Prison Commission	
Chairman	L W Fox
Privy Council Office	
Lord President	Marquess of Salisbury
Clerk	F J Fernau
Public Prosecutions, Department of the Director of	
Director	Sir Theobald Mathew
Public Record Office	
Deputy Keeper	Sir Hilary Jenkinson
Royal Mint	
Deputy Master and Comptroller	L L H Thompson
Scientific and Industrial Research, Department of	
Secretary	Sir Ben Lockspeiser
Scottish Office	
Secretary of State	James Stuart
Minister of State	Earl of Home
Parliamentary Under Secretaries	T D Galbraith
	W McNair Snadden
	J Henderson Stewart
Permanent Under Secretary	Sir David Milne
Stationery Office	
Controller	H G G Welch
Supply, Ministry of	
Minister	Duncan Sandys
Parliamentary Secretary	A R. W Low
Permanent Secretary	Sir Archibald Rowlands
Trade, Board of	
President	Peter Thorneycroft
Secretary for Overseas Trade	H R. Mackeson
Parliamentary Secretary	Henry Strauss
Permanent Secretary	Sir Frank Lee
Transport, Fuel and Power, Office of the Secretary of State for the Co-ordination of	
Secretary of State	Lord Leathers
Transport, Ministry of	
Minister	A T Lennox-Boyd
Parliamentary Secretary	J Gurney Braithwaite
Permanent Secretary	Sir Gilmour Jenkins
Treasury	
Prime Minister and First Lord	*Winston S Churchill
Chancellor of the Exchequer	R A Butler
Parliamentary Secretary	P G T Buchan-Hepburn
Financial Secretary	J A Boyd-Carpenter
Economic Secretary	R Maudling
Permanent Secretary	Sir Edward Bridges
War Office	
Secretary of State	Antony Head
Under Secretary and Financial Secretary	J R H Hutchinson
Permanent Under Secretary	Sir George Turner
Works, Ministry of	
Minister	David Eccles
Parliamentary Secretary	Hugh Molson
Permanent Secretary	Sir Harold Emmerson

* *See* separate article

GRAIN CROPS. Growing conditions for small-grain cereals were fairly satisfactory in 1952, except in the southern hemisphere, where severe drought wrought havoc in the 1951-52 Argentine crops. Drought also reduced yields of oats and barley in Europe, especially in Yugoslavia, and dry, hot weather during July cut yields in southern regions of the United States. Rye yields were comparable with those of the previous year except in Canada, where the acreage sown to rye was considerably larger, and in the United States, where it was considerably smaller. The Argentine rye crop was a failure. With the exception of Canada, the areas sown to rye were almost everywhere smaller than in prewar years, this crop having given way very largely to improved, hardy varieties of wheat. Interest in rye was re-awakened, however, by the introduction of heavy yielding tetraploid races in which the chromosome number had been doubled by cochicine treatment. These ryes were grown commercially in Sweden, Germany and Holland. Oats, in general, fared rather worse than in the previous year, due to drought, and only in Canada and the United States were yields considerably higher than in prewar years. Good crops were obtained, however, in Australia and Turkey. Barley, which is less susceptible to drought, did better and yields higher than the previous year and above the prewar average were obtained in France, Greece, Sweden, Denmark, Great Britain, Canada and Australia. The Argentine crop was poor

TABLE I. ESTIMATED AREA AND PRODUCTION OF MAIZE

	Area ('000 ha)		Production ('000 metric tons)	
	1951	1952	1951	1952
Europe (excluding U S S R)	11,100	10,900	17,500	14,200
North and Central America	38,800	39,200	80,100	89,400
Argentina	1,714	1,445	2,670	1,990
Brazil	—	—	6,000	6,300
India	3,219	—	2,017	—
Indonesia	2,000	—	1,600	—
Philippines	1,044	—	762	—
North and Central Africa	—	—	4,780	—
South Africa	2,977	—	2,721	1,717

SOURCE Figures in Tables I, II and III are taken from the F A O *Monthly Bulletin*, data not available or incomplete from the U S S R, eastern Europe and China Figures for the southern hemisphere (excluding rice) relate to the 1950-51 and 1951-52 crops respectively

The 1952 maize crop was rather more seriously affected by drought than the small-grained cereals, since the droughts were more serious in the warmer latitudes. Poor crops were harvested in Argentina and South Africa and in Yugoslavia, but though drought cut yields considerably in southern regions of the United States, the overall American production was good. The use of hybrid maize continued to expand, notably in Spain, Portugal, Portuguese dependencies in Africa and in India. Even in the U.S.S.R., where hybrid maize had been condemned as an application of an erroneous theoretical principle, a reversal in policy was decreed and hybrids were

TABLE II ESTIMATED AREA AND PRODUCTION OF SMALL GRAIN CEREALS, EXCLUDING WHEAT

	Rye				Oats				Barley			
	Area ('000 ha)		Production ('000 metric tons)		Area ('000 ha)		Production ('000 metric tons)		Area ('000 ha)		Production ('000 metric tons)	
	1951	1952	1951	1952	1951	1952	1951	1952	1951	1952	1951	1952
Denmark	119	136	270	335	274	270	847	910	519	565	1,767	1,965
France	461	425	490	465	2,272	2,231	3,689	3,303	1,019	1,081	1,664	1,725
German Federal Republic	1,290	1,356	3,034	3,119	1,131	1,117	2,835	2,616	643	670	1,688	1,680
Great Britain	22	23	37	34	1,156	1,169	2,658	2,637	772	921	1,970	2,234
Spain	622	—	510	493	650	—	540	547	1,554	—	2,143	2,228
Other western European	1,417	—	2,072	—	3,068	—	4,667	—	—	—	—	—
Canada	456	509	448	622	4,814	4,477	7,529	7,313	3,173	3,431	5,339	6,415
United States	701	546	544	400	14,752	15,654	19,108	18,371	3,800	3,329	5,545	4,845
Argentina	985	156	631	87	631	428	748	442	580	351	762	349
Japan	3	2	4	3	78	83	140	130	976	929	2,169	2,166
India	—	—	—	—	—	—	—	—	3,114	3,156	2,376	2,170
Turkey	516	540	600	540	311	325	350	310	2,059	2,230	2,700	2,900
North Africa	—	—	—	—	270	280	220	240	4,875	—	3,050	—
Australia and New Zealand	—	—	—	—	720	980	490	660	460	480	560	540

tried out. Concern was expressed in various countries at the reduction in the content of protein and some vitamins that normally occurs in hybrid maize.

Sorghum, which is more resistant to drought than maize, was, nevertheless, badly affected by the July drought in the southern United States. American sorghum varieties were tested for suitability for African conditions.

TABLE III. ESTIMATED AREA AND PRODUCTION OF RICE

	Area ('000 ha)		Production ('000 metric tons)	
	1951	1952	1951	1952
Europe (excluding U.S.S.R.)	320	340	1,370	1,540
United States	788	792	1,987	2,195
Mexico and Central America	400	400	560	575
Brazil	1,860	—	2,900	—
Other South American	520	—	1,130	—
Burma	3,816	—	5,500	—
China	—	—	48,300	—
Formosa	780	—	1,900	—
India	29,765	—	31,336	—
Indonesia	6,298	—	9,287	—
Japan	3,004	3,009	11,302	12,177
Korea, South	915	—	2,105	—
Pakistan	9,098	—	11,800	—
Philippines	2,466	—	2,831	—
Thailand	5,690	4,860	7,250	7,000
Africa	3,000	—	3,200	—

Rice production continued to cause anxiety since, although higher than in prewar days, it failed to keep pace with population growth in Asia. Good yields were reported from Burma, Ceylon, India and Pakistan. Highly satisfactory crops were also harvested in the U.S. and in Europe, especially in Italy, Spain and Portugal. (*See* also WHEAT.) (R. H. Rt.)

GREAT BRITAIN AND NORTHERN IRELAND, UNITED KINGDOM OF.

An independent kingdom in northwestern Europe, the United Kingdom comprises the main island of Great Britain, numerous smaller islands off the English, Welsh and Scottish coasts, and the six northeastern counties of Ireland. It is a constitutional monarchy, with a sovereign and parliament of two houses, the House of Lords, consisting, on Nov. 12, 1952, of 4 peers of blood royal, 803 hereditary peers (21 dukes, 27 marquesses, 135 earls, 98 viscounts and 518 barons), 26 spiritual peers (2 archbishops and 24 bishops), 16 Scottish representative peers, a number of Irish representative peers (in 1952, 5; vacancies no longer filled) and 10 life peers who have held or who hold high judicial office (2 of these were also hereditary peers); and the House of Commons, numbering 625 members, elected by universal suffrage. Table I shows areas and populations of the component parts of the United Kingdom.

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 (1951 census) 2,652 spoke Gaelic only and 91,630 spoke both languages, in the Isle of Man 528 spoke English and Manx. Religion: 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 (*c.* 250,000); Methodists (1·5 million in 1949); Jews (*c.* 400,000)

Queen, Elizabeth II (*q.v.*); prime minister, Winston S. Churchill (*q.v.*).

TABLE I. THE UNITED KINGDOM

	Area (sq mi)	*Population* (1931 census)	(1951 census)
England	50,327	37,359,045	41,147,938
Wales, incl Monmouthshire (*q.v.*)	8,016	2,593,332	2,596,986
Scotland (*q.v.*)	30,411	4,842,980	5,095,969
Isle of Man (*q.v.*)	221	49,308	55,213
Channel Islands (*q.v.*)	75	93,205	102,770
Great Britain	89,050	44,957,870	48,998,876
Northern Ireland (*q.v.*)	5,451	1,279,745*	1,370,709
United Kingdom	94,501	46,237,615	50,369,585

* 1937 census.

TABLE II. CHIEF TOWNS OF THE UNITED KINGDOM (with population over 200,000)

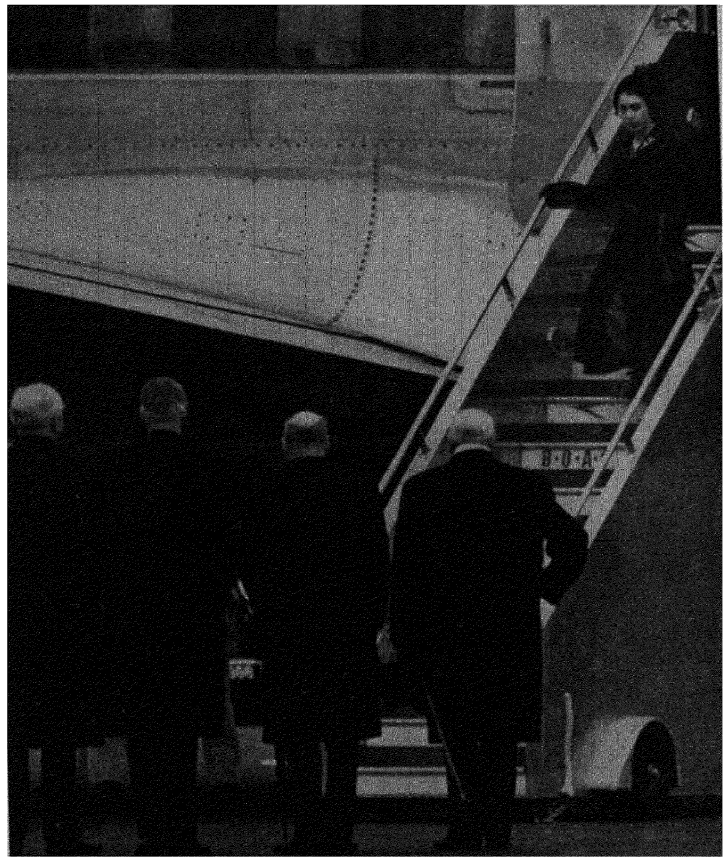
	1931 census	1951 census		1931 census	1951 census
London (Greater)	8,215,673	8,346,137	Nottingham	276,189	306,008
London (County and City)	4,397,003	3,348,336	Kingston-upon-Hull	313,649	299,068
Birmingham	1,002,603	1,112,340	Bradford	298,692	292,394
Glasgow	1,093,337	1,089,555	Newcastle-upon-Tyne	286,255	291,723
Liverpool	856,072	789,532	Leicester	257,718	285,061
Manchester	766,331	703,175	Stoke-on-Trent	276,639	275,095
Sheffield	518,257	512,834	Coventry	178,126	258,211
Leeds	482,827	504,954	Cardiff	226,937	243,627
Edinburgh	439,010	466,770	Portsmouth	252,421	233,464
Belfast	438,086*	443,670	Plymouth	213,038	208,985
Bristol	403,948	442,281			

* 1937 census

History. *Political.* At the year's opening the United Kingdom's capacity to pull out of its financial troubles and at the same time to sustain its full rearmament effort was still in doubt, while the issue of denationalizing the iron and steel and road transport industries promised bitter political conflict. Suddenly, on Feb. 6, King George VI died at Sandringham. Political strife subsided and the British family were united by grief for the loss of a fine king and a good man. The heir to the throne, Princess Elizabeth, was in Kenya with her husband, the Duke of Edinburgh (*q.v.*), at the beginning of a five months' tour of British East Africa, Ceylon, Australia and New Zealand. She flew home immediately, becoming queen at the age of 25. Later in the year she proclaimed that the royal house would continue to be known as the House of Windsor, not Mountbatten, which would have been the case had precedent been observed.



King George VI died on Feb. 6. The next two days and 10 his coffin rested in the Sandringham Church of St. Mary Magdalene; it was taken, on Feb. 11, on a gun carriage to Wolferton station and thence by train to King's Cross station, London. The body was taken to Westminster Hall, where from Feb. 12 until Feb. 15 it lay in state (as shown on this page); 305,806 persons entered Westminster Hall. The funeral was held on Feb. 15 when the coffin was borne from Westminster to Paddington station on a gun carriage drawn by naval ratings. The coffin was taken by train to Windsor, and thence to St. George's Chapel where King George VI was laid to rest.



On Jan. 31, Princess Elizabeth and the Duke of Edinburgh left London airport in the B.O.A.C. Argonaut "Atalanta" on the first stage of a visit to East Africa, Ceylon, Australia and New Zealand. (It had been arranged that King George and Queen Elizabeth would visit Australasia in 1949, but this was postponed because of the king's illness; the visit was later planned for 1952 but because of the king's further illness in 1951 Princess Elizabeth and the Duke of Edinburgh were to undertake the visit).

The departure at London airport was witnessed by King George and Queen Elizabeth and by large crowds. A week later, on Feb. 6, King George VI died in his sleep at Sandringham House and Princess Elizabeth succeeded to the throne as Queen Elizabeth II. With the Duke of Edinburgh she was staying at a hunting lodge near Nyeri, in the foothills of Mount Kenya, which had been given to them as a wedding present by the government and people of Kenya. The visits to Ceylon and Australasia were cancelled, and Queen Elizabeth II and the Duke of Edinburgh flew from Nyeri to Entebbe, Uganda, and from there to London in the "Atalanta".

At 4.30 P.M. on Feb. 7 Queen Elizabeth arrived at London airport and was greeted by the Duke of Gloucester, the prime minister, the leader of the opposition and by other ministers (see photograph on right). She then drove to Clarence House, London. On the following morning she made her declaration of accession before the Privy Council. Later the same day the Queen and the Duke of Edinburgh travelled to Sandringham.

The date of the coronation was fixed for June 2, 1953. In December the queen approved a change in the royal title under which the monarch would be designated "head of the Commonwealth" and the words "other realms and territories" would replace "the British dominions beyond the seas". This did not involve any change in the constitutional position.

TABLE III. ORDER OF SUCCESSION

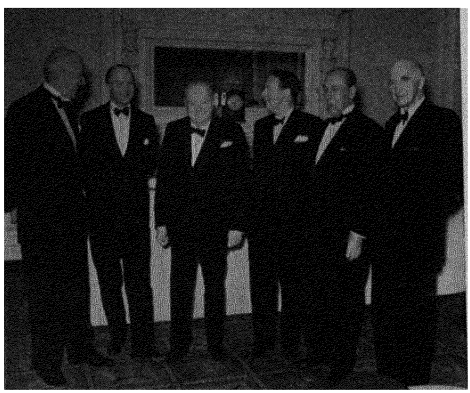
Queen Elizabeth II
1. Duke of Cornwall (b. 1948)
2. Princess Anne (b. 1950)
3. Princess Margaret (b. 1930)
4. Duke of Gloucester (b. 1900)
5. Prince William of Gloucester (b. 1941)
6. Prince Richard of Gloucester (b. 1944)
7. Duke of Kent (b. 1935)
8. Prince Michael of Kent (b. 1942)
9. Princess Alexandra of Kent (b. 1936)
10. Princess Royal (b. 1897)
11. Earl of Harewood (b. 1923)
12. Viscount Lascelles (b. 1950)
13. Hon. Gerald Lascelles (b. 1924)
14. Princess Arthur of Connaught, Duchess of Fife (b. 1891)
15. Lord Carnegie (b. 1929)

The accession of Queen Elizabeth II was hailed as an omen of another Elizabethan age of high achievement and national glory. Soon, however, the nation was to realize that, while these hopes might remain as a spur, achievement was very closely bound up with the realities pressing upon all nations. The hard facts were that the United Kingdom had to play its part in western defence, the Korean war, the Malayan campaign against the Communists and, as the dominant partner in the sterling area, prevent the dollar gap from becoming wider. At the same time the social services and full employment had to be maintained against the pressures of increasing prices and diminishing foreign markets.

On all these issues the two great parties in the state, Conservative and Labour, were substantially in agreement. It is possible that the opposition would have given general assent to the budget and defence proposals had not internal conflict divided the Labour party, the left wing of which was dominated by Aneurin Bevan (*q.v.*). This conflict came into the open during the defence debate in the House of Commons on March 5. Before the debate the Parliamentary Labour party held a meeting as the result of which an official opposition

amendment presented to the House expressed " no confidence in the capacity of Her Majesty's present ministers " to carry out the government's defence programme. The Bevanites within the party had proposed a wider amendment, challenging the scope and priority of the whole rearmament programme. This conflict between the followers of Clement Attlee and Bevan was given plenty of air on platform and in the press. The Bevanites contended that the United Kingdom could not at the same time maintain its exports and undertake the costs of its commitments to western defence, involving two years' conscription and the turnover to armaments of a great part of her engineering and heavy industries. On Sept. 30, at the Labour party conference at Morecambe, the Bevanites increased their strength on the national executive committee from four to six (out of a total of 27). The appearance of triumph came from the defeat of Herbert Morrison and Hugh Dalton. Bevan, however, was elected only to the twelfth and last place in the " shadow cabinet ", comprising leaders of the Labour members in the House of Commons. (*See* POLITICAL PARTIES, BRITISH.)

R. A. Butler's first budget gave more than it took from the people. It proposed certain income tax concessions and higher family allowances and pensions, which would offset cuts in food subsidies; an excess profits levy, higher petrol duty, flat-rate motor car and entertainments duties, the raising of the bank rate to 4% and certain modifications of the purchase tax in favour of the consumer. Drastic reductions were made in expenditure on school building programmes because of steel shortage and the priority given to house building. However, education costs were £17 million higher than in 1951.



Six chancellors of the exchequer seen together in London in May at the jubilee dinner of H.M. Inspectors of Taxes. Left to right, Hugh Dalton (1945-47), R. A. Butler (from 1951), W. Churchill (1924-29), Hugh Gaitskell (1950-51), Viscount Waverley (as Sir John Anderson, 1943-45) and Viscount Simon (as Sir John Simon, 1937-40).

The government took steps to redeem its election promise to build new homes at the rate of 300,000 a year. Harold Macmillan, minister for housing and local government, announced in January that the programme would be freed immediately from artificial restrictions and expanded to the limit of available materials and labour. In December Harold Macmillan announced that 235,000 houses had been completed (30,000 more than in 1951) and 275,000 were being built.

The most contentious political issues were the government's decision to denationalize the iron and steel and road transport industries, nationalized by the Labour government. In opposition, Churchill had warned the government that, if returned to power, the Conservatives would reverse this legislation. Now, Churchill's government was warned by Herbert Morrison that if the Socialists won power they would again nationalize both industries. Although there were precedents, these cat-and-mouse methods were widely criticized as constitutionally unhealthy.

As expected, Churchill took an early opportunity to divest himself of his office of minister of defence and Field Marshal Viscount Alexander of Tunis (*q.v.*), former governor-general of Canada, took over on March 1. He was raised in the peerage to an earldom.

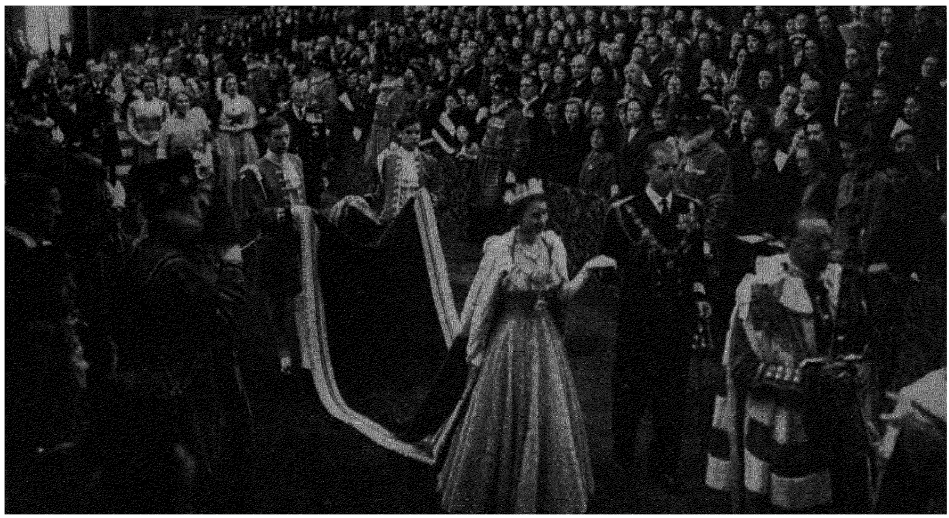
The overseas trade position compelled modifications in the rearmament programme by mid-summer, when it was announced that more of the engineering industries would concentrate upon the export trade rather than on armaments. Churchill announced in December that arms production would be curtailed in accordance with the White Paper on defence published in February which showed that the original £4,700 million arms programme would have to be spread over five instead of three years in order to maintain the United Kingdom's economic stability.

The United States helped by placing armament contracts in the United Kingdom, thus giving these products the quality of exports. The decision to exclude the United Kingdom from the Pacific defence discussions between the United States, Australia and New Zealand created a bad impression. It was felt that the United Kingdom's interests in the far east, present as well as past, and the responsibility it had borne for so long for the defence of Australia and New Zealand, apart from other reasons of common aims in world defence, entitled it to a place in these talks.

Finance and Economics. There was common ground between the political parties on the financial problems and their causes. The United Kingdom had moved from the position of universal provider in manufactures to that of a trader having to meet the fiercest competition. That it could hope to do only in the ranges of high-class goods. Attempts to close the dollar gap by restricting imports were successful. In the first half of 1952 the United Kingdom had a surplus of £24 million in its balance of payments, without reckoning U.S. defence aid; whereas, on the same basis, there had been in the second half of 1951 a deficit of £394 million. But, as Butler said on Oct. 9 at the Conservative party conference at Scarborough, there were many things still to be put right and 1953 would be tougher than 1952. He told the first of a series of conferences with leaders of industry and trade unions that the problem was to raise exports 20% above those of 1951.

Causes for the gold and dollar deficit were stated by the Treasury to be: (1) fall in sterling area earnings in the dollar area; (2) heavy sterling area purchases in the dollar area; and (3) sterling area heavy deficits with the Organization for European Economic Co-operation countries. At the Commonwealth Finance Ministers' conference in London in January the main action decided was tighter credit to combat inflation; efforts to increase export earnings; import cuts; and long-term borrowing " in some countries ". The November conference was concerned with trade between the Commonwealth nations and the finding of an agreed policy for the sterling area. The United Kingdom was concerned to maintain if not to increase its Commonwealth trade, but it had great difficulty in doing this with Australia because of the adverse balance of payments there, and with Canada because the Canadian dollar was the world's hardest currency.

The second conference was attended by Commonwealth prime ministers and ended in December. It decided that the Commonwealth nations should concentrate on extending



Queen Elizabeth II, with the Duke of Edinburgh, in the royal gallery of the House of Lords on her first state opening of parliament, on Nov. 4. This was the first photograph of a state opening of parliament taken in the Palace of Westminster.

their world trade rather than on making major extensions of imperial preference. The United Kingdom agreed to increase the flow of capital for investment to the Commonwealth. This could be done only by sustaining a high level of internal savings and a surplus on overseas account.

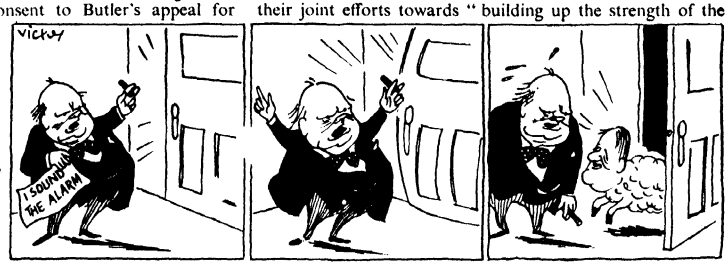
Food and raw material prices began to rise early in the year. These led to higher wage demands with their consequent effect on costs of production. Butler announced emergency measures to save £150 million in external expenditure (bringing the total foreign exchange savings to £500 million since the government came into power). The gold and dollar position improved so that the loss in the second quarter was under $16 million and the drain on the reserves continued to be stemmed for the remainder of the year. The reserves stood at $1,700 million and Churchill claimed that by the end of the year the United Kingdom would be paying her way.

Industry. Production continued to expand, an exception being the cotton industry, and the full employment policy was maintained. A total of 22,221,000 in civil employment was the highest ever. Coal output improved steadily and a total of 220 million tons for the year was expected. Steel production, which had diminished in 1951 by 665,000 tons, recovered to the rate of about 16·5 million tons a year. Industrial disputes tended to have a political purpose, but the Trades Union congress and the unions discouraged this and, indeed, gave general consent to Butler's appeal for moderation in wage claims, which was supported by Hugh Gaitskell, formerly Labour chancellor of the exchequer.

Weekly wage increases for the first eight months were £2,338,900 for 6,101,000 workers, as against £3,713,000 for 8,504,000 workers in the corresponding period of 1951. Included were increases for most civil servants at a cost of about £35 million a year. The miners' claim of 30*s.* a week extra and the engineers for £2 a week were not settled. While the miners' case went automatically to arbitration, the engineers refused arbitration and decided on a national ban on overtime and a strict limitation of piece-work in the engineering, shipbuilding and ship-repairing industries from Oct. 20. This affected 3 million workers and was a threat to the rearmament programme as well as to export trade. On Oct. 8, however, the leaders of the Confederation of Shipbuilding and Engineering unions agreed to postpone indefinitely their ban after an assurance from employers that pay negotiations with the unions would open.

The *Ministry of Labour Gazette* showed the index of wage rates in April to be 128 points, taking June 1947 as 100; while the retail prices index was 137 points on Aug. 12, taking June 17, 1947, as 100, a fall of one point on the previous month. Average weekly earnings for all classes and ages of workers in April were £7 7*s.* 3*d.* compared with £2 13*s.* 3*d.* in Oct. 1938.

Foreign Affairs. Anglo-American understanding remained the basis of U.K. international policy. In January Churchill and Eden visited the United States for talks with President Truman and Dean Acheson. Both countries reaffirmed their joint efforts towards "building up the strength of the



Vicky's cartoon "Wolf! Wolf! Baa, Baa . . . !" in the "News Chronicle" (London) on June 14 following the prime minister's warnings and the chancellor's "mild" pronouncements.

free world"; they agreed on maintenance of the U.S. bases in the United Kingdom; reaffirmed their peaceful intentions and efforts to maintain peace; gave full support to establishing the European Defence community and to promoting stability and peaceful development in the middle east, where it was essential to set up a middle east command. There were discussions on the sharing of scarce materials, and it was agreed that the United States would let the United Kingdom have 1 million tons of steel in 1952, while the United Kingdom would make available to the United States 55·1 million lb. of Canadian aluminium and 20,000 long tons of tin. The United Kingdom also transferred to the United States 20,000 tons of rubber for strategic stockpiling. The understanding between the two nations was summed up by Eden at Columbia university in the sentence, "The contest is between the generous faith of Western civilization and the bitter doctrine of Communist imperialism."

At Ottawa Churchill described N.A.T.O. as the "surest guarantee not only of the prevention of war but of victory should our hopes of preventing war be blasted." He also addressed the U.S. congress.

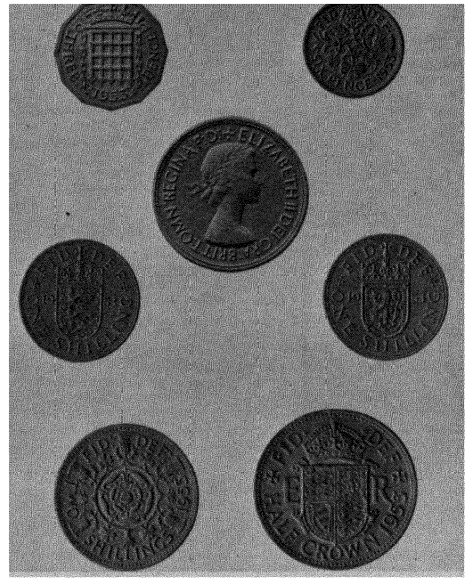
The United Kingdom ratified the Japanese peace treaty, but the Labour party expressed fears of unfair competition with British industries. This fear was found to be justified later in the year when Japanese cotton competed with Lancashire goods in Asia and west Africa. Lancashire called for an understanding between the U.S., Japanese and U.K. exporters and a three-nations conference on the matter was held in Buxton, Derbyshire, in Sept.-Oct. The U.S. and Japanese exporters stood for free unlimited competition against the British contention for the division of markets and no satisfactory arrangement was in sight.

In Europe the United Kingdom found itself in an anomalous position *vis-à-vis* the Council of Europe and the six nations of the European Coal and Steel community. While the movement towards an integration of European states was largely inspired by the United Kingdom the two main British parties agreed that it could not itself become a member of the federation or of the Coal and Steel community, because of its unique position as centre of a world-wide Commonwealth, an Atlantic power and a European power. It was, however, a member of the Council of Europe. In September the Coal and Steel community decided to work out plans for a European political community, taking the task out of the hands of the Council of Europe. The danger to the United Kingdom was that it might be isolated from Europe politically and economically while carrying so much of the burden of Europe's defence. Point was lent to this by the growing influence of Germany in the Coal and Steel community.

The failure to reach decision in the Korean war was a continued irritation, but this was allayed somewhat by the visit of the minister of defence and the minister of state to the supreme commander's headquarters.

The Persian oil position did not improve, although the Truman-Churchill offer to Mohammad Mossadegh provided for arbitration, the lifting of certain financial restrictions and the immediate granting of $10 million from the United States. The proposals were rejected. Previously, in July, the International Court of Justice at The Hague had decided that it was not competent to consider the British charge that Persia had violated international law in nationalizing the Anglo-Iranian Oil company's £500 million Persian properties. At the end of the year Anthony Eden and Dean Acheson were negotiating a plan to release Persian oil for the world's markets in return for compensation by Persia to the Anglo-Iranian Oil company.

The only overt British reaction to the Egyptian constitutional crisis was a reaffirmation of the pledge of self-government and self-determination for the Sudan while offering to include Egypt as an equal partner in the middle east defence system.



The obverse and reverses of the first silver (cupro-nickel) coins of Queen Elizabeth II. The uncrowned effigy was the work of Mrs. Mary Gillick. E. G. Fuller and C. Thomas designed the reverse of the 2s. 6d., 2s. and 6d. pieces, and W. M. Gardner the English and Scottish shillings and the 12-sided 3d. piece.

Anthony Eden visited Marshal Tito in Yugoslavia in September. Tito was invited to visit Britain. These talks were regarded as of the first importance because they indicated the growing disposition of Tito's Yugoslavia to work in harmony with the western world.

Commonwealth. Australia's decision in April to cut imports by £A 500 million to £A 600 million a year was a heavy blow to British trade. Australia had a similar problem to the United Kingdom's in trying to balance its payments.

In Malaya the high commissioner, Sir Henry Gurney, had been assassinated in Oct. 1951 and was succeeded in Feb. 1952 by General Sir Gerald Templer (*q.v.*) who intensified the campaign against the Communists in Malaya.

The plan for a Central African federation involving Northern and Southern Rhodesia and Nyasaland, initiated by the Labour government, was taken a step further by the holding of a London conference, but little progress was made towards allaying the fears of the coloured Africans of Northern Rhodesia and Nyasaland that their interests would not be maintained by federation. In the United Kingdom public feeling hardened against the *apartheid* policy of the South African government and that government's claim for the incorporation of the British high commission territories in the Union. The Mau Mau, a secret society of the Kikuyu tribe in Kenya, began a campaign of terrorism and murder in September. A policy of punishing communities was pursued and Oliver Lyttelton, colonial secretary, visited Kenya in November. The government were strongly criticized by the Labour opposition in the Commons for their handling of the situation. (*See* also COMMOMWEALTH OF NATIONS; GOVERNMENT DEPARTMENTS; NORTHERN IRELAND; SCOTLAND; WALES.) (D. R. P.)

Education (1951 unless otherwise stated) *England and Wales* nursery schools and classes, pupils 82,076, primary schools 23,118, secondary schools 5,016, total primary and secondary pupils 5,764,292, special schools (for physically or mentally handicapped children) 634, pupils 49,054; further education (mainly evening institutes) 11,439, pupils 54,360 full-time and 2,305,037 part-time, full-time teachers (all schools) 224,069 *Scotland* nursery schools and classes, pupils 4,412, primary schools 2,870, pupils 546,336, teachers 17,628, secondary schools 909, pupils 232,897, teachers 12,976, special schools, pupils 10,351, further education (mainly continuation-class centres) 1,494, pupils 272,308 (262,885 part-time, 9,423 full-time) *Northern Ireland* nursery schools 23, pupils 709, primary schools 1,629, pupils 192,736; secondary schools 92, pupils 36,321, special schools, pupils 776 Universities (1951-52) England 13, full-time students 59,814, teaching staff (1950-51) 5,439, Scotland 4, students 15,267, teaching staff 1,380, Wales 1, students 4,874, teaching staff 568, Northern Ireland 1, students 2,277, teaching staff 356 University colleges England 4, full-time students 3,815, teaching staff 438, Wales 1, students 160, teaching staff 12.

Agriculture. Table IV gives the estimated average main crops in four prewar years and the crops of five postwar years

TABLE IV UNITED KINGDOM AGRICULTURAL PRODUCTION ('000 long tons)

	1934-38	1947	1949	1950	1951	1952†
Wheat	1,708	1,667	2,204	2,606	2,316	2,216
Barley	766	1,619	2,129	1,711	1,939	2,199
Oats	1,978	2,509	2,995	2,692	2,616	2,595
Rye	12*	22	54	57	47	52
Mixed corn	75*	386	646	715	804	813
Potatoes	4,911*	7,766	9,035	9,507	8,284	7,266
Sugar	2,191*	2,960	3,962	5,216	4,536	4,327

* 1938 † Estimates

TABLE V LIVESTOCK IN THE UNITED KINGDOM ('000 head at June in each year)

	1939	1947	1949	1950	1951	1952
Cattle	8,872	9,567	10,244	10,620	10,473	10,253
Sheep	26,887	16,713	19,493	20,430	19,984	21,653
Pigs	4,394	1,628	2,823	2,986	3,891	4,923
Poultry	74,357	70,006	95,499	96,109	94,344	94,664

TABLE VI BRITISH FISHERIES TOTAL CATCH*

	1948	1949	1950	1951	1952†
England and Wales					
Total catch ('000 tons)	722 0	708 7	629 9	700 1	493 9
(£'000)	33,807	29,475	26,297	34,476	23,838
Scotland					
Total catch ('000 tons)	320 3	292 9	252 8	244 2	240 3
(£'000)	11,608	10,308	9,405	10,858	8,924

* Excl shell-fish, but incl grey mullet and whitebait † First nine months

Industry. Number of industrial establishments with more than 10 employees (April 1948) 51,040. Distribution of total manpower in 1950, 1951 and 1952 (at June in each year) is given in Table VII

TABLE VII EMPLOYMENT IN GREAT BRITAIN ('000)

	1950	1951	1952
Total working population	23,068	23,332	23,316
Working population (men)	15,832	15,940	15,978
Forces (incl women's services)	690	827	872
Total in civil employment	22,097	22,309	22,141
Agriculture, forestry, fishing	1,197	1,161	1,142
Manufacturing industries	8,540	8,762	8,571
Registered unemployed	274	188	415

TABLE VIII. INDUSTRIAL PRODUCTION IN GREAT BRITAIN

	1938	1950	1951	1952**
Coal (million long tons)	226 99	216 30	222 18	201 39
Gas (million cu.ft)	349,171	542,557	556,920	542,556
Electricity (million kwh)	25,708	56,540	59,964	59,820
Iron ore (metal content 30%, '000 long tons)	11,859	12,936	14,664	16,212
Pig iron ('000 long tons)	6,761	9,485	9,497	10,644
Crude steel ('000 long tons)	10,398	16,293	15,638	13,764
Tractors*	10,029	120,211	140,210	130,044
Motor vehicles {Cars	341,004	522,515	475,919	435,801
Motor vehicles {Commercial	104,124	261,157	257,964	238,224
Locomotives (steam)	717†	808	719	536
Coaches	2,043†	3,320	2,331	1,548
Wagons	29,328†	33,155	41,447	23,292
Aircraft‡	—	517	527	384
Shipbuilding ('000 gross)§	843	1,376	1,343	1,272
Cotton woven cloth (m yd)	3,640¶	2,123	2,199	1,713
Woven wool fabrics (m sq yd)‖	475¶	450	418	370
Rayon filament yarn (m.lb.)	115¶	198	216	154
Rayon staple fibre (m.lb)	34¶	173	167	117

* Wheeled and track-laying, 10 h.p. and over, agricultural and industrial types. † 1935. ‡ Excl. military types except those for export. § Completed merchant vessels, 100 gross tons and over. ‖ Excl. blankets, of which 25 4 million sq yd. were produced in 1951. ¶ 1937. ** Annual estimates.

Foreign Trade. During 1952 there was a decrease of 11% in imports and 1% in United Kingdom exports Allowing for a 14% increase in re-exports, there was a net reduction of £409 million to £788 million in the excess of imports over total exports.

TABLE IX EXTERNAL TRADE OF THE UNITED KINGDOM

	1947	1949	1950	1951	1952
Value (£ million)					
Imports	1,794 5	2,274 7	2,602 9	3,914 4	3,481
Exports	1,138 9	1,786 4	2,170 1	2,580 0	2,550
Re-exports	59 2	58 0	85 0	126 6	144
Trade gap	596 4	429 5	352 2	1,207 7	788
Volume index*					
Imports	100	113 7	114 1	132 1	—
Exports	100	139 6	161 5	166 9	

* Quantities revalued at 1947 prices and expressed as a percentage of the value of imports and exports in 1947

TABLE X DISTRIBUTION OF TOTAL VALUE OF TRADE BY COUNTRY

	% of total imports 1951	1952		% of total exports 1951	1952
United States	10	9	Australia	12	9
Canada	7	9	Union of South Africa	6	6
Australia	6	6	United States	6	6
India	4	3	Canada	5	5
New Zealand	4	5	India	4	4
Sweden	4	3	Ireland	4	4
France	3	2	Sweden	4	3
Netherlands	3	3	France	3	2
Denmark	3	3	Netherlands	3	3
Finland	3	2			

Finance and Banking. Table XI gives the U K budget figures for the years 1947-48 to 1952-53 The fiscal year ends on March 31

TABLE XI UNITED KINGDOM REVENUE AND EXPENDITURE (£ million)

	1947-48 (actual)	1948-49 (actual)	1949-50 (actual)	1950-51 (actual)	1951-52 (actual)	1952-53 (est)
Revenue	3,844 8	4,166 5	3,924 0	3,977 8	4,433 4	4,661 4
Expenditure	3,209 5	3,337 1	3,356 6	3,257 3	4,053 7	4,230 6

National debt (£ million, Sept 30, 1951; Sept 30, 1952, in brackets) 26,476 (26,129) Currency circulation (£ million, Sept 30, 1951, Sept 30, 1952, in brackets) 1,352 3 (1,445 7) Gold and dollar reserves of the sterling area (U S $ million, Sept 30, 1951, Sept 30, 1952, in brackets) 3,269 (1,685)

Transport and Communications. Railways (1950) Great Britain, total first track (all gauges) 19,500 mi., Northern Ireland (1951) 743 mi Passenger journeys originating (British Railways, monthly average, 1951; 1938 in brackets) 83 4 (103 0) million, average receipt per journey 2*s* 2*d* (11½*d*). Goods traffic originating (weekly average 1951, 1938 in brackets) 5 46 (5·10) million tons; net ton-mi 439 million. Roads (1950) Great Britain, 183,821 mi Motor vehicles licensed (Dec 1951) 4,625,000, incl 2,380,000 cars, new registrations (1951) 413,916, incl 137,316 cars Air transport (U K airlines, all services, monthly averages, 1950, 1951 in brackets) mi flown 4,025,000 (4,472,000), passengers carried 96,400 (117,600), passenger-mi 66 2 (89 6) million, freight carried ('000 short ton-mi) 2,047 (2,617), mail carried ('000 short ton-mi) 1,133 (1,450) Shipping merchant vessels on the U K register, 500 gross tons and over (Aug 1952) non-tankers 13,073, tankers 4,428 Shipping movement at U K ports ('000 NRT, monthly average, 1950, 1951 in brackets) entered with cargo, mail only 114 (74), other 4,678 (5,224), entered in ballast with passengers only 277 (369), calling for bunker only 50 (73), other 815 (782) Number of telephone stations (Dec. 1951) 5,650,391 (approx 71% with automatic dial) Wireless receiving sets licensed (Aug 1952). 11,208,000, television licences (Aug 1952) 1,597,900

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GREECE. Kingdom in the southern part of the Balkan peninsula. Area: 51,182 sq.mi. including the Dodecanese islands (1,035 sq.mi.); the mainland accounts for 41,328 sq.mi. and the Aegean islands, of which the largest is Crete (3,235 sq.mi.) for 9,854. Pop.: (1940 census, without the Dodecanese)

7,344,860, (1951 census) 7,603,599. Language (1940 census): Greek 6,794,309 (93%); Turkish (Turks and Turkish-speaking Greeks from Anatolia) 222,968, Macedonian Slav 81,860; Vlach 57,263, Albanian 69,629; Bulgarian (Pomaks) 18,086, etc Religion (1940 census) Greek Orthodox 7,090,192 (96 5%); Roman Catholic 29,136; Gregorian (Armenian) 16,350; Moslem 134,722, Jewish 53,095 (reduced by 1945 to 9,000). Chief towns (1952 census, municipal area only): Athens (cap., 559,250)*, Piraeus (184,980), Salonika or Thessaloniki (216,838), Patras (88,414); Volos (51,134), Larissa (43,163) Ruler, King Paul I, prime ministers in 1952· General Nikolaos Plastiras, (from Oct 10) Demetrios Kioussopoulos and (from Nov. 19) Field Marshal Alexandros Papagos

History. The absence of any guerrilla warfare noted during 1951 continued throughout 1952, but evidence of subversive underground activity came to light following the discovery of two secret hiding-places in the outskirts of Athens containing radio transmitters and other apparatus Police raids on these hiding-places led to the arrest of 29 persons, including 8 women, who appeared before the Athens Permanent Military court in February. Their trial, lasting two weeks, culminated in the sentencing to death of 8 of the accused, including the ring-leader N. Beloyannis who had been sent from abroad by the Communist party, and of another 14 to various terms of imprisonment. The Council of Grace allowed four of the appeals against the death sentence, the other four prisoners were executed on March 30

The Pacification bill, from which nearly 20,000 persons serving prison sentences derived benefit, was ratified by parliament on March 9 By virtue of this measure, all death sentences passed before Oct 31, 1951, were automatically commuted to imprisonment, and the release was authorized, under certain conditions, of persons serving sentences of 10 to 20 years' imprisonment for crimes relating to the Communist rebellions, with the exception of espionage

The decision reached at the N.A T.O. conference at Ottawa in Sept. 1951 to invite Greece and Turkey to adhere to the treaty came into effect in February, in time for Greece to participate in the Lisbon conference as a full member. Panayotis Pipinelis, a diplomat and former foreign minister, was appointed permanent delegate to the N A T O deputies' council. On July 16 it was announced from S.H.A P.E. that the Southern Europe command would consist of two sectors and that the Greek land forces would be included in the Southeastern European sector of this command, with headquarters at Izmir and an advance echelon at Salonika During the year several N.A.T O. military leaders, including General M. Ridgway and Field Marshal Viscount Montgomery, visited Greece and had conversations with Greek military chiefs.

On Sept 21 it was announced from Athens that the period of military service would be reduced to 24 months (in certain cases to 30 months). On April 30 the British Military and Air missions to Greece were withdrawn for reasons of economy.

Foreign Affairs. The improvement in Greco-Yugoslav relations showed further steady progress during the year. A Greek parliamentary delegation comprising 18 deputies of all parties headed by the speaker of the chamber, Demetrios Gondikas, paid a visit to Yugoslavia in July. The visit was returned in August by a 14-member Yugoslav parliamentary delegation headed by the vice-president of the presidium of the Yugoslav People's Assembly, Moša Pijade. A Yugoslav military mission also visited Greece in September " to establish contact with the leaders of the Greek armed forces in order to complete the atmosphere of friendship already existing in other spheres ", in the words of its leader, General Pavle Jakšić. During the year a further two groups of Greek children from among those abducted by the Greek Communist forces during the guerrilla war were repatriated from Yugoslavia with the co-operation of the International Red Cross. On Sept. 15 it was announced that Greece and Yugoslavia had decided to raise their respective legations in Belgrade and Athens to the status of embassies

In January, Sophocles Venizelos, deputy premier and foreign minister, visited Ankara to discuss defence and other matters, and a mixed Greco-Turkish commission was set up to deal with questions of common interest. Adnan Menderes, the Turkish premier, and Fuat Koprulu, foreign minister, paid an official visit to Greece in April, and in June King Paul and Queen Frederika paid a state visit to Turkey, this being the first occasion on which a Greek sovereign had paid an official visit to that country

On July 26 a clash occurred between Greek and Bulgarian patrols on the disputed islet of Gamma in the River Evros (Maritsa) near the point of junction of the Greek, Bulgarian and Turkish frontiers. A U N Balkan Commission Observers' team investigated the incident on the spot and submitted a report to U N , placing responsibility for the incident on Bulgaria but stressing the need for a delimitation of the Greco-Bulgarian frontier on the Evros if fresh incidents of this kind, constituting a threat to Balkan peace, were to be avoided

Home Politics. The coalition government of E.P.E.K. (National Progressives) and Liberals sworn in on Oct. 27, 1951, continued in office, despite its narrow majority. There was steadily growing friction with the main opposition party, the Greek Rally, led by Field Marshal Alexandros Papagos. On March 31 all the Greek Rally deputies withdrew from the chamber in protest against an order of the day issued by Vice-Admiral Alexandros Sakellariou, the minister of defence, which the Rally considered as reflecting on Field Marshal Papagos, and did not return until April 15 after Admiral Sakellariou had resigned from the government and the offending order had been declared annulled by the prime minister.

On March 10 General Plastiras was taken seriously ill with cerebral thrombosis and delegated his powers to Venizelos before leaving for France to undergo treatment. Although not fully cured, he had sufficiently recovered to return to Athens on Aug. 10 and open a full-dress debate in the chamber on the government's economy policy. The debate culminated on Aug. 22 in a vote of confidence for the government by 127 votes to 118. Soon afterwards the government introduced in parliament a new electoral law restoring the majority system in place of the proportional system hitherto in force. The new law was passed by a majority vote after a three-week debate and was signed by the king on Oct. 5. After consulting government and opposition leaders, the king accepted the government's resignation on Oct. 10 and issued a decree dissolving parliament and proclaiming new elections for Nov. 16. On the same day the king appointed a " caretaker " government under Demetrios Kioussopoulos, the attorney-general The general elections resulted in a landslide victory for the Greek Rally, which obtained 239 out of the 300 seats, the remainder going to the E.P.E.K.-Liberal coalition. The new government, under Field Marshal Papagos, was sworn in on Nov. 19. (*See* ELECTIONS.)

The death occurred on Feb. 26 at the age of 75 of General Theodoros Pangalos, who established a dictatorship in Greece in 1926. During the year the deaths also occurred of the poet Sotiris Skipis (aged 71) on Sept 20 and of the author Tinos Moraitinis (aged 80) on Sept. 22. (A. A. P.)

Education. Schools (1951-52). primary 8,613, pupils 921,632, secondary 314, pupils 178,098 Universities 2, professors and lecturers 211, students 6,730, other institutions of higher education 4. Illiteracy (1941) 27% average

* The population of Greater Athens, which included the population of Athens, Piraeus and suburbs was 1,368,142 (1940 census 1,124,109)

Agriculture and Fisheries. Main crops ('000 metric tons, 1951, 1952 in brackets) wheat 930 (900); barley 230 (235); oats 140 (140), rye 48 (55), maize 220; potatoes 413, rice 56 (75), grapes 1,288, citrus fruit 137, tobacco 62; cotton 81, olive oil 160 Livestock ('000 head, Dec. 1950): cattle 700; sheep (Jan 1951) 6,844; pigs 550, horses 238, mules 156; goats (1951) 4,083 Meat production (1951) 75,800 metric tons. Fisheries. total catch (1951), 45,000 metric tons.

Industry. Fuel and power· lignite (1951), 177,010 metric tons, electricity (installed capacity, 1950), 245,000 kw Raw materials ('000 metric tons, 1950, 1951 in brackets) bauxite 49 (163), magnesite 25 (15), iron pyrites 14 (181), chromite 3 (25) Index of industrial production, 1951 (1948=100) general 171, manufacturing industries 175

Finance and Banking (million drachmas) Budget (1951-52 actual) revenue 5,879,000, expenditure 7,459,000, (1952-53 est.) revenue 7,892,000, expenditure 8,291,000 Currency circulation (Aug 1951, Aug. 1952 in brackets) 1,926,192 (2,181,813) Bank deposits (Aug 1951; Aug 1952 in brackets) 1,931,805 (2,083,791) Monetary unit drachma with an exchange rate (Oct 1952) of Dr 42,000 to the pound sterling and Dr 15,000 to the U S dollar.

Foreign Trade (million drachmas, 1951; 1952, six months, in brackets) imports 5,974 (2,722), exports 1,526 (914) Main sources of imports (1951) U S 30%, U K. 15%, Germany 9%; Italy 9% Main destinations of exports. U K. 15%, U.S 14%, Germany 20%, France 11% Main exports (1951-52) tobacco 40%, currants and raisins 20%; olives and olive oil 3%, wines and liquors 3%

Transport and Communications. Roads (1950) 15,486 km Licensed motor vehicles (June 1952) cars 9,337, commercial 21,250 Railways (1950) 2,679 km (1,325 km state-owned), number of locomotives 145 Shipping merchant vessels of 100 gross tons and over (Dec 31, 1951) 331, total tonnage 1,259,365 Telephone subscribers (1951) 81,905 Wireless receiving sets (1951) 225,000

See L S Stavrianos, *Greece American Dilemma and Opportunity* (Chicago, 1952)

GREENLAND. Large island (839,782 sq.mi., *c.* 705,000 sq.mi. covered by an ice cap), a Danish possession in the north Atlantic ocean, northwest of Iceland. Pop (1950 est.): 23,019 distributed in settlements along west coast except for 1,588 on east coast; 941 Europeans (mostly Danes), the rest native Greenlanders (Eskimos). Language: Danish and Eskimo. Religion: Lutheran. Capital, Godthaab (second governor's seat, Godhavn). Governor-general, Poul Hugo Lundsteen.

History. In accordance with the Danish-U.S agreement of April 27, 1951, for the joint defence of Greenland, the U.S. air force in the summer of 1952 pursued the construction of an air base at Thule in the far north of Greenland, work having been started late in the summer of 1951. The base, whose code name was Blue Jay, would be completed in 1953 and its cost was estimated at $300 million.

At a meeting in Copenhagen on June 28 a new company was set up to extract rich mineral deposits, especially of lead, zinc and wolfram, which had been discovered three years previously in the Mesters Vig area of eastern Greenland by the Danish geologist Lauge Koch. The new company, Det Nordiske Mineselskab A/S, had an initial share capital of Kr 15 million, of which the Danish government took over 27 5%, Danish industrial, commercial and banking interests another 27 5%, whilst the remaining 45% were taken over jointly by the Canadian mining concern Frobisher's, Ltd., and the Swedish Boliden Mining company. Investigations revealed lead deposits under the ice of eastern Greenland amounting to 400,000 tons and further drillings were expected to confirm still larger deposits of lead, zinc and wolfram. The first group of 140 scientists, technicians and workers started the preparatory works at Mesters Vig in July, laying out *inter alia* a landing strip for planes. It was stated that the total capital eventually required for the Nordiske Mineselskab would be from Kr. 100 million to Kr. 150 million.

The development of political and social life in Greenland called for abolition of the existing colonial status of the island, and the country council asked in the summer for Greenland representation in the Danish Rigsdag. King Frederik IX of Denmark, accompanied by Queen Ingrid, paid an official visit to Greenland in July, this being the first occasion for over 30 years on which a Danish monarch had visited the colony. (H. LN.)

Education. Schools (1951) infant and primary 163, pupils 4,156, teachers 228, post-primary 3, pupils 71, teachers 12, technical 1, pupils 43, teachers 6, evening schools 15, pupils 500, teachers 48, institutions of higher education 3, students 35, lecturers 6

Agriculture and Fisheries. Sheep (1951) 14,000, hens 2,000, horses 75, goats 40, cattle 50 Fisheries (1951-52) total output 20,000 metric tons, salted cod exported 6,000 metric tons

Mining. Crude cryolite (1951-52) 110,000 metric tons

Finance. Budget (million kroner, 1951-52, 1952-53 in brackets) revenue 22 3 (40 1), expenditure 54 8 (65 9), investments 26 5 (18 0)

Foreign Trade. (1951-52) Imports Kr 36 million, incl from Denmark Kr 32 7 million, exports Kr 49,475,000 incl to Denmark Kr 32,113,000

See *Report on Greenland 1952*, published by the Greenland department (Copenhagen, 1952), Ebbe Munk and K R Therkilsen *Det nye Grønland*, Danish and English text (Copenhagen, 1952)

GRENADA: *see* WINDWARD ISLANDS.

GREYHOUND RACING. Nearly £5,000 in prize money was won in 1952 races by Endless Gossip, champion greyhound in Great Britain, and the first son of a previous winner (Priceless Border) to win the Greyhound Derby. His dam, Narrogar Ann, was also a winner of the race. All three greyhounds were trained by L. Reynolds, of Wembley stadium. Other big race winners in Great Britain and Ireland were Rough Waters (Irish Derby), Funny Worker (St. Leger), Wee Chap (Easter cup) The Laurels and Welsh Derby were won by Endless Gossip. Baron Dhu won the Hobart Thousand in Tasmania. The American Derby was won at Taunton, Massachusetts, by On The Line.

A committee appointed in the Republic of Ireland by the minister of agriculture recommended that greyhound tracks should be allowed to have totalizator betting (illegal on Irish greyhound tracks) The committee also proposed that the government set up a control board to deal with licensing of tracks and the export of greyhounds. (Report of the Advisory Committee on the Greyhound Industry, Dublin.)

In New South Wales and in Great Britain, there was a new rule enforcing withdrawal from a race of any greyhound varying more than 2 lb from its previously recorded weight. The rule had been operated previously by some British tracks but was to be made general by the National Greyhound Racing club for a six months' trial period in 1953. A new track was opened at Devonport, Tasmania, the third in that country. (J. A. Rs)

GROPIUS, WALTER ADOLF GEORG, German-born architect (b Berlin, May 18, 1883), was educated at the Leibnitz, Kaiserin Augusta and Humanistisches *gymnasia*, Berlin, and studied architecture at the Munich and Berlin technical universities After travelling in Spain, Italy and England, he returned to Berlin in 1908 and became chief assistant to Peter Behrens (1868-1940) Gropius began to practise independently in 1910, he soon rejected his master's rather classicizing style for a new translucence and airiness achieved by a lightening and exposure of the steel structure and a bold use of glass. The completely glazed façade and unsupported corners of his Fagus factory (1911), at Alfeld on the Leine, and the glass-enclosed spiral stairways of the model factory at the 1914 *Deutsche Werkbund* exhibition at Cologne, were motifs repeatedly imitated by later architects. Already in 1909-10 he had worked out a scheme for the factory-production of small houses from interchangeable plywood panels: 40 years later he was able to demonstrate this fully in large housing projects for U.S ex-servicemen. After serving with distinction in World War I Gropius succeeded Henry van der Velde in 1918 as director of the Grand Ducal Academy of Art and the Grand Ducal Saxon School of Applied Arts, Weimar, which he reorganized and combined in 1919 as the *Staatliches Bauhaus*: however, increasing local opposition to what was called "architectural

socialism" led in 1926 to the school's transfer to a new building, designed by Gropius, at Dessau. At the Bauhaus Gropius gathered together leading architects, painters and designers of the modern movement—Paul Klee, Wassily Kandinsky, Marcel Breuer, László Moholy-Nagy and others—to teach the building arts through a student-apprenticeship community system, under his direction the school became the main generator of architectural ideas in Europe. In 1928 Gropius returned to private practice in Berlin, but in 1934, following the Nazis' rise to power, he left Germany for England. There, with Maxwell Fry, he designed houses in London and Kent, and the influential Impington Village college, Cambridgeshire (1936-37). He settled in the United States in 1937, founded the New Bauhaus, Chicago (later called Chicago school of Design) with Moholy-Nagy and with Breuer designed residential and college buildings as well as the Pennsylvania building for the New York World's fair (1939). In 1938 he was appointed senior professor of architecture at the Harvard university graduate school of design, where he introduced Bauhaus teaching methods. The Harvard Graduate centre (1950) was his most important design in the U.S. Gropius' writings included *Internazionale Architektur* (1925), *The New Architecture and the Bauhaus* (trans. T. Morton Shand, 1935); *The Bauhaus—1919-28* (1939); and *Rebuilding Our Communities* (1946). A retrospective exhibition on his work was held at the Boston Institute of Contemporary Arts in Jan. 1952

See G. C. Argan, *Walter Gropius e la Bauhaus* (Turin, 1951), W. G. Holford, "Gropius 1952", *Architectural Review* 112: 667 (London, July 1952)

GUADELOUPE. French overseas *département*: two main and five smaller islands. Total area: 686 sq.mi. Pop.: (1946 census) 278,464; (1951 est.) 278,864, mainly coloured (Negro or mixed). Language: French *patois*. Religion: Roman Catholic. Chief towns (pop., 1946 census): Basse-Terre (cap., 10,086); Pointe-à-Pitre (41,823). Prefect, Jacques Brunel.

History. Two Radicals were elected to the Senate in May 1952, defeating Socialist and Communist candidates. A series of strikes in January was accompanied by a certain amount of disorder.

Pointe-à-Pitre airport was completed, it had 1,600 m. of runway. Runways were also being constructed on Marie Galante, Saint-Martin and Saint-Barthélémy. The quays of Pointe-à-Pitre were improved and the water depth brought up to 10 m. A thermo-electric power station was inaugurated and a school of agriculture was opened. A circular road was being made. Irrigation works were begun at La Grande Terre. Vats were set up for storing rum.

Education. All children of school age receive primary education, two *lycées*.

Transport and Communications. Ships entered (1951), 593.

Foreign Trade (1951, million francs): Imports 9,146 (incl. 7,800 from the French Union), exports 8,100 (incl. 7,800 to the French Union), mainly sugar (3,830), bananas (2,400), rum (1,136). (HU. DE.)

GUAM: *see* PACIFIC ISLANDS, U.S.

GUATEMALA. Central American republic bounded W. and N. by Mexico, E. by British Honduras, the Caribbean sea, Honduras and El Salvador and S. by the Pacific ocean. Area: 45,452 sq.mi. Pop. (1950 census, prelim. fig.): 2,787,030, 66% pure Indians descending from Maya or Quiché strains, 33% mixed Indian and Spanish (*ladinos*) and Indian and Negro blood, and 1% white. Language: Spanish, but many speak only Indian dialects (numbering at least 18). Religion: predominantly Roman Catholic. Chief towns (pop., 1950 census): Guatemala city (cap., 293,998); Quezaltenango (36,209). President, Lieut.-Colonel Jacopo Arbenz Guzmán.

History. Charges of increasingly Communist orientation continued to be made against the Arbenz administration as U.S. firms doing business in Guatemala faced renewed difficulties in 1952. The United Fruit company was ordered in January to pay $500,000 in back wages to 3,700 employees who had been laid off after a hurricane had devastated the company's Pacific coast banana plantations in Sept. 1951. The order stipulated that the United Fruit company's $25 million investments in Guatemala would be "embargoed" if the measure were not obeyed. The company challenged the ruling, and on Feb. 19 a labour court set March 5 as the date for auctioning off a portion of United Fruit's properties in the country. The next day, two U.S. representatives from Massachusetts, John W. McCormack, Democrat, and Joseph W. Martin, jr., Republican, issued a joint statement asserting that Guatemala had become a "beachhead" of Communism; Martin pointed to the United Fruit company's predicament as illustrative of the ruthless nature of the Communist attack. On March 3, fires ravaged the banana fields at Tiquisate, virtually completing the ruin of the company's plantations on the Pacific coast. At length, the Arbenz government cancelled the scheduled auction after United Fruit agreed to (1) pay $650,000 in back wages, (2) extend its union contract for three years, (3) reinstate laid-off workers and (4) rehabilitate the damaged plantations. The company resumed operations in Guatemala on March 17. A month later, the Pan-American Life Insurance company, a New Orleans corporation which had been doing business in the country for 30 years, withdrew from Guatemala, alleging its inability to comply with the government's restrictive insurance law. An agrarian reform law designed to subdivide landed estates larger than 225 ac. entered into force on June 18. The measure provided for the reimbursement of dispossessed landowners during a 25-year period.

Meanwhile, illegal anti-Communist demonstrations were held throughout the country on March 23, an estimated 30,000 participated in the meetings at Guatemala City alone. On April 10 two trade unions, representing about 80,000 workers, announced that they would not take part in the May 1 labour day rally, charging that the demonstration would be Communist-inspired. Luis Arenas and Luis Vallardes, two anti-Communist trade union leaders, were arrested on Oct. 29 for allegedly insulting President Arbenz. (G. I. B.)

Education. Schools (1949-50) primary 3,397, teachers 9,772, pupils 164,815, secondary and other, teachers 1,126, pupils 57,708. University of Guatemala (1948) students 1,719.

Agriculture. Production of coffee, 1951-52 1,100,000 bags of 132 lb each, exports 900,000 bags, (1950-51 exports 818,244 bags). Banana exports (1951) 5,264,831 stems. Other crops (1950-51 est.) million lb.): maize 710, beans 130, abaca 8.7, rice 15; lint cotton 2.9. Sugar production (1950-51, short tons) white 27,375; *panela* 28,893. Livestock (1950 census) cattle 902,915, pigs 415,295, sheep 711,579, horses 182,580. Essential oil exports, 1951 (largely citronella and lemon grass) 1,500,000 lb. Chicle exports: 2,630,000 lb.

Finance (million quetzals). Budget: (1951-52) balanced at 59.7; (1952-53 est.) balanced at 63.4. Internal debt (Dec. 31, 1951): 18.9. Currency in circulation (July 31, 1952): 40.4; gold reserves 27.2. Monetary unit, *quetzal*, at par with the U.S. dollar.

Transport and Communications. Railways (1950). 608 mi., passengers carried 3,826,700. Highways (1949) 4,800 mi.

GUIANA, BRITISH: *see* BRITISH GUIANA.

GUIANA, DUTCH (Surinam): *see* NETHERLANDS OVERSEAS TERRITORIES.

GUIANA, FRENCH: *see* FRENCH GUIANA.

GUINEA: *see* FRENCH WEST AFRICA; PORTUGUESE OVERSEAS TERRITORIES; SPANISH COLONIAL EMPIRE.

GYMNASTICS. The growth of interest in gymnastics is shown by the increase in the number of countries competing in the Olympic Games at Helsinki, Finland, in 1952, as compared with those represented at the games in 1948. In 1948 there were 16 men's and 11 women's teams, and in 1952 there were 28 men's teams (or representatives) and 17 women's teams. The standard of work showed enormous improvement, and the U.S.S.R. well deserved their first place in both the men's and women's competitions

The national championships for both men and women were held in the north of England in 1952 The men's championships took place in Sunderland and the women's in Bingley, Yorkshire. Great interest was shown in these championships and the work was of a high standard. The winners were: J. A. Whitford, of Swansea (men), M Hirst, of Leeds (women); the runners-up were, respectively, K. F Buffin, of Cardiff, and C. Davies, of Swansea. In the gymnastic team championship London carried the men's honours and Swansea the women's.

The death occurred in 1952 of Miss W. M. Taylor of Great Britain. Not only was she the leading personality in women's gymnastics in Great Britain but she was also the president of the Women's Technical committee of the International Federation of Gymnastics (*See* also OLYMPIC GAMES.) (E. A Ss)

GYNAECOLOGY AND OBSTETRICS. The problem of toxaemia of pregnancy continued to challenge obstetricians. Although the cause of this group of disorders remained unknown, outstandingly important work appeared from Sydney, Australia, on the prevention of the severest forms of this disease, namely eclampsia and the pre-eclamptic state. R H. J. Hamlin (1952) published work showing that at the Women's hospital in Sydney the incidence of eclampsia had been reduced from 1 in 350 between 1935 and 1947 to 1 in 7,000 between 1948 and 1951. This had been done by a system of diet and weight control during mid-pregnancy; a gain of more than eight pounds in body weight between the 20th and 30th week of pregnancy was regarded as abnormal and a warning that the physiology of pregnancy was disturbed. After the 30th week a close watch was kept for early signs of oedema and of slight rises of blood pressure. Patients showing either of these signs were put immediately under strict supervision This work confirmed the observations made in Germany after World War I and in Holland in 1945 that in conditions of starvation, eclampsia tended to disappear. If eclampsia could be controlled in this way on a world basis, another important cause of maternal and infant mortality would have been conquered.

Heart disease is another menace of pregnant women which stands high in the list of causes of maternal mortality. It now seemed likely that the outlook for this group of women might be totally changed by the development of cardiac surgery. R. C. Brock (1952) showed in a small group of patients that it was now possible to operate on the heart even during pregnancy and to cure heart disease, restoring the patients to complete normality.

The problem of long labour received considerable attention. Two main aspects were discussed, the question of abnormal uterine action and that of disproportion between the mother's pelvis and the skull of the child.

W. C. W. Nixon (1951) in the first De Lee Memorial lecture considered that inertia of the uterus leading to long labour constituted a great hazard to mother and child. Various methods of treatment were available but Caesarean section should be used with greater freedom in this type of case.

At the 13th British Congress of Obstetrics and Gynaecology held in Leeds in July 1952, Nixon and other speakers contributed to a discussion on the subject of abnormal intrauterine action in labour. The discussion ranged over various topics from the physiology of the uterus to the use of new methods of measuring uterine action in labour and the use of new methods of treatment such as giving extracts of the posterior pituitary by the intravenous drip method and the use of the new drug dihydroergotamine. The importance of disproportion in long labour was stressed. The radiologic estimation of pelvic capacity was reviewed by A. Weinberg (1952) who concluded that it had now become possible to assess the capacity of the pelvis by means of X-rays with sufficient accuracy to assist the clinician.

Ethel C. Dunham (1952) produced an important survey of premature birth as a world problem based on a report of the Expert Group of Prematurity of the World Health organization. This report made recommendations on many subjects, including employment of pregnant women in heavy industry, efficient registration of births and accurate statistics of infant mortality, hospital care, home care, educational problems, research and an information service

The British congress also considered the question of stress incontinence, this is a distressing condition affecting mainly women who have had children, in which leaking of urine occurs on exertion, straining, coughing or sneezing In recent years this condition has received a great deal of attention. Operations were devised by many surgeons including T. Millin and A H. Aldridge. These two surgeons advocated the insertion of facial slings beneath the neck of the bladder. In 1951 J H. Mulvaney described a simple operation of vesicourethrolysis which consisted simply in freeing the bladder and urethra from the surrounding tissues.

T. N. A. Jeffcoate and H. Roberts (1952) demonstrated the mechanism of stress incontinence by means of X-rays The essential point appeared to be the obliteration of the posterior urethro-vesical angle so that the bladder and urethra were in line. No definite conclusion could yet be reached as to the most effective cure for stress incontinence but it seemed established that the normal relationship between the bladder and the urethra must be restored.

A Decker (1952) developed to a great degree of accuracy the method of culdoscopy. This consisted in examining the internal female pelvic organs by means of a telescopic instrument which was passed into the abdominal cavity through the posterior wall of the vagina. This could be done under local analgesia and might obviate the need for an abdominal operation Decker (1951) further developed the method to the study of blocking of the Fallopian tubes in cases of infertility.

The question of female pelvic tuberculosis remained an important problem in modern gynaecology Many unsuspected cases were being discovered as a result of fuller investigation of sterility and other gynaecological symptoms. M. Haines (1952) stressed the importance of animal inoculation in diagnosis. A. M. Sutherland (1952) had encouraging results with treatment with streptomycin and para-aminosalicylic acid. The new drugs such as isoniasid and other nicotinic acid derivatives were being used in Great Britain and the United States but it was too early to say what results were being achieved. Rabau of Tel Aviv had the honour of being the first gynaecologist to report a pregnancy in a woman cured of endometrial tuberculosis by streptomycin

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HAITI. West Indian republic forming the western third of the island of Haiti or Hispaniola. Area: 10,748 sq.mi. Pop.: (1950 census) 3,111,973, of whom 95% are Negro and the remainder—the ruling class—almost exclusively

mulatto. Language: French, although a patois called *créole* is widely spoken. Religion: Roman Catholic, but voodooism is practised in rural areas. Chief towns (pop., 1950 census): Port-au-Prince (cap., 142,840); Cap Haitien (24,975); Gonaïves (13,534). President, Paul E. Magloire.

History. The foreign and domestic relations of Haiti in 1952 were unruffled. The economic factors were unchanged. World demand for Haiti's principal products showed no decline; most of the sugar, coffee, sisal and hardwoods produced went abroad. The reduction in public debt continued, notwithstanding an expansion in the programme of road construction and irrigation of the Artibonite valley. Price levels slowly rose during 1952, but employment remained high, and aggregate trade appeared likely to exceed any previous year in the century.

The improvement of harbour facilities and inland transport continued to preoccupy the government. Experts from the staff of the United Nations, as well as others, were being sought to round out technical programmes, particularly in the promotion of new industries and the training of students who could be used in administrative and supervisory work of the general programme designed to lift the national standard of living. In the field of education, important additions were made to the secondary and vocational schools, particularly in the field of agronomy. (C. McG.)

Education. Schools (1949) primary 1,060, pupils 87,000; secondary 21, pupils 10,000, teachers' colleges 2. Higher education was available at the national law and medical schools, the Central School of Agriculture and the University of Haiti.

Agriculture. Exports, 1950-51, short tons: coffee 28,026, sugar 37,927, sisal 34,452, cacao 2,177, raw cotton 585. Essential oils exported, 1950-51: vetiver 45,598 lb.; lemon grass 95,769 lb., oil of lemon 18,400 lb. Livestock (1945): cattle 200,250, sheep 13,800, goats 1,010,000.

Industry. The only important sugar mill, near Port-au-Prince, produced 62,247 short tons of sugar and 3,027,625 gal. of molasses in 1951.

Finance (million gourdes): Budget: (1950-51 actual) revenue 125.2, expenditure 121·8; (1951-52 est.) balanced at 124.4. Capital budget, to finance a five-year plan of economic development 200.0. Public debt (Feb. 28, 1952): 31.1. Monetary unit: *gourde*, with an exchange rate of 5 gourdes to the U.S. dollar, and 14 gourdes to the pound sterling.

Foreign Trade. (1950-51, million gourdes.) Exports 248, imports 222.5. Chief exports: coffee 52%; sisal 24%; sugar 14%. Chief imports: cotton manufactures 23%, wheat flour 9%, machinery and apparatus 9%, iron and steel and products 8%. Main sources of imports: U.S. 73%, Canada 5%, U.K. 5%. Main destinations of exports: U.S. 59%, Belgium 18%, Netherlands Antilles 7%.

Transport and Communications. (Jan. 1, 1950) roads, 2,000 mi., of which 245 mi. were surfaced; public railways 88 mi.; industrial lines 75 mi.

HALEY, SIR WILLIAM JOHN, British journalist (b. Jersey, May 24, 1901), was educated at Victoria college, Jersey. He began his journalistic career with an unpaid job on the *Jersey Morning News*. Later he joined the staff of *The Times* as a foreign-news telephonist and also contributed articles to the *Manchester Evening News*, whose editor he had met while working in Brussels. In 1921 he married Edith Susie Gibbons, secretary to the editor of *The Times*. He became a reporter on the *Manchester Evening News* in 1922 and eight years later became its director. During World War II he was a director of Reuters, on whose behalf he undertook missions to the United States and Australia. At about the same time he became joint managing director of the *Manchester Guardian*. In 1944 he was appointed director-general of the British Broadcasting corporation as successor to Lord Reith, and in 1946 received recognition for his services when he was created K.C.M.G. During his years at the B.B.C. Sir William Haley strongly influenced its growth as a highly efficient public service and when, on June 6, 1952, it was announced that he was to become editor of *The Times* in succession to W. F. Casey, he was released from its service with regret. He went to Printing House square on Oct. 1.

HARBOURS: *see* DOCKS AND HARBOURS.

HAUTE VOLTA: *see* FRENCH WEST AFRICA.

HAWAII. A United States territory of eight large islands and numerous islets in the Pacific. From southeast to northwest the islands are Hawaii (4,021 sq.mi.), Kahoolawe, Maui, Lanai, Molokai, Oahu, Kauai and Niihau; stretching northward beyond Niihau for more than 1,100 mi. is an archipelago of rocks, reefs and shoals which includes Midway. Total area 6,433 sq.mi. Pop. (1952): 465,325; cosmopolitan, the Japanese and Caucasian groups being the largest. Principal town: Honolulu, on Oahu island (cap., pop. 232,553). Governor, Oren E. Long.

History. A bill to confer statehood on Hawaii was shelved at the second session of the 82nd U.S. congress during 1952. On April 1 a bill of the congress was approved permitting women to serve on juries in the territory. Joseph R. Farrington became Hawaii's delegate to congress in 1952. (O. E. L.)

Education (1952-52). Schools public (state) 194, pupils 97,240, teachers 3,952; private 106, pupils 24,398, teachers 1,122. Public instruction appropriation $12,895,450.

Production (1951). Sugar 995,759 tons (value $136,052,000), pineapples (packed fruit and juice) 26,075,606 cases (value $100 million), coffee (1951-52) *c.* 6 million lb (value $2.8 million). Fisheries total catch, 19,219,884 lb (value $3,963,614).

Finance and Banking (1951-52). Territorial government cost payments $75,889,017, territorial tax collections $76,683,076, federal internal revenue collections $134,608,840, territorial bonded indebtedness $42.8 million. Banks (1951) clearings $2,081,695,082, deposits $376,329,870, assets $411,938,043.

Transport and Communications. Roads *c.* 2,180 mi., motor vehicles (Dec. 31, 1951) 155,605. Shipping (fiscal year 1951) vessels calling (Honolulu) 941, overseas cargo, incoming 2,338,093 tons, outgoing 660,671 tons, passengers, incoming 24,708, outgoing 17,936. Aviation: planes calling (1951, Honolulu International airport) 240,396; number of other airports (1952) 16. Telephones (Dec. 31, 1951) 109,329. Commercial radio stations 12.

HEART DISEASES. In the autumn of 1952, the Fourth Inter-American Congress of Cardiology was held in Buenos Aires. There were 319 papers presented, many of them showing the active research taking place in Latin America. Cardiac conditions peculiar to these countries were extensively studied, such as the effects of Chagas disease in Brazil and of living at high altitudes in the Andes, as well as the fundamental mechanisms of atherosclerosis and hypertension. The first congress of the European Society of Cardiology was held in London.

The relief of sufferers from cyanotic congenital heart disease by surgery began to show interesting results, such as the ability of women so treated to bear normal children, even after they had had congenitally deformed children from pregnancies occurring when they were cyanotic before operation.

R. C. Brock of London reported an impressive series of 240 operations for congenital pulmonic stenosis, and repair of interauricular septal defects was successfully accomplished by a new technique.

Rheumatic heart disease became related once more to an allergic status by the finding of analogous leucocyte-platelet thrombi in the small blood vessels in active rheumatic fever, similar to those in the skin lesions in the Arthus and Schwartzman phenomena.

Surgical opening of the stenosed mitral valve of chronic rheumatic heart disease became widely employed throughout the world with improved mortality figures, as well as less danger from operative embolism by such procedures as allowing free bleeding from the auricle and intermittent occlusion of the circulation to the brain during manipulation of the auricle and mitral valve.

Hypertension was studied in many centres throughout the

world. The major therapy was medical, with such drugs as protoveratrine, hexamethonium, pentamethonium, l-hydrazinophthalazine, and Rauwolfia Serpentina

Coronary artery disease, the most common manifestation of atherosis, was investigated with increasing vigour. Previous observations on the ability of heparin to clear the milkiness of blood plasma occurring after a fat meal led to its therapeutic use in patients with angina pectoris with inconsistent results. However, it was shown that blood plasma takes part in the complex action of a "tissue factor", which acting with heparin produces a "clearing factor", which in turn acts with a coprotein to reduce the turbidity of plasma and the concentration of the special lipoproteins considered significant in the production of atherosclerosis. It was of interest to note that the rat, the animal notably free from atheroma, was the most responsive of experimental animals in the ability to produce this "clearing factor" with heparin.

Emphasis remained on abnormal fat metabolism as the cause of human atherosclerosis, although the significance of ingestion versus synthesis of fats remained unsolved. A. Keys and his co-workers in a study in Italy added more information about the influence of diet. In several groups surveyed in the United States, England and Denmark it had been shown that in 1949 fat in the diet supplied 38%, 32% and 34% of calories, respectively, and that serum cholesterol rose steadily with age. In Naples, where fat furnished only 20% of total calories, the serum cholesterol in a group of normal men rose with age to a level in the 1930s comparable with that in the previous groups, but thereafter remained at the same height and did not reach the levels characteristic of those in the age periods of greatest incidence or coronary disease in the other countries mentioned. Italy was said to be relatively freer of coronary disease. (*See* also BLOOD, DISEASES OF THE)

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(H. B. S.)

HEAVY ENGINEERING. The marked deceleration in the initiation of major civil engineering schemes and related works involving high capital expenditure, which was noted towards the end of 1951, continued during 1952 and, in consequence, the completions of notable projects of this type in the year were infrequent. Concentration on the provision of the necessary plant for the production of greater volumes of armaments directed attention more particularly to mechanical engineering, and the re-entry of the German Federal Republic into the field of heavy industry was one of the notable features of the year. As a result of this position significant advances were made in the production of machine tools of all kinds, particularly in those of the heaviest classes which in previous years had been difficult to obtain. One of the dominant impressions of the year, in fact, was that the relative decline in works of a capital nature was balanced by a significant growth in the machinery manufacturing potential of Europe as a whole. While partly the result of political stimuli, it also signalized the imminent satisfaction of the inflated postwar demand and the approach of a more highly-competitive situation in all sections of industry.

Among the major civil engineering projects in which the year saw the completion of an important stage was the Donzère-Mondragon section of the great hydro-electric development of the River Rhône in France. This second instalment of the plan differed substantially from the Génissiat station, opened three years before, which comprised a mountain-type barrage containing an artificial lake with a capacity of some 50 million cu.m. and was to remain the sole representative of this class of construction in the whole scheme.

Essentially this section comprised a dam by means of which the river was diverted into a new waterway intercepted by a barrage serving a power station and equipped with a lock which was claimed to be deeper than any yet constructed. This lock, measuring 195 m. in length, 12 m. in breadth and 26 m. in depth, could be navigated by vessels using the Rhône in 15 or 30 min. according to whether shipping was ascending or descending. The level could be raised or lowered at an average speed of 1·6 m. a minute and the vaulted gates, 14·8 m. high, slid behind screens of reinforced concrete 16·5 m. high which closed the upper part of the lock chamber. This section of the project was a fine example of advanced civil engineering construction in a part of a far-reaching scheme to increase navigational facilities, generate electrical power ultimately to be consumed by regional transport services and provide irrigation for surrounding agricultural land. The power station itself was planned ultimately to house six water turbines, each with a capacity of 70,000 h.p. and handling 255 cu.m. of water a second. Each turbine was connected to an alternator of 50,000 kw. running at 107 r.p.m. The alternators generated current at 10·5 kv. which was stepped up to 60 kv. for the local supply and would ultimately be transformed to 220 kv. for long distance transmission.

The opening of the 350-Mw. hydro-electric station at Harsprånget in Sweden, at a position within 30 mi. of the arctic circle, represented the outstanding event of the year in this branch of electrical engineering. Although the 380-kv. transmission system had been completed in 1951 it had in the early stages been made live only at 275 kv., but at the end of March the lines were raised to the design potential of 380 kv. and subsequent operation, which was watched by engineers throughout the world, proved that this ultra-high-tension system had fulfilled all that had been expected of it and had shown none of the subsidiary interference effects which had been feared.

The Harsprånget station, which enabled this first 380-kv. system in the world to be inaugurated, was of special interest as the generator room and transformer station were excavated from the solid rock, a practice in which Swedish engineers have been pioneers for technical, economic and strategic reasons. The generating plant comprised three Francis turbines with individual outputs of 96 Mw. under a head of 345 ft. at speeds of 167 r.p.m. Each was directly coupled to 105-Mva. alternators with power factor 0·9 generating at 16 kv., connected to the step-up transformers which supplied the three-phase 380 kv. transmission. One of the notable features of this particular system was the success which attended the adoption of air-blast circuit-breakers for ultra-high-tension transmission.

The inception of this scheme was of special importance as, at the International Conference on Large Electrical Systems, held in Paris during the summer, the principal subject for discussion was the question of the bulk transmission of energy and the urgent necessity for the development of transmission lines of greater capacity than had previously been general. With the exception of the United States, representatives of the various participatory countries agreed that higher voltage transmission levels of 275-300 kv. and 380-400 kv. should be adopted. It was interesting to note that a paper presented by an engineer from the U.S.S.R

stated that, in the important systems now being established along the course of the River Volga, a voltage level for transmission of 400 kv. had been chosen and since this was in general accordance with proposed international standards there was no doubt that the year marked the initiation of a general move in the direction of high voltage transmission. Experimental work along these lines in various countries paid particular attention to the characteristics of the ancillary plant associated with the high-voltage technique and advances in air-blast circuit breakers and high-voltage cables were noted.

Extensions of thermal power stations in different countries continued throughout 1952 and a general tendency to adopt the principle of large unit generating sets was observed. A typical example of this trend was the announcement of plans for a new power station to be erected by the British Electricity authority in which 100-Mw. generating sets were to be operated as single boiler units. Boilers fired by pulverized coal were to be adopted and each would have an evaporative capacity of 830,000 lb. an hour, nearly 50% more than that of any boiler so far built in Britain. Steam conditions of 1,600 lb./sq.in. at a temperature of 1,060° F. showed that British and European practice was steadily following the example set by the United States in the development of units operating at the highest steam pressures and temperatures practicable.

While there were no outstanding developments in orthodox prime movers some significant steps were taken in the exploitation of the gas turbine both for stationary service and in the field of transport. One of the many attempts being made to adapt this type of machine to the consumption of the leanest types of fuel was indicated by the reports that a British design of the open-cycle type had carried out successful trials burning peat in powdered form. It was stated that a system of feeding the fuel and controlling the flow into the combustion chamber which enabled the plant to run as smoothly as with oil had been developed. The plant, which generated 750 kw., had the advantage that the hot exhaust gases were available for drying the peat and, although insufficient with the fuel in the raw state, when run in association with a press to remove the excess of contained moisture it was independent of weather or season. The importance of this principle to countries lacking resources of richer fuels was obviously inestimable.

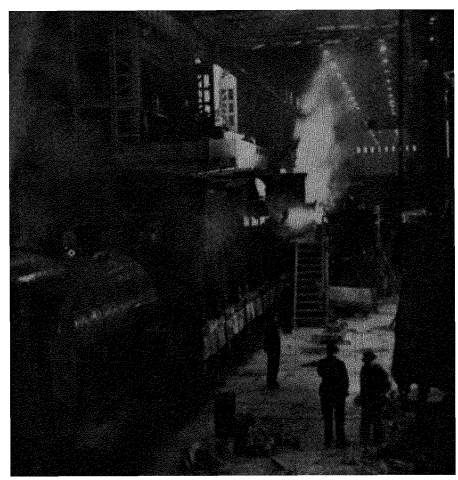
In transport two most important events were recorded in the service trials of the first British-built gas-turbine locomotive of the Western region of the nationalized railway system and the reports of the examination of the marine gas turbine installed in a large tanker belonging to one of the oil companies. The locomotive, of the open-cycle type, had a maximum tractive effort of 60,000 lb., as compared with the 40,000 lb. of the largest steam engine available in the same region, and had a designed maximum speed of 90 m.p.h. It developed about 3,000 b.h.p. and experience showed that it probably represented the successor to the steam locomotive in regions where complete electrification was still impracticable.

Further developments in this system of rail traction were also foreshadowed by reports from the United States of a series of tests carried out on a 4,250-h.p. gas turbine intended for a coal-burning locomotive. While most interesting results were obtained and many difficult problems solved, the results suggested that immediate progress in rail traction was more likely to be made in the simpler oil-burning plant, while the capital cost of the installation, partly on account of the costly materials required to resist the corrosive nature of the combustion products, would exceed that of more orthodox plant of the established Diesel-electric class.

In contrast with the experience gained with a marine gas turbine, designed to operate on heavy bunker oil, which had been running for several months in parallel with a diesel electric installation comprising three standard reciprocatory engines, was of the utmost interest. This 1,200-b.h.p. open-cycle turbine had used oil of 1,500 sec. viscosity and the reports of the owners on the first general overhaul were of great significance. The first year's service of the tanker, in which the gas turbine continuously bore more than its fair share of the propulsion of the vessel, covered the passage of over 50,000 nautical mi. and the carriage of some 170,000 tons of cargo. The service and maintenance records after this period proved so favourable that it was decided to construct a larger vessel, of 18,000 tons dead weight, to be propelled by twin gas turbines of 8,300 b.h.p. each. While, therefore, the perfection of this type of unit as an established method of propulsion alternative to the diesel engine might still be several years ahead, this bold decision to rely entirely on the gas turbine in a future design was an event of the highest significance to both marine and combustion engineers.

An important experiment in rail traction also carried out during the year was the demonstration in Germany of a new type of railway train, the Alweg, which runs on a raised mono-rail in the middle of a concrete track. Devised by a Swedish engineer it was believed to be capable of an average speed of nearly 200 m.p.h. and since it was steered by remote control needed no train crew. The working model tested was only half size but apparently gave a sufficiently impressive performance for a decision to be taken for further extensive trials on an actual service track to be built in Germany.

In structural engineering reports were noted of the steady progress made in the adoption of pre-stressed concrete construction. Various new techniques were introduced of which a system of hydraulic jacks for moving form work, in place of the older capstan system, was an example. Invented by a Swedish engineer, this method had the advantage that a high degree of precision in the level of the form work during the erection of heavy concrete walls could be maintained and an economy of labour in handling effected. For the fabrication of beams and members for pre-stressed work a novelty in the form of the use of paper for the cores of hollow beams instead of the more usual rubber was observed.



A train being loaded with molten metal from the Bessemer furnaces at the Ebbw Vale steel works, Monmouthshire.

In mechanical engineering the most notable feature was the progress made in continental production of heavy machinery, particularly machine tools. At the International Machine Tool exhibition held in Germany the trend towards the introduction of items such as heavy planing machines, boring mills, ingot turning lathes and similar plant was most marked. It was observed that all the leading producers of equipment of this kind had aimed at the manufacture of tools of the heaviest type suitable for the most exacting service and built with the utmost rigidity. As a result the heaviest machinery operations could be carried out with cutting tools of the tungsten carbide class and a great step forward in production methods had been achieved. The prominence of firms in the German Federal Republic in this postwar revolution in practice was particularly noticeable while French and Italian makers had made substantial progress on similar lines. (W. As.)

HEMP. During 1952 the price of hard fibres fluctuated. Sisal " firsts ", which cost £250 per ton in 1951, slumped to £90 in August, recovering in December to about half the highest cost of the year (£110).

World production of hard fibres increased, mainly because of larger crops in east Africa. (The total annual value of the British East African sisal crop is about £100 million of which at least $100 million worth is bought by the United States and other hard currency countries.) Total world production was estimated at 610,000 tons during 1952, as compared with 585,000 tons in 1951 and 525,000 tons in 1950. Brazil's sisal crop was expected to yield 60,000 tons, an increase of 7,000 tons over 1951. In 1945 Brazil's sisal crop yielded only 2,569 tons. During the first four months of 1952 Brazil exported 21,220 tons.

New export regulations for hemp came into force on Aug. 1, 1952, in Italy. They were intended to prevent Italian hemp from being sold, through intermediaries in western Europe, to countries behind the " iron curtain ". Italy is the biggest producer of soft hemp and during 1952 had under cultivation some 55,000 ha. yielding 60,000 tons of fibre. The quality of Italian hemp was good but in southern Italy heavy rains spoilt the colour of the fibre, affecting about 24,000 tons. (*See* also JUTE.) (G. Hs.)

HILL, ARCHIBALD VIVIAN, British scientist (b. Bristol, Sept. 26, 1886), was educated at Blundell's school and Trinity college, Cambridge, of which he became a fellow in 1910. During World War I he became director of the anti-aircraft experimental section of the munitions inventions department. From 1916 to 1925 he was a fellow of King's college, Cambridge, and from 1920 to 1923 a professor of physiology at Manchester university. In 1922 he won the Nobel prize for physiology and medicine and in 1923 was appointed professor of physiology at University college, London. In 1926 he became a professor of the Royal Society, continuing to work at University college and receiving an honorary professorship. During 1935-45 Hill was secretary of the Royal Society and during 1945-46 its foreign secretary. In 1940 he became independent Conservative member of parliament for Cambridge university, serving as a member of the war cabinet scientific advisory committee (1940-46), as scientific adviser to the Ministry of Supply (1940-43) and as a member of the advisory council of the department of industrial and scientific research (1940-45). In 1947 he joined the advisory council of the British Broadcasting corporation. During 1940-51 he was chairman of the Research Defence society. In 1951 Professor Hill was elected president of the British Association for the Advancement of Science; on Sept. 3, 1952, he gave the inaugural address at Belfast on " The ethical dilemma of Science ". On the expiry of his honorary professorship of London university in 1951 he received the title of emeritus professor. His publications include *Living Machinery* (1927).

HIRE PURCHASE: *see* CONSUMER CREDIT.

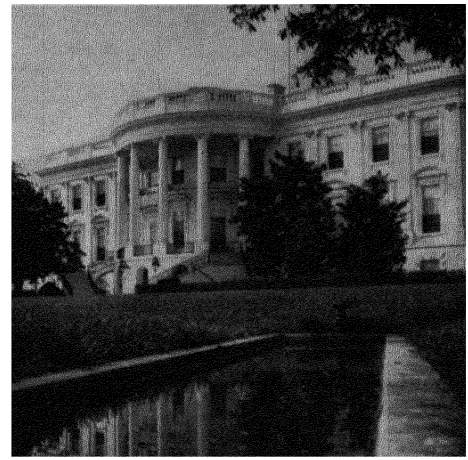
HISTORICAL RESEARCH. Besides the general assembly of the International Committee of Historical Sciences at Brussels in June 1952 and the usual annual conferences in Europe and the United States, there were numerous smaller conventions, of which the Congress on Renaissance Studies at Florence and the Journées Anglo-Françaises at Bordeaux in September were of especial interest. All the papers at the latter were devoted to the western seaboard of France, particularly in relation to England. A fine exhibition of documents relating to Guienne at the time of the English kings was opened at Bordeaux in connection with the conference. Probably the most substantial contribution of the year in early European history was the first two volumes of a detailed survey of all aspects of life in *Byzance avant l'Islam*, by P. Goubert (Paris). The long-awaited second volume of the *Cambridge Economic History of Europe* (London), edited by M. Postan and E. E. Rich, appeared. Less original, but very useful, was *The Shorter Cambridge Medieval History* (London), edited by P Grierson from the papers of the late C. W. Previté-Orton, one of the compilers of the larger *History*. Of comparable magnitude to the Cambridge histories was a national co-operative work started in Holland: a 12-vol. *Algemene Geschiedenis der Nederlanden* (Utrecht). The first two volumes carried the story of the Low Countries to the year 1305. The celebration of the third centenary of the Dutch occupation of the Cape of Good Hope produced several large works, notably a three-volume translation into English of the *Journal of Jan Van Riebeeck* (Cape-town) and a reproduction in atlas form of the earliest general map of South Africa. An important Dutch publication was *The Correspondence of Lord Marlborough and Anthonie Heinsius* (The Hague), edited by B. Van 't Hoff from the Blenheim palace muniments as well as official Dutch sources. The rapid revival of German scholarship was illustrated by the re-appearance of the old *Almanack de Gotha* under the guise of *Genealogisches Handbuch des Adels* (Glücksburg), and the publication of four out of six volumes of carefully selected *Dokumenten der deutschen Politik und Geschichte von 1848 bis zur Gegenwart* (Berlin), edited by the late Johannes Hohlfeld and his son Karl. For those able to read Russian a two-volume collection of essays, *The 1848 Revolutions* (Moscow-Leningrad), was one of the outstanding Soviet productions of the year. A French publication of similar interest was the first volume of J. Bruhat's four-volume *Histoire du mouvement ouvrier français* (Paris). Among other comprehensive French publications of the year may be noted vols. I and II of a general *Histoire du peuple français* (Paris) by H. Parias and others, dealing with early times as far as the year 1715.

British historical scholarship ranged over many fields. Miss F. E. Harmer's collection of *Anglo-Saxon Writs* (Manchester) was probably the finest piece of editing done on this period for many years. New light seemed likely to be thrown on the Norman Conquest by the detailed mapping of the information contained in Domesday Book and reproduced in six volumes by H. C. Darby and his collaborators under the title *The Domesday Geography of England* (London). The first volume issued dealt with " Eastern England ". Another indirect aid to the historian was provided by a particularly handsome publication of the Royal Commission on Ancient Monuments: *An Inventory of the Ancient and Historical Monuments of the City of Edinburgh* (Edinburgh). J. D. Mackie's long-delayed volume *The Early Tudors* (London) in the *Oxford History of*

England appeared in the autumn. Denys Hay followed up his definitive edition of Polydore Vergil's *Anglica Historia* with a biography of this Italian scholar who settled in Tudor England. Beginning a fresh survey of *The Founding of the Second British Empire, 1763-1793* (Oxford), V. T. Harlow suggested more continuity of policy than hitherto supposed. The first substantial publication of the new Athlone Press of the University of London was a study by H. H. Bellot: *American History and American Historians* (London). The most significant books by American historians themselves were on contemporary history; for instance, W. L. Langer and S. E. Gleason's *Challenge to Isolation, 1937-40* (New York), the start of a series sponsored by the Council on Foreign Relations to investigate "The World Crisis and American Foreign Policy". Four volumes appeared of the *Letters of Roosevelt* (New York), edited by E. E. Morison. In France also a considerable number of contemporary studies were issued and the historians employed by the Commission d'Enquête parlementaire reached vols. VII and VIII of *Les événements survenus en France de 1933 à 1945* (Paris). In Italy G. Volpe brought his large-scale narrative *Italia moderna* to the eve of World War I with vol. III, 1910-14 (Florence). Dr. Isabella Massey revised and translated into English vol. I of L. Albertini's impressive work *The Origins of the War of 1914* (London). No fewer than three volumes of the big collection of *Documenti Diplomatici Italiani* (Rome), all dealing with the years immediately before World War II, were edited by M. Toscano. The various series of British and American documents and studies of the recent war continued their unhurried way: T. K. Derry's study of *The Campaign in Norway* (London) was the first of the U.K. Military History series. Meanwhile, after a long pause, a drive to complete the old Gooch and Temperley collection "British Documents on the Origins of the War, 1898-1914" was signalized by the appearance of vol. V in the "Near East" series; *The Macedonian Problem and the Annexation of Bosnia, 1903-09*. At the same time the eager spirits in the Royal Institute of International Affairs were pushing ahead with the *Survey of International Affairs*, and the corresponding volumes of *Documents*, into the very recent past: the years 1947 and 1948. (A. T. ME.)

HISTORIC BUILDINGS. It was appropriate in the year marking the tercentenary of the death of Inigo Jones that some notable effort should be made towards the conservation of the best of English historic architecture. Such was the establishment on Oct. 1, 1952, by the Church assembly, of the Historic Churches Preservation trust, whose mission was to raise £4 million by national appeal in ten years, to augment the efforts of parishes to put their buildings into good repair. Of the lesser churches of England, about 8,000 (*i.e.*, about 50%) were over 400 years old and some 2,000 more of historic interest. Response to the nation-wide appeal was led by the Pilgrim trust with a vote of £100,000; and by the end of the year £153,000 had been received by the Preservation trust. (*See* Church of England National Assembly, *The Preservation of Our Churches*, London, 1952.)

For historic houses the future seemed less secure. The National Trust, the country's largest preservation authority, struggled ahead with a £33,000 deficit on its 1951 accounts; and the alternatives before many great houses seemed to be demolition (the trust's annual report noted 12 abandoned or destroyed since 1939) or, at best, conversion, possibly to an unsuitable use. Of conversion, however, 1952 provided at least two reasonable examples: Maison Dieu house, a war-battered Jacobean structure at Dover, was adapted as a public library; and Trumpeter's house, Richmond, Surrey, built by Richard Hill, brother of Queen Anne's favourite, Mrs. Masham, was ingeniously transformed into four luxury apartments. An example (for the preservation of smaller properties) was provided by the new Bath Development plan (published in May) which proposed that the corporation should acquire Georgian houses as leases fell in and, after repair and suitable conversion, should sub-let the resultant flats, offices, etc., under conditions designed to safeguard the buildings' elegance and authenticity.



The White House, Washington (1792-99, J. Hoban, architect; rebuilt 1814; remodelled 1902-3) as it appeared in April after extensive interior restoration and re-facing of the exterior.

A survey finished in March of Ely cathedral's great timber crossing-lantern, built in 1322-42, showed serious death-watch beetle infestation of the supporting trusses and the surrounding octagon vault. Work continued at York Minster, mainly on the chapter-house roof and the west front, where the eight-year restoration programme began on Sept. 11. An appeal was made for £11,000 for major structural repairs at Gloucester cathedral: the Pilgrim trust promised £5,000.

St. Etheldreda's, Ely place, London (built *c.* 1300 as the chapel of the town house of the bishops of Ely), the only complete mediaeval church of importance in England now used by the Roman communion, was re-opened on July 2 after the completion of war-damage repairs. Restoration at Wellow church, Somerset, had recovered an important fresco-series of *c.* 1500; the series contained the only groups of Christ and the Apostles known to survive in English mediaeval wall painting. The publication was awaited of another mural series, of *c.* 1200, being uncovered in the same month at Stoke Orchard church, Gloucestershire, and apparently including a life of St. Nicholas. October produced yet another discovery of important frescoes when workmen at the Vatican loggias came upon an extension, hitherto concealed by a mid-16th-century wall, of the series painted in 1517-19 under Raphael's direction and to his designs by Giovanni da Udine, Giulio Romano and others.

Architectural decorations under restoration in England included those by William Kent (1735) on the Queen's staircase at Hampton Court (where a fire in November gutted recent contractor's work in the Tudor wing of Clock court [1515 ff.]), those at Kimbolton castle, Huntingdonshire, by Gianantonio Pellegrini (1708); and the large Guercino ceiling canvas, "St. Chrysogonus in Glory" (1622; ex-S. Crisogono-in-Trastevere, Rome), at Lancaster house, London. In September, a fire destroyed Coleshill, Berkshire, built by Roger Pratt, one of Wren's first rivals, in 1650-62.

Several important *ensembles* of mediaeval glass were restored: notably, the Frecheville window at Staveley church, Derbyshire, made in 1676 by Henry Giles; and the Great Rose at Lincoln cathedral. In November the dean and chapter of Wells were offered two panels of 16th-century glass of the school of Arnold of Nijmegen, that had been in St. Jean, Rouen, until the French Revolution, to add to glass of the same provenance already in the cathedral; in January Rickmansworth parish church had been permitted to sell to the dean and chapter of York some panels of glass also originating from St. Jean, Rouen. (*See* also E. Milner-White, "The Resurrection of a Fourteenth-century Window", *Burlington Mag.*, London, April 1952; K. Harrison, *The Windows of King's College, Cambridge*, Cambridge, 1952)

The Royal Commission on Historical Monuments resumed after 13 years the publication of its surveys with the *West Dorset* volume. The 24th volume of the London County Council Survey of London, *The Parish of St. Pancras, Part VI*, marked the end of the participation of the London Survey committee in the project, proposals for the continuation of the survey were being considered. The useful paper-bound *Buildings of England* series (N. Pevsner, ed.) continued with *London except the Cities of London and Westminster*, *North Devon*; and *South Devon*. (*See* also ARCHAEOLOGY, MUSEUMS, NATIONAL TRUST)

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HOCKEY. England achieved unbroken success in international hockey in 1952. The national men's and women's teams each played four matches, the men scoring 19 goals to 1 against, and the women 24 to 5. The men's team, easily the best to represent England since World War II, won the Triple crown, as well as the international championship, defeating Wales 5-0, Ireland 5-1 and Scotland 7-0. Scotland beat Wales and drew with Ireland to finish runners-up to England. The records of the four countries in the international championship were:

	Played	Won	Drawn	Lost	Goals for	Goals agst
England	3	3	0	0	17	1
Scotland	3	1	1	1	7	12
Ireland	3	0	2	1	4	8
Wales	3	0	1	2	2	9

In other international matches, England defeated France 2-0 and Wales lost to the Netherlands 0-6.

Cambridge university won a notable victory against Oxford in February, scoring 6 goals to 3. This was the biggest score by any team in the match since Cambridge won 7-2 in 1913.

Hockey reached a higher level of popularity and performance in the services than ever before. The Army and Royal Air Force cup competitions drew record entries, the service teams gave a good account of themselves in opposition to leading civilian clubs; and the representative Combined Services team won both their matches in the divisional series, defeating the South 7-3 and the North 4-1. This was the biggest defeat ever inflicted on the South. In an additional match, Combined Services drew 2-2 with Ireland. The Army regained the Inter-Services championship from the R.A.F.

At the beginning of the year, the British Hockey board decided to enter Great Britain for the Olympic Games tournament at Helsinki in July and launched an appeal for funds to finance the preparation and training of the team. The appeal exceeded the target figure of £1,000 by over £700, and as a first step an experimental British team went to Amsterdam and won a most encouraging victory against the Netherlands by 5 goals to 4.

After that, the selected British players, 25 in number, assembled for combined training at the National Recreation centre, Lilleshall, Shropshire, for four week-ends during May and June. They went to Helsinki certainly better-trained and probably better-equipped than the 1948 team but, after defeating Belgium 1-0, found India, the reigning Olympic champions, too good for them in the semi-final which they lost by 3 goals to 1. The Netherlands won the other semi-final from Pakistan by 1-0. India retained the title comfortably in the final against the Netherlands, winning 6-1. Great Britain took third place by defeating Pakistan 2-1 in the play-off.

The big event of the year for the women was the English international at Wembley stadium, which again drew a record crowd, and resulted in overwhelming victory for England, who scored 9 goals to 2 against Scotland. The English women's team looked as good that day as the score suggests. In their remaining matches England defeated Wales 12-2, Ireland 1-0 and Belgium 2-1. Other results were: Scotland 5, Wales 3, Ireland 6, Wales 0, Scotland 1, Ireland 4. (*See* also OLYMPIC GAMES.) (R. L. Hs.)

HOLLAND: *see* NETHERLANDS.

HOLLAND, SIDNEY GEORGE, New Zealand statesman (b. Greendale, New Zealand, Oct. 18, 1893), was elected to the House of Representatives in 1935, and in a general election in Nov. 1949 led the National party to victory. On Dec. 13, 1948, he became prime minister in succession to Peter Fraser and also took the portfolio of finance. He attended the meeting of Commonwealth prime ministers in London, Jan. 1951. (*See* also *Britannica Book of the Year 1952.*)

Holland represented New Zealand at the conference of Commonwealth finance ministers in London (Jan. 15-21, 1952). On Jan. 29 he was received by King George VI, who invested him as a Companion of Honour. He was in Berlin at the time of the king's death, and on Feb. 13 he was received by Queen Elizabeth. He signed a 15-yr. meat agreement between New Zealand and Great Britain, Feb. 16, and returned to New Zealand on Feb. 24. He presented his budget to the House of Representatives on Aug. 7. On Sept. 12, commenting on the growth of New Zealand's population (to more than 2 million), Holland said, "We need men and women from every walk of life. I welcome those who come from Britain and other countries to make their homes here and to take a share in our production and progress." On Oct. 16 he said that he believed an early solution might be found to the question of Great Britain's participation in the ANZUS (Australia, New Zealand, United States) pact, and in November he left New Zealand to attend the conference in London of Commonwealth prime ministers (Nov. 27-Dec. 11).

HOME GUARD. In view of the international situation and the fact that in wartime the greater part of the active and reserve armies would be committed overseas, it was decided to revive the Home Guard: the Home Guard act, 1951, authorized its formation as part of the armed forces of the crown in Great Britain; later the scheme was extended to Northern Ireland and the Isle of Man. Originally the peace

establishment of the force was 170,000, organized as infantry, comprising " effective " battalions of 900 men, situated east of a rough line from Flamborough Head to Selsey Bill but excluding Greater London, and " cadre " battalions of 50 elsewhere. Later the peace establishment was lowered to about 91,000, effective battalions being reduced to 300 and cadres raised to 100. Effective battalions were to be trained and ready for immediate action while cadre battalions were to prepare and plan for rapid expansion in the event of war. The planned war strength of the Home Guard was about 900,000.

Likely roles of the Home Guard were defined as defence against airborne raids and small seaborne raids, the protection of local key points, assistance to the civil defence organization and, finally, defence against invasion. Service was now entirely voluntary, spare-time and unpaid, but there were allowances to defray out-of-pocket expenses. The force was open to all reasonably fit men between the ages of 18 and 65, and enrolment in the first instance was for two years with the right to resign by giving one month's notice The training liability was 15 hr each quarter. Personal weapons were Sten guns for officers and non-commissioned officers, rifles and bayonets for privates; team weapons such as the Bren light machine gun were also issued Much planning and training was carried out during 1952 although there was occasional evidence of the " growing pains " usually associated with the creation of a new organization At first uniform was issued to members of effective battalions only. Later in the year uniform and greatcoats were authorized for all the Home Guard.

The War Office was responsible for the general control of the Home Guard, detailed administration, planning and training being in the hands of commands in conjunction with county Territorial and Auxiliary Forces associations, which played a very large part in the organization of the force. Registration of those interested began in Jan. 1952 and enrolment started on April 28. After the first enrolments numbers were somewhat disappointing, although a steady rate of increase was maintained and a sound nucleus established. By December there were 24,873 enrolled members; a further 21,111 earmarked to enrol on the outbreak of war, were borne on the Home Guard reserve roll. (L. G. O. J.)

HONDURAS. Republic of Central America, bounded E. by Guatemala, S. by El Salvador, the Pacific and Nicaragua and N. by the Caribbean. Area: 59,160 sq.mi. Pop. (1950 census): 1,505,405, *c.* 87% *mestizo*, but incl. *c.* 35,000 tribal Indians and *c.* 25,000 Negroes. Language: Spanish; Indian dialects. Religion: Roman Catholic. Chief cities (pop. 1949 est.): Tegucigalpa (cap., pop. 62,263); San Pedro Sula (24,425); Comayaguela (16,907). President of the republic, Juan Manuel Gálvez.

History. The political scene was relatively quiet in 1952. A bond issue for highway construction, worth $10 million (U.S.), was approved by the congress in May. On June 1 it was announced that U.S. nationals travelling in Honduras would no longer be required to carry passports. Representatives of Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua met at Tegucigalpa on Aug. 23 to discuss ways and means of developing agricultural and industrial production, improving transport and integrating the economies of the five Central American republics. (G. I. B.)

Education. Schools (1951). primary 2,061, pupils 106,438; secondary 21, pupils 1,107, teachers' colleges 24, pupils 1,746; commercial 14, pupils 2,386. The National university at Tegucigalpa had 796 students in 5 faculties.

Agriculture. Coffee production (1950-51 season) *c* 27 million lb Exports (1950-51). bananas, 12,727,926 stems, of which 11,029,034 stems went to the U.S ; coffee, 14,893,282 lb.; coconuts, 8,847,557 nuts

Mineral production (1950-51, exports). Gold amalgam and bars 31,137 troy oz., silver amalgam and bars 2,814,006 oz.

Finance (million lempira). Budget (1950-51 actual) revenue 40 0, expenditure 35 2; (1952-53 est.) balanced at 34 5. Internal debt (June 30, 1951). 8 3; external debt 0·7. Currency circulation (July 31, 1952) 26 5 (also $1,227,775 in U.S. coin). Monetary unit. *lempira* with an official exchange rate of 2 lempira to the U.S. dollar and 5 6 to the pound

Foreign Trade. (1950-51, '000 lempiras) Exports 56,129, imports 78,895. Chief exports bananas 29%, coffee 21%, pine lumber 9%. Main destinations of exports. U S. 72%, El Salvador 13%, Cuba 5% Main sources of imports. U.S 74%; El Salvador 5%, Netherlands Antilles 4%

Transport and Communications. Railways (1947) 922 mi Roads 1,201 mi Motor vehicles (Jan 1, 1951) cars 1,733, lorries 1,583. Radio sets (1950) 16,500 Shipping registered vessels, 100 tons and over (June 30, 1951) 152, gross tonnage 508,172

HONDURAS, BRITISH: *see* BRITISH HONDURAS.

HONG KONG. British colony on the S.E. coast of China consisting of Hong Kong island and the ceded territory of Kowloon and Stonecutter's island. The New Territories (the rest of Kowloon peninsula and numerous islands) were leased from China in 1898 for 99 years. Area: colony 35·5 sq.mi., New Territories 359 sq mi Pop.: (1931 census) 849,751; (1951 est) 2,013,000 Language: Chinese (Cantonese); about 5% speak English. Cities: Victoria (cap.; pop. *c.* 438,000); Kowloon (pop. 1931, 264,675). Administration: governor, executive council, 5 *ex-officio*, 1 appointed official and 6 (incl. 2 Chinese and 1 Portuguese) unofficial members; legislative council, 5 *ex-officio*, 4 appointed official and 8 (incl. 4 Chinese and 1 Portuguese) nominated unofficial members. Governor, Sir Alexander Grantham.

History. Hong Kong's trade fell month by month in the first half of 1952 to about 50% of the peak figure of March 1951. An upswing began in July, coinciding with the end of the Chinese government's campaign against the so-called " five evils " of private industrialists and merchants, and the efforts by that government to restore life to the country's industry and commerce. Another difficulty had been the U.S. customs' detention of consignments of local handicrafts on suspicion that they were made from materials from the Chinese mainland. In June Hong Kong's trade figures were the lowest since April 1950 and were nearly 38% below the 1951 monthly figure; but in July there was an increase of nearly 18% over June. The colony's trade with China, which fell from $155 million in Aug. 1951 to $68 million in March 1952, recovered to $123 million in July. Up to the end of September total imports into Hong Kong were $2,789 million and exports $2,097 million. The new cotton and metal industries, which had suffered from raw-material shortages, recovered quickly as this difficulty was overcome, but they now had to face severe Japanese competition.

Besides two large foreshore reclamation schemes, on one of which the new city hall was to be built, the government was building for itself new central offices in the centre of Victoria city. It was also responsible for the huge reservoir scheme at Tai Lam Chung, which would give the urgently needed extra storage for a population much increased by Chinese refugees; the central police headquarters; and a sports stadium, to be fashioned out of the natural rock amphitheatre at Sookunpoo, eventually to seat about 60,000. Among private building projects the 13-storey Alexandra house was completed and occupied in August; the Hongkong hotel and the Mercantile bank building were being rebuilt; and much other private building was going on all over the colony. The government was giving final consideration to a comprehensive housing scheme for the 300,000 squatters from China and for other low-income groups. Two non-profit-making voluntary bodies, directed by local philanthropists, were also concerned in pilot schemes. The Social Welfare office distributed to the homeless about a million free meals in one three-month period alone.

Following the judgment of the judicial committee of the Privy Council in favour of the U.S. airline Civil Air Transport, Inc., 40 of the aircraft grounded at Kai Tak were handed over to that corporation. Chinese Communist caretakers, who had been permitted to take charge of them following the judgment of the local courts (set aside on appeal), staged a sit-down demonstration when the aircraft were removed. The remaining 31 aircraft, also the subject of litigation in the local courts, remained under control of the authorities, and were later handed over.

The Law and Sayer collections of China-coast paintings were acquired by the Hong Kong government and were to join the remnants of the Chater collection and a collection of Chinese porcelains and bronzes in the projected city hall.

A special committee was set up to report to the government on the needs of technical and vocational education; another sent to the government its recommendations on additional higher educational facilities, involving considerable expansion, including the provision of degree courses through the Chinese medium at Hong Kong university.

Education. Registered schools (1952; 1950 in brackets): 1,039 (880); pupils *c.* 200,000 (*c.* 160,000). University of Hong Kong: students (1952-53) 990, academic staff 1,050.

Finance and Trade. Monetary unit: Hong Kong dollar ($1 = 1*s.* 3*d.*). Budget (1952 est.; 1951 actual in brackets): revenue $285,162,200 ($291,326,400); expenditure $286,000,000 ($288,404,796). Foreign trade (1951 total in $ million; 1952 first eight months in brackets): imports 4,892 (2,441), incl. from China 863 (491), Macao 103·6 (43); exports 4,460 (1,800), incl. to China 1,603·9 (252), Macao 228·35 (55).

(W. V. P.)

See Sir Charles Collins, *Public Administration in Hong Kong* (London, 1952); Harold Ingrams, *Hong Kong* (H.M.S.O., London, 1952).

HOPS. Bine was light in the southeastern gardens in England, owing to the drought conditions in July. It was lighter than usual even in the midland yards, which had more rain. Heavy rains in August, however, caused the cones to grow out exceptionally well and the crop proved to be much heavier than appeared likely in July. An unusual feature was the extraordinary size of the cones in many gardens. Some were as much as 3½ in. long, the largest ever seen by growers of many years' experience.

Although there was an outbreak in east Kent of the dreaded verticillium wilt disease of the progressive type, the crop generally was reasonably free from pests and diseases, a fact that some growers attributed to the use of systemic washes.

The crop was harvested without undue difficulty. The large cones and scanty bine made picking a lighter task than usual for the harvesters, of whom nearly 100,000 were again at work for two or three weeks in the southeast and midlands. Machine picking continued to make progress. There were 57 machines, compared with 38 in 1951, at work in the Herefordshire and Worcestershire gardens, where hand pickers were becoming each year more difficult to recruit. Four static pickers were installed in Kent, the first to be introduced there for a long while.

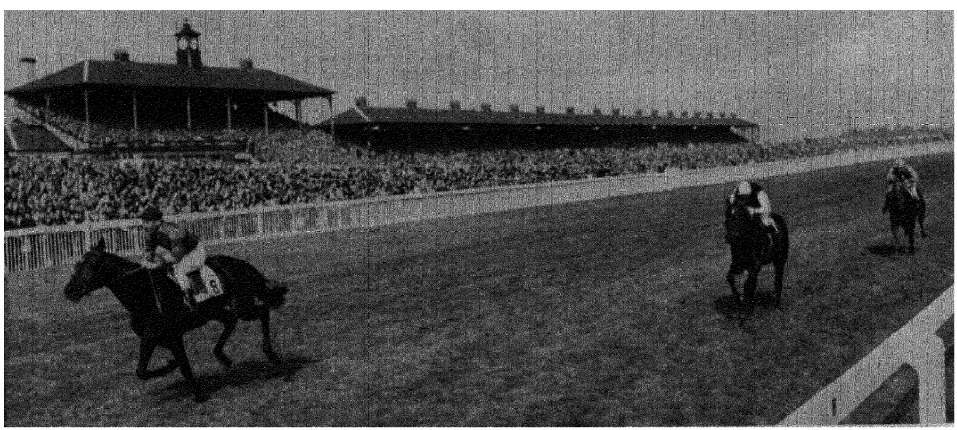
The total crop for firm contracts made by brewers was 262,084 cwt., of which 27,272 cwt. were for export. The corresponding figures for the 1951 crop were 304,100 cwt. and 53,018 cwt. The brewing quality of the hops was high.

The average price, which by agreement with brewers is based on cost of production, was fixed at £28 3*s.* per cwt. The price for the 1951 crop was £26 2*s.* 6*d.* per cwt. Approximately £7,400,000 was therefore being paid by brewers for the 1952 crop. (*See* also BREWING AND BEER.) (X.)

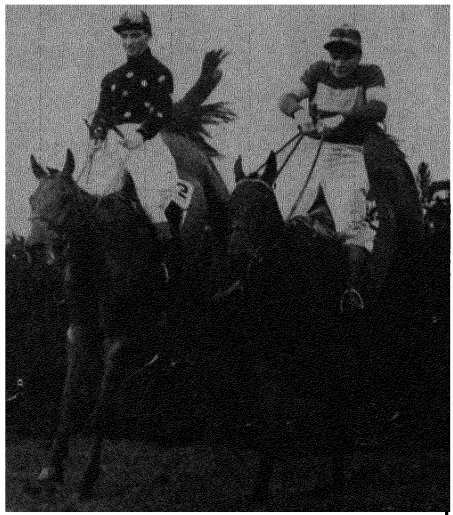
HORSE RACING. For the fifth winter in succession racing in Great Britain under National Hunt rules suffered no prolonged interruption through the weather. A fortnight was lost in Feb.1952, first through frost and later through the death of King George VI, but otherwise there was a full and successful season. The most valuable race under these rules, the Grand National at Aintree, was won by H. Lane's ten-year-old gelding Teal, who a year before had been an unknown hunter in the Scottish border country. This was the second postwar success in this race for the trainer N. Crump and the jockey A. P. Thompson, who were concerned in the victory of Sheila's Cottage in 1948.

The two important races at the National Hunt meeting at Cheltenham, the Gold cup and the Champion Hurdle, were both won by young French-bred geldings competing in the race for the first time. Miss D. Paget's Mont Trêmblant, a six-year-old ridden by D. V. Dick and trained by F. Walwyn, won the Gold cup. Sir Ken, a year younger, owned by M. Kingsley, trained by W. Stephenson and ridden by T. Molony, won the Champion Hurdle as the climax of an unusual run of success. Since arriving from France early in 1951 he had run nine times over hurdles and once on the flat and had never been beaten.

The keen rivalry between English and French owners for



The Aga Khan's Tulyar, ridden by C. Smirke, winning the St. Leger at Doncaster on Sept. 13. Kingsfold was second and Alcinus third. Tulyar was the most successful horse of 1952, the Aga Khan the leading owner and M. Marsh the leading trainer.



The Grand National steeplechase at Aintree, Liverpool, April 5. Teal, ridden by A. Thompson, the winner (left), and Legal Joy, ridden by M. Scudamore, which was second.

the more valuable prizes of English racing which had existed since World War II for once went in favour of England. Marcel Boussac had only a fraction of the success he enjoyed in 1951, and it was the Aga Khan and his English-trained three-year-old colt Tulyar who broke all British records for stake money won in a season. Tulyar, bred in Ireland by his owner, won all the seven races he contested and proved himself without question the best horse of his age in Europe. Amongst his successes were the Derby, the Eclipse stakes, the St. Leger and the King George VI and Queen Elizabeth stakes. The latter, instituted in 1951 in connection with the Festival of Britain celebrations, was again the most valuable race in the calendar, being worth £23,302 10*s.* in 1952. Tulyar's seven victories were worth £75,173 10*s.* in stake money, easily the most earned by a single horse in the history of racing in the British Isles. Through this the stock of his sire Tehran amassed £84,177 to beat the record amount won by the stock of a stallion in a season, the £75,706 of Blandford's progeny in 1934. The Aga Khan, with £93,058, a record for an owner, had by far his most profitable season in a long and successful association with the English turf. Tulyar's trainer M. Marsh prepared the winners of races worth £92,093. His jockey in the six most valuable races was C. Smirke.

Tulyar did not compete in the first of the five classic races, the Two Thousand Guineas, the only one won by a French horse. M. E. Constant's Thunderhead II won easily in an exceptionally large field for this race of 26. Eighteen days later Thunderhead II was second in the corresponding French race at Longchamp, the Prix d'essai des Poulains, to Baron G. de Rothschild's Guersant. Thunderhead II, trained by E. Pollet, was ridden in both races by R. Poincelet. Guersant was trained by G. Watson and ridden by P. Blanc.

Throughout the season the three-year-old fillies in England proved considerably inferior to the colts. The best of them were Sir M. McAlpine's Zabara, who won the One Thousand Guineas, and Captain A. M. Keith's Frieze, who beat her into second place in the Oaks a month later. Zabara was the first classic winner trained by V. Smyth and ridden by K. Gethin. Frieze, like Musidora, the Oaks winner of 1948, was trained by C. Elsey and ridden by E. Britt. In France the corresponding races for fillies were won by G. Courtois' Pomare, trained by R. Baril and ridden by B. Pearson, and by R. B. Strassburger's Seria, trained by E. Charlier and ridden by P. Blanc. La Mirambule, who had been beaten by half a length by Zabara in the One Thousand Guineas, lost by a head to Seria in the Prix de Diane, a fact which suggested that the English fillies were slightly superior. The best of the French three-year-old colts were A. Cutler's Orfeo who, ridden by F. Palmer and trained by P. Carter, won the Grand Prix de Paris; M. Boussac's Auriban, who had won the Prix du Jockey Club two weeks previously and was second two lengths behind Orfeo; and P. Duboscq's Feu de Diable who in September won the Prix Royal Oak by eight lengths. His jockey was M. Larraun and he was trained by E. Pollet.

Though the three-year-old fillies in England were inferior to the colts, the two-year-old fillies were of an unusually high quality. Three out of the first five two-year-olds in the free handicap were fillies.

The valuable long-distance races for older horses in England were not, as in many recent years, the property of French stayers, though it was a French-bred four-year-old, Aquino II, trained at Newmarket by F. Armstrong, who won the Ascot Gold cup and the Doncaster cup. In between he was last of four to Medway in a slow-run race for the Goodwood cup. G. Richards, with 231 winners, was champion jockey for the 25th time.

During the year racing in England under both sets of rules was materially assisted by the reduction of the entertainment tax in the budget, its own tax being reduced by about 15%. Entrance fees were cut by about the same amount and the result was a general rise in attendances. (M. A. Me.)

United States. Hill Gail, three-year-old colt from Mrs. Warren Wright's Calumet farm, ridden by Eddie Arcaro, raced to a two-length victory in the Kentucky Derby at Louisville, Kentucky, on May 3, 1952, to earn $96,300 of the gross purse of $124,350. An ailing leg kept Hill Gail out of the Preakness Stakes at Pimlico in Baltimore, Maryland, won by Blue Man, owned by Arthur W. Abbott of Rye, New York, and ridden by Conn McCreary.

One Count, with Arcaro riding, scored a surprise in the Belmont Stakes at Belmont park, Long Island, on June 7. He finished with two and one-half lengths to spare over Blue Man, while Armageddon was third. One Count added to his earnings with victories in the Jockey Club Gold Cup race at Belmont on Oct. 4 and the Empire Gold Cup race at Jamaica on Oct. 25.

Arcaro reached a new riding mark on Sept. 24 when he rode the Calumet farm's Mark-Ye-Well in the Lawrence Realization at Belmont, being the first jockey to ride horses winning $2,000,000 in a single year.

The Arlington Classic on July 19, worth $150,450, was the richest race ever held for three-year-olds and again Arcaro was first with Mark-Ye-Well. Mark-Ye-Well and Arcaro returned to Chicago on Aug. 9 and combined to win the top purse of $103,325 in the American Derby at Washington park. Crafty Admiral from the Charfran stable carried off the winning purse of $119,900 in the Washington Park Handicap as the King Ranch's To Market finished two lengths behind. Crafty Admiral, with Arcaro up, also took the Whirlaway Handicap at Washington park, while Mr. Paradise, owned by Mrs. Ada L. Rice of Chicago, was first in the Washington Park Futurity when he was ridden by Arcaro. To Market also ran away with the Arlington Handicap on July 26, finishing ten lengths ahead of Oil Capitol. Calumet Farm's Two Lea triumphed in the Hollywood Gold Cup on July 12, beating Cyclotron by half a length.

Native Dancer stood out among the year's two-year-olds in a year that saw attendance and betting totals swing sharply upward at most tracks. The colt was retired late in October after winning nine successive races. (T. V. H.)

On Oct. 18 the British horse, Wilwyn, ridden by E. Mercer, won the first internationsl race at Laurel Park, Washington. Ruhe was second and Zucchero, another British horse, third. The race was won on grass, instead of on the usual dirt track, from an English-type starting-gate.

HORTICULTURE. The outstanding event of the horticultural year was the 13th International Horticultural congress held in London during Sept. 8-15. This was organized by the Royal Horticultural society and provided a meeting-ground for gardeners, plant breeders and horticultural scientists from all parts of the world. A great many papers were read and these were to be published in the form of a report Congress members were able to visit a number of famous British nurseries, private gardens and research stations and to meet one another for informal discussions.

Concurrently with the congress the International Committee for Horticultural Nomenclature met to prepare the final draft of the proposed new rules to be applied to the naming of garden plants. These followed the same general principles as those for botanical nomenclature, but made provision for greater elasticity in the use of synonyms where these are rendered desirable by national custom or the language difficulty. A strong appeal was made for the provision of means whereby certain names which have priority over those in common use, but have never had any widespread currency, could be declared invalid.

A further international gathering of importance was that of the International Federation of Landscape Architects at Stockholm (July 10-12). Problems of modern garden design and landscape planning were discussed and papers describing actual work completed in England, the United States, Germany, Spain and Denmark were read.

Among the more important scientific developments of the year were the release and widespread trial of a synthetic resin which was said to act as a most powerful soil conditioner, and the further development of systemic insecticides. It was claimed that the soil conditioner owed its effectiveness to electrical attractions. When dissolved in water, it becomes highly ionized, each ion carrying many negative electrical charges. In the soil these highly charged ions attract positively charged soil particles, causing these to form larger aggregates, so increasing the coarseness and, therefore, the porosity of the soil. This was the first time that such a principle had been consciously applied to soil improvement and further developments along similar lines were expected to follow. It was claimed that 1 lb. of this new synthetic resin would improve the texture of soil as much as 200 lb. of peat.

The search for systemic insecticides less poisonous to warm-blooded creatures than those originally employed was continued with some success. In addition, a method was developed of applying systemics directly to the roots of plants by means of capsules attached to little spears. When these are thrust into the soil the capsules slowly dissolve, the systemic insecticide is released, absorbed by the roots and passed in the sap to every part of the plant, rendering it poisonous to certain insects, mites or other plant pests.

A number of apple stocks specially bred at the East Malling Research station and the John Innes Horticultural institution for resistance to American blight (woolly aphis) had been distributed. These covered a wide range of requirements from very dwarfing stocks giving early maturity, to very vigorous stocks capable of carrying large trees with a long expectation of life. The new stocks were to be known by the distinguishing letters M.M. (for Malling-Merton) followed by a numeral.

A plant-hunting expedition to western Nepal was organized by the Royal Horticultural society in collaboration with the British Museum, under the leadership of Oleg Polunin, and this brought back seeds of many plants that were either scarce or new to cultivation.

A very interesting 60-ac. arboretum at Winkworth near Godalming, planted by Dr. Wilfred Fox, was presented by him to the National Trust. This contained an exceptionally complete collection of *Sorbus* species.

The use of artificial light to secure better growth of seedlings in winter was successfully developed and the effect of light in controlling the flowering of plants was further studied. It was found that, in certain instances, very short periods of illumination used to break the period of darkness were much more effective than far longer periods of illumination used to lengthen the period of daylight

Weather during the year was remarkable for very great differences in rainfall even between adjacent districts. In general it was dry from April to July and wet in September As a result autumn colour was exceptionally good (*See* also BOTANICAL GARDENS; BOTANY.)

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(A. G L H)

HOSPITALS. International. The second postwar study tour organized by the International Hospital federation took place in Italy from May 24 to June 7 at the invitation of the Italian Hospital federation. Some 130 members of the federation from 15 countries, including 30 representatives from Great Britain, took part in the tour which in a fortnight covered the principal hospitals in and near Milan, Bologna, Florence, Rome and Genoa. The programme included visits to establishments for tuberculosis, paediatrics, orthopaedics, traumatic surgery, rehabilitation, hydropathy and the treatment of malignant disease Among the new hospitals visited was one at Brescia which proved of great interest as it was constructed on the "snowflake" pattern

The Eighth International Hospital congress was to be held in Great Britain from May 25 to 30, 1953. A hospitals exhibition was planned to take place at the same time as the congress in London, which would give hospital workers from all over the world an opportunity of seeing for themselves the latest developments in hospital equipment.

Great Britain. The financial position of the country called for the utmost economy in the social services and the Government announced that expenditure on the national health service would be limited to £400 million It was widely recognized that some increase in the cost of the hospitals was inevitable, and when the health estimates were published in March 1952 the figure for the hospital and specialist services was increased by about £20 million, the comparative figures being £285 million in 1951-52 and £304 million for 1952-53. (The difference was found in part by imposing charges for certain other services, *e.g.*, dental and ophthalmic, which had been provided free of charge.) This modest increase enabled hospitals to undertake some slight expansion and to meet many increases due to rising prices and wage awards. In May H. F. C. Crookshank resigned his appointment as minister of health and was succeeded by Iain Macleod.

The first detailed costing returns for hospitals in the national health service in England and Wales were published by the Ministry of Health early in June. These covered some 2,750 hospitals and were for the year ended March 31, 1951.

They were a first interim measure, in a tentative form, to enable hospital authorities to compare the average costs of individual hospitals, and those costs and the regional and national average figures. Every hospital was classified in the return according to function; *e.g.*, wholly general, mainly chronic, maternity or mental. Three main sets of figures were worked out: (1) the total inclusive net cost per week of maintaining a patient; (2) the same cost after allowing for out-patient expenditure (on the basis of five out-patient attendances equalling, for costing purposes, one in-patient day); and (3) the same cost further adjusted to allow for "vacant-bed factor" (beds staffed but not occupied). It was submitted that the inclusive net cost after allowing for out-patient expenditure provided a reasonable basis for comparison (*see* Table).

AVERAGE COST PER WEEK OF MAINTAINING A PATIENT IN HOSPITAL (year ended March 31, 1951)

Region	Wholly general* £ s. d.	Mainly chronic £ s. d.	Maternity £ s. d.	Mental £ s. d.	Tuberculosis £ s. d.
Newcastle-upon-Tyne	12 6 6	6 17 1	15 9 8	3 11 11	6 14 7
Leeds	13 4 7	7 13 1	16 19 0	3 9 10	9 0 9
Sheffield	12 11 1	5 18 8	15 4 1	3 18 1	7 10 6
East Anglian	13 14 11	6 17 1	15 4 4	3 10 6	9 15 0
N.W. Metropolitan	17 0 8	11 3 1	17 14 7	4 5 2	12 10 11
N.E. Metropolitan	14 7 11	7 13 11	19 0 7	4 2 3	9 16 1
S.E. Metropolitan	14 14 11	11 17 2	17 10 6	3 13 1	10 7 4
S.W. Metropolitan	14 1 4	7 16 0	15 15 4	4 2 10	8 18 11
Oxford	16 1 7	6 10 0	17 14 0	3 17 0	10 14 4
Southwestern	15 1 2	4 11 9	15 11 9	3 15 7	9 7 7
Welsh	11 18 6	7 12 10	16 5 3	4 0 6	8 2 8
Birmingham	13 0 0	9 0 0	18 4 7	3 9 6	8 2 6
Manchester	11 19 0	5 7 3	14 5 2	3 7 6	7 8 0
Liverpool	11 10 3	—	14 1 4	3 7 10	8 9 1
National averages	13 10 3	6 18 4	16 9 5	3 15 11	8 17 2

* For teaching hospitals classified as wholly general the average weekly cost per in-patient, was £23 16*s.* 10*d.* in London and £17 5*s.* 10*d.* in the provinces.

The investigation into hospital costing undertaken by King Edward's Hospital Fund for London and the Nuffield Provincial Hospitals trust at the invitation of the Ministry of Health was concluded during the year and their reports were published. The reports were in substantial agreement upon certain points and joint recommendations were made that: (1) the existing accounting system based on subjective analysis of expenditure as prescribed in Statutory Instrument no. 1414 should be discontinued; (2) an accounting system based on the departments and services of the hospital should be substituted; (3) the expenditure of departments should be reduced, where appropriate, to costs per unit of work performed; and (4) the budget and budgeted unit costs for each hospital should follow the accounting pattern referred to in (2) and (3).

There was also published in June the first volume of a new important series of statistics (*National Health Service; Hospital and Specialist Services, England and Wales, Statistics for the year ended 31st December, 1949;* H.M.S.O., London), showing the beds, patients, medical, nursing and other staff by categories, of all the hospitals in the state service in England and Wales. The figures referred to the year ended Dec. 31, 1949, but it was understood that it was the intention of the ministry to issue regularly figures which could be used in conjunction with the costing returns referred to above. The issue of the two sets of figures would provide, for the first time, detailed material for the study of the national health service. Mention should also be made of a stimulating and detailed survey of the national health service to June 1952 entitled *The National Health Service in Great Britain*, by Sir James Stirling Ross (London, 1952).

The survey by John Trevelyan of the scope for voluntary service in hospitals was also published during the year. This, entitled *Voluntary Service and the State*, was undertaken on behalf of the National Council of Social Service and was financed by King Edward's Hospital Fund for London. The report showed that although the hospital service had been nationalized there were indications that the amount of voluntary service given was greater than ever before. It also intimated that the experience of the previous three years amply justified the continuance of the experiment of the new service and that there were encouraging signs of progress.

(A. G. L. I.)



Queen Elizabeth talking to a patient during an informal visit to the Hospital for Sick Children, Great Ormond street, London, on July 23.

United States. In 1952 the hospitals and the medical profession of the United States and Canada voluntarily assumed the responsibility for maintaining high standards of hospital operation. The Joint Commission on Accreditation of Hospitals, composed of hospital administrators, physicians and surgeons, was appointed to survey hospitals and accredit them. At a special ceremony, responsibility for accreditation was transferred to the new commission from the American College of Surgeons which, until 1951, carried on this programme alone.

Of great importance to hospitals, and to the 19 million patients cared for during the year, was the continued increase in hospital costs. The annual survey of the American Hospital association found that the cost of operating general, non-profit hospitals in the United States was almost $1,700 million in 1951. The average cost for each patient each day in these hospitals amounted to $18·01, an increase of $1·12 over the previous year and more than double that of 1946.

Inflation was only partly responsible for the increased expense of caring for hospital patients. Revolutionary methods of diagnosis and treatment had been adopted, and while they resulted in great saving of lives, they also required more expensive equipment and medications and highly skilled staff. Salaries paid to hospital staff in 1951 represented 56% of total expense and in many hospitals this figure rose to as much as 75% of total costs.

The Commission on Financing Hospital Care, an independent commission set up by hospitals to study the best means of providing first-class hospital care at the lowest possible cost to the public, began its second year of intensive research.

U.S. hospital construction during the year kept pace with the need for more facilities, although there was still a shortage

of nurses, internes and other staff. By Oct. 1, 1952, more than 1,900 projects had been approved since the passage of the Hill-Burton Hospital Survey and Construction act, which provided for hospitals to be built, remodelled or enlarged with community funds supplemented by federal appropriations. The total cost was estimated at nearly $1,500 million, of which the federal share was $525 million. The programme provided for 92,128 hospital beds and 306 health centres, in addition to 63 health centres combined with general hospitals.

Canada. The cost of operating short-term hospitals in Canada continued to rise, averaging $10·25 for each patient per day during 1951 as compared with $9·88 the year before.

Federal grants in 1952 encouraged continued hospital construction and expansion, increased the number of outpatient departments and travelling tuberculosis detection services and set up new rural health units

During the year, surveys were made of health facilities and requirements in two provinces which did not have compulsory pre-payment plans. In Quebec it was noted that hospital facilities were not provided in all regions of the province and it was recommended that the provincial department of health continue to favour the opening of hospitals in strategic locations. In Manitoba the study supported the principles of a health insurance plan for Canada, but suggested that priority be given to the preventive medical service being set up under the province's own health plan. (GE. BU.)

HOTELS, RESTAURANTS AND INNS.

As in recent years, hotels, restaurants and inns were affected in 1952 by the fact that, on the one hand, costs of operation were rising and, on the other, there was in most countries a curtailment in the spending power of the public, due to increased taxation and the rising cost of living. There was a tendency for more people to spend holidays at home; those who went away often shortened the period of their holiday; many people stayed or ate in cheaper types of establishment than those to which they were formerly accustomed; and an increasing number of week-end motorists and railway travellers took packed meals with them, which resulted in fewer meals being served in establishments catering for that class of trade and in railway dining-cars.

As regards residential establishments, another change which had been developing before World War II showed itself again in 1952. This was that bookings generally were for shorter periods than formerly. Reasons for this were the improvement of travel facilities by land, sea and air, and the fact that, if possible, many people would rather move on from place to place than remain in one centre for a whole holiday.

Hotels, restaurants and inns continued to benefit from the encouragement given to tourists by governments and local authorities everywhere. Continual propaganda by means of leaflets, posters and the cinema, combined with the staging of special attractions on a national and local scale, made the tourist feel that he was a much-sought-after person. In Great Britain the success of the campaign for attracting tourists was reflected in another new record in the number of visitors from abroad reported by the British Travel and Holiday association. Already in the summer of 1952 plans were being made for the reception of the vast crowds expected to attend the coronation of Queen Elizabeth II in 1953, and a coronation accommodation service was established by the British Travel and Holiday association and the British Hotels and Restaurants association.

During the year, further consideration was given to amending the wages orders, under the Catering Wages act, 1943, to which had been attributed many of the difficulties which British establishments had had to face in postwar years. By the end of the year little had been achieved that materially altered the position, and unlicensed residential establishments were still not subject to a wages order, although licensed establishments had been regulated since 1948.

There was no decrease in the number of American visitors to continental resorts, while the flow of British visitors to the continent was not appreciably affected by the reduced currency allowance available to them. In Great Britain managements still suffered from the strict rationing of some foods, though tea was de-rationed in October.

The remarks of the chairman of a large London establishment summed up the essential problem of managements everywhere:

> Nothing dates so quickly as a hotel for its patrons are apt to judge it by the standard set by the newest hotel built in any part of the world. Amenities and decorations must constantly be adjusted according to prevailing fashion, which is by no means easy in these days of crippling taxation and higher prices

The underlying truth of this was internationally recognized, and was reflected in the numerous meetings, conferences and visits of proprietors and managers, in groups and individually, to hotels in other countries for the exchange of information and ideas

Marked attention was also paid to the technical training of entrants into the hotel and catering industry. In Great Britain a national Apprenticeship council was set up which was expected to have a beneficial effect on catering standards. (H. C. CE.)

United States. The U.S. hotel industry, after six years during which demand for accommodation decreased, reached a levelling-off point in 1952, and demand remained constant. Sales volume, however, increased about 7%, as a consequence of the shrinking value of the dollar Room sales were up 7%-8% and both food sales and beverage sales rose about 6%. Net income before taxes remained virtually unchanged.

Hotels continued to benefit from two trends which had been noted in previous years One was a gradual increase in conference and other group business, as businessmen found it more necessary to meet and discuss mutual problems. The other was a continual lengthening of resort seasons, winter as well as summer, enabling hotel owners at resorts to make greater use of their facilities by spreading their operations over more of the year. This benefited holiday-makers as well as hotels, since it had the effect of making resort facilities available to a greater number of people in the course of a year.

A nationwide survey made for the American Hotel association during 1952 revealed that transient hotels, large and small, had created many new services and facilities to appeal especially to motorists and travelling family groups. Some hotels had built motor entrances, with special registration desks and stairs or elevators, to make it possible for the motorist to check in at this entrance and go directly to his room, without passing through the lobby. Many hotels had added storage garages or parking lots and sometimes both. Others, unable to provide conveniently for motorists because of their congested downtown locations, had built motor annexes on the outskirts of their cities to make hotel comfort and convenience more readily available to the motoring public.

To serve the increasing number of travellers who were accompanied by their children, hotels created playground areas and special dining facilities for guests with children. Many provided children's menus, with half-portion prices. Cots, cribs and double-decked bunks were available in a large number of transient hotels, and some also provided nursery facilities and baby-sitting service. (*See* also TOURIST INDUSTRY.) (C. A. HH)

HOUSING. By July 31, 1952, 1,600,230 new houses, flats and other accommodation had been provided in the United Kingdom since 1945. The total number of new dwellings completed under the postwar programme was

1,304,444 (1,147,298 permanent and 157,146 temporary). By any test this represented a formidable re-housing achievement carried out in seven years when costs were high, materials scarce and manpower not readily available. Harold Macmillan, minister of housing and local government, determined that he would produce more houses than the 200,000 a year which his Labour predecessor had regarded as the maximum figure considering other demands on the building industry—the defence programme, the need for

PERMANENT HOUSES AND FLATS COMPLETED IN GREAT BRITAIN

	Postwar total to Oct 31, 1952	Completions in October	Completions in September
Local authorities	954,883	17,987	17,620
Private builders	172,373	3,897	3,629
Housing associations	9,425	267	247
Government departments	29 740	1,053	747
War-destroyed houses rebuilt			
(i) Local authorities	9,337	28	32
(ii) Under licence .	34,975	59	48
Total .	1,210,733	23,291	22,323

SOURCE: *Housing Summary* (Cmd 8704, H M S O, London, 1952)

new factories, etc. The Conservative government appeared to have reduced other forms of building in order to press ahead with the housing programme—at what cost to the general economic well-being of the nation was not easily discernible.

Macmillan's programme also included a reduction in housing standards. The postwar house of the Labour government had, on the average, 1,000 sq ft. of floor area. Macmillan calculated that by adopting the terrace house as the norm there would be a saving in capital cost of at least £150 on each house. He took the view also that by skilful interior planning room sizes could be maintained—by reducing circulation space, by combining the hall and the dining room and by producing a "large living-room" house (new to the United Kingdom but already popular in Canada and the United States) in which the stairs rise from the living room and the whole house is heated from a central independent boiler. The scheme had the further advantage that it enabled more houses to be built with the same material and the same manpower. The ministry's publication *Houses 1952*, the second supplement to the *Housing Manual 1949*, claimed that the new plans retained the minimum room sizes of the *Housing Manual 1949*. The net house floor areas ranged from 679 sq.ft. for a semi-detached house for four persons to 854 sq.ft for a terrace house for five persons. At best it represented a drop in postwar standards of over 150 sq.ft. of living area and at the worst a drop of over 400 sq ft.; the best was a slight improvement on the Tudor-Walters standards of 1918-39 housing, the worst fell considerably below that standard. The homeless, the young couples living with their in-laws, the wives sharing a kitchen, all regarded a small house of their own as infinitely better than no house at all, and the minister's policy slightly enhanced their prospects.

The minister did not carry his zeal for economy into the field of housing finance and he perpetuated the high, uneconomic subsidies for multi-storey development in the centre of cities which had been incorporated by Aneurin Bevan in his 1946 Housing act. These subsidies were attacked by Professor Gordon Stephenson, head of the Liverpool university school of architecture, in an address to the Town and Country Planning Summer school. "On normal houses", said Professor Stephenson, "the value of the 1952 subsidy at 4¼% is £769. On flats with lifts on land at £10,000 to £12,000 an acre, the subsidy is £2,094." When it was remembered that the floor area of a flat is generally about two-thirds the floor area of a subsidized house, the discrepancy became even more marked. It meant that, with or without Macmillan's saving in space, it was possible to build a family house for a total cost of £500 to £700 less than the *subsidy alone* on a small flat. It was felt by many that the policy of flat development, wholly alien to the English tradition and character, had been and was being imposed upon the people against their will. Among responsible authorities attending to the demands of the consumer, Crawley New Town corporation, having ascertained the views of 2,000 future residents of the town, decided to cut down flat development to not more than 5% of the total.

The ideal of the Conservative government was, in Anthony Eden's phrase, "a property-owning democracy". The minister, therefore, gave permission to local authorities to sell their council houses subject to various restrictions; particularly that no house built before 1945 might be sold at less than 20 times its net annual rent and no postwar house at less than the full cost of building it. These were scarcely attractive terms. As a tenant the occupant of the council house paid a subsidized rent of about 35*s.* a week. With interest payment at 4½% on a capital cost of £1,600, and allowing for maintenance, his outgoings as owner would go up to about £2 10*s.* a week; "a high price", the *Economist* pointed out, "to pay for security of tenure and freedom to paint his front door as he likes." On Dec. 16 Macmillan announced in the House of Commons that from Jan. 1, 1953, any individual might build a house, "subject to planning permission and by-law consent, so long as it is of not more than 1,000 sq ft. and does not consume more than the appropriate quantity of softwood timber." Also, subject to the same conditions, builders might build up to 12 houses at a time.

Belgium. The number of private houses built in Belgium in 1951 was 26,747, as compared with 33,794 in 1950. The total number of houses of all kinds built in 1951 was 33,612. On Dec. 31, 1951, 11,143 houses were under construction, as against 14,759 on Dec. 31, 1950. About 96% of the total building work in Belgium was devoted to house building.

France. From the liberation to Dec. 31, 1951, 249,820 houses had been built in France and at that date 219,880 further houses were in course of construction. In 1951, 44,345 new houses were built and 30,575 war-damaged houses were restored.

Netherlands. In 1951 the number of new houses finished in the Netherlands was 58,666 (1950, 47,300). At the end of July 1952, 29,095 houses had been completed.

Norway. In 1951 Norway's housing programme was stepped up enormously and 21,000 houses were completed. In the first six months of 1952, 15,000 houses were built, as compared with 7,800 in the first half of 1951.

Sweden. It had taken Sweden until 1946-47 to bring its housing output up to the prewar rate. In these two years 116,000 were built and the total exceeded the two immediate prewar years by 3,500 houses. Since 1947 there had been a sharp decline, descending to 41,551 in 1949 and rising slightly to 43,935 in 1950. Sweden continued to occupy an outstanding place in house design, in the matter of family living space its record was not so good. More than half the houses built in 1949 and 1950 were of two rooms and kitchen, or less, and 5,198 houses, although equipped with central heating, were without a private bath and/or W.C. It was odd, too, to find in a timber-growing country that the use of timber for outer walls was somewhat reduced in 1950.

U.S.S.R. It was reported that in the first postwar five-year plan 120 million sq.yd. of living floor-space had been built in the U.S.S.R. Taking the average postwar house in the U.K. at 1,000 sq.ft. this represented the construction of 1,080,000 comparable houses. It was announced that the Molotov motor works in Gorky had undertaken in 1952 to build 19,500 sq.yd. of housing. By English standards this

worked out at 177 houses. The figures issued by the U.S.S.R. corresponded closely with statistics used by E. M. Chossudovsky in the *Housing and Town and Country Planning Bulletin No. 5*, published by the United Nations. One of the first decrees after the revolution in 1917 prohibited rent increases and the U.S.S.R. claimed that there had been no increase in rent for over a quarter of a century. It further claimed that on all houses built since the revolution the capital cost was paid by the state and was ignored in fixing the rents, which were wholly applied to maintaining the properties and to their improvement. The U.S.S.R. did not appear to oppose the private ownership of houses: on the contrary M. Maximov stated: "The Soviet State gives every encouragement to private house building by citizens for their own use." The state granted loans to workers and peasants who wished to build or buy a house for themselves and provided sites free. The first postwar five-year plan aimed at producing the equivalent of 129,000 United Kingdom houses. This target was reported to have been passed. (G. McA.)

United States. For the second consecutive year the number of new non-farm dwelling units started in the United States during the first half of the year showed a decline. During the months Jan.-June 1952, 565,700 housing units were placed under construction, an amount 4·1% lower than for the comparable period of the previous year and almost 20% below the first six months of 1950. The average estimated construction cost per unit remained virtually unchanged from the previous year, but stood 10% higher than in 1950 and 20% larger than in 1949.

Indications of softening in the market for new residential construction began to appear, in both apartment and single-family houses. Whereas, previously, units had been snapped up upon completion, or even earlier, vacancies now existed in new units and many new houses remained on the market for weeks without as much as an inquiry. Prices for single-family houses over $15,000 began to sag. A large part of the tightening of demand, it was claimed, was the result of factors related to housing finance: mortgage lenders were becoming more cautious, mortgage interest rates were considered to be too low, and regulation X kept many potential buyers out of the market by the down-payment requirements.

By mid-year it was estimated that 250,000 new houses were unsold, an amount equivalent to more than 40% of total production during the first six months of the year. The builders felt that if purchasers could be secured, mortgage money would somehow or other find its way into the market. They therefore focused their attention on regulation X which they felt excluded a sector of potential purchasers from the market. In mid-June the Federal Reserve Board relaxed regulation X slightly, and by the end of June a formula had been written into law providing for its complete removal.

An amendment to the Defence Production act stipulated that if housing starts for any consecutive three-month period should fall below an annual rate of 1,200,000 dwellings, down-payment requirements should not exceed 5% of the sale price. During the months of June, July and August, housing starts fell below the annual rate of 1,200,000. In mid-September the two-year-old curbs on mortgage credit were suspended and conventional mortgage loans made by banks, savings and loan associations and other private sources were no longer subject to federal restrictions on this score.

Another step in the direction of the removal of rent control, one of the most controversial issues in U.S. housing, was taken in 1952. A federal act provided that unless a city or town specifically indicated its desire to continue these controls, they would lapse on Oct. 1, 1952. According to the Office of Rent Stabilization, of the 2,400 communities under rent control before Sept. 29, approximately 1,500 voted to continue under the law while the remaining 900 permitted the law to lapse. Rent control was still mandatory in several states that had their own statutes. In addition, federal rent controls were in force in 118 critical defence housing areas and another 28 areas were in the process of being certified into this group.

Despite legislative setbacks, by the end of Aug. 1952, 144,272 new dwelling units had been started under the low-rent housing programme established by the Housing act of 1949. About one-third of these units (45,532) had been completed and made available for families whose income was insufficient to allow them to rent or purchase adequate living quarters, and households displaced by slum clearance and redevelopment projects. (*See* ARCHITECTURE; BUILDING AND CONSTRUCTION INDUSTRY; LOCAL GOVERNMENT; TOWN AND COUNTRY PLANNING.) (CH RA.)

HUNGARY. People's republic of southeastern Europe, bounded W. by Austria, N. by Czechoslovakia, E. by Rumania and S by Yugoslavia. Area: 35,893 sq.mi Pop.: (1938 est.) 9,021,000, (Dec. 31, 1948, census) 9,201,158. Language (1947 est.): Hungarian 92 9%, German 5 1%, Slovak 0 8%, Serbo-Croat and Slovene 0 6%, Rumanian 0·2%. Religion (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; 1948, 1,058,288); Szeged (136,752); Debrecen (125,933); Miskolc (109,433). Chairman of the presidium of the National Assembly in 1952, Sándor Rónai and (from Aug. 14) István Dóbi; prime ministers, István Dóbi and (from Aug. 14) Mátyás Rákosi.

History. At the session of the National Assembly on Aug. 14, 1952, Dóbi, the prime minister, resigned and Rákosi, a vice-premier and leader of the Workers' (Communist) party, became premier. Dóbi was promoted to the presidency of the republic, while President Rónai was made chairman of the National Assembly This was a demotion for Rónai, the last former Social Democrat to occupy a position of decorative importance. When in 1951 the extreme left wing of the Socialists was purged from its positions in the state and in the Workers' party, Rónai alone remained. The appointment of Rákosi, following by two months the appointment of G. Gheorghiu-Dej as premier in Rumania, removed the last "peasant" premier of a satellite country.

An important reshuffle in the cabinet took place on Nov. 15. Four ministers, all members of the Politburo, were relieved of their portfolios and appointed deputy premiers: Erno Gero, Károly Kiss, Arpád Házi and Imre Nagy. A fifth deputy premier appointed on the same day was István Hidás, a member of the central committee of the Workers' party.

The personality of Rákosi received more than usual publicity during 1952. His 60th birthday celebrations were marked by fulsome flattery. The little Stalin of Hungary was copying his genial prototype even in small details. Among these was the falsification of history to the advantage of his own reputation. In the Soviet Union it had become sacred dogma that Trotsky did nothing for the Bolshevik cause in the revolution, and that the civil war was won by Stalin's defence of Tsaritsyn. In Hungary the name of Béla Kun, leader of the Communist régime of 1919, was erased from all history books, and now the greatest exploit of the revolutionary war was an alleged victory at Sálgotarján, won by the courage and organizing genius of Rákosi. One difference between the two cases was that Stalin in 1917-20 really was a person of some importance, even if a lesser figure than Trotsky, whereas Rákosi in 1919 played a minor political role and no military role at all.

The most publicized industrial exploit of the year was the opening of the new blast furnace at Diósgyör on May 11.

Official commentary claimed that it had been built in eight and a half months, and that the success was largely due to Soviet aid. In an article in *Pravda* of March 1, Ernö Gerö, Hungarian chief planner, stated that coal, iron, steel, electric power and crude oil production were lagging behind the development of the machine industry. These important branches required special new efforts. Gero stressed the need to struggle against the migration of labour from job to job. "To ensure the manpower supply has become the most serious question in the people's economy."

Various steps were taken to coerce industrial labour. The trade unions acquired new leadership on Jan. 17, when Antal Apró, the general secretary, was replaced by István Kristof. On May 1, a system of employment cards was introduced to stop movement of workers from one job to another. No worker might be taken on by any enterprise if his employment card was not in order. Heavy fines were introduced in June for absenteeism in the mines Socialist competition and Stakhanovism were to be developed more than ever. *Szabad Nép*, the Communist party's daily organ, complained on July 13 that managers remained satisfied with the achievements of individual Stakhanovites without taking adequate steps to ensure that the working methods of these Stakhanovites were accepted and applied by every worker. The aim behind this criticism was that exceptional outputs achieved by Stakhanovites should as quickly as possible be made the "norm", that is, the minimum standard expected of every worker, by which his wage was calculated.

At the beginning of the year collective and state farms together had nearly 25% of the arable land. The pace of collectivization was slow until August, when, as in previous years, it was once more speeded up Meanwhile the organization of the "Socialist sector" of agriculture was made stricter. On May 28 a Ministry of State Farms was set up. Just previously, on April 23, a government resolution had laid down precise recommendations for tightening labour discipline in collective farms. The system of permanent brigades, specialized work teams led by a foreman and working together for three years or more, was introduced. It was laid down that every adult member of a collective farm must perform at least 120 "labour days" a year on the collective land, and mothers of young children at least 80 A "labour day" was a standard amount of work, which might involve more or less than a whole day's work, depending on the degree of skill involved. The minimum amount was designed to prevent peasants from spending a large part of their time in working on their private plots, to the detriment of the collective lands. It was based on the experience of the Soviet Union, where similar rules were introduced in 1939 and later years

Great efforts were made to popularize courses in the Russian language for Hungarian workers. In 1951 it was claimed that 25,000 had attended. In 1952 the aim was 60,000.

Budapest was enriched by a statue of Stalin, eight metres high, in the City park. At the unveiling ceremony, Jozsef Révai, minister of popular enlightenment, declared: "Stalin struck the shackles of foreign oppression from the hands of the Hungarian people." (*See* EASTERN EUROPEAN ECONOMIC PLANNING.) (H S.-W.)

Education. Schools (1951-52) elementary 6,185, pupils *c.* 1,200,000, teachers 36,800, secondary 405, pupils *c.* 120,000, technical, pupils 57,000, institutions of higher education 21, students *c.* 45,000, professors and lecturers 7,200

Agriculture. Main crops ('000 metric tons, 1934-38 average, 1950 in brackets) wheat 2,220 (2,040); barley 608 (640), oats 270 (220), rye 697 (790), maize 2,306 (1948, 2,862); potatoes 2,133 (1,224) Sugar, raw value 117 (255) Livestock ('000 head, 1939; latest estimates in brackets) cattle 1,882 (1951, 1,700); pigs 3,886 (1951, 4,500); sheep 1,868 (1949, 650), horses (1949, 569). Food production ('000 metric tons, 1934-38 average, 1949 in brackets) milk 3,831 (1,100); butter 9 8, factory cheese 9·6, meat (export only, 1950, 1 6). Wine production: (1938) 3,259,000 hl., (1951) 3,678,000 hl.

Industry. Persons employed in manufacturing industries (1947) 349,500, (1950) 461,000 Fuel and power (1938, 1950 in brackets). coal ('000 metric tons) 1,042 (1,200); lignite 8,306 (9,500); crude oil 43 (490); electricity (million kwh.) 1,061 (2,360) Raw materials ('000 metric tons, 1938, 1950 in brackets) pig iron 335 (473); steel ingots and castings 648 (1,023); bauxite 540 (594); aluminium 1 5 (16 1), cement 395 (923)

Finance. Budget (million forints, 1951 est., 1952 est. in brackets) revenue 29,623 (42,770), expenditure 29,516 (42,481) including 13,100 (19,125) invested in the national economy Monetary unit *forint* with official exchange rates of F 2 935 to the rouble, F 33 15 to the pound sterling and F 11 74 to the U S dollar

Foreign Trade. (Million U.S dollars, f o b , 1938, 1950 in brackets.) Imports 116 (265), exports 147 (257) Main sources of imports (1950) Poland, Czechoslovakia, Rumania and Bulgaria 35 4%, U S S R 22 7% Main destinations of exports four eastern European countries 36 6%, U S S R 25 7%.

Transport and Communications. Roads (1951) 15,976 mi Licensed motor vehicles (Dec 1950) cars 16,000, commercial 15,500 Railways (1951) 7,100 mi Air transport (1948) flights 4,447; mi. flown 625,800, passengers carried 36,111. Danube shipping (Dec 1947) merchant vessels 514, gross tonnage 118,717. Telephones (1950) 115,000 Wireless licences (1949) 525,000.

HUTTON, LEONARD, English cricketer (b. Pudsey, Yorkshire, June 23, 1916) Hutton first played cricket on the Pudsey St. Lawrence ground, and at the age of 14 attended a Yorkshire trial at Headingley, Leeds. His *début* in first-class cricket was made for Yorkshire against Cambridge university in May 1934, and within three months he became the youngest player to score a century for Yorkshire. Two years later he was in the Yorkshire team which visited Jamaica, and in June 1936 was awarded his county cap. Hutton played in all three tests against New Zealand in 1937, and in 1938 scored a century in the first test at Nottingham against Australia. In the fifth test at the Oval he was at the wicket for 13 hr. 20 min. and made 364 runs, the highest individual score in test cricket. (England scored 903 for seven, and won by an innings and 579 runs) In 1940 he joined the army and qualified as a physical training instructor. In March 1941 he met with a serious accident to his left arm which necessitated three bone-grafting operations, and left hospital after eight months with his left arm shorter by about two inches. He had to remodel his batting technique, but after the war he resumed his position as opening batsman for Yorkshire and England. From 1946 to 1952 Hutton played in all but one of the home test matches, and in 1952 became the first professional captain of the England test team. He led England to victory in three matches against India (the fourth was drawn). He became the 13th player to complete 100 centuries, in July 1951. He holds the record for the greatest number of runs in a month, 1,294 in June 1949. By the end of the 1952 season he had scored 34,205 runs for an average of 50 16, represented England 60 times and scored 114 centuries. He was a member of the M.C.C. touring teams in South Africa (1938-39 and 1948-49), Australia and New Zealand (1946-47 and 1950-51) and West Indies (1947-48). In Sept. 1939 he married Dorothy Dennis of Scarborough and they have two sons.

IBÁÑEZ DEL CAMPO, CARLOS, Chilean statesman (b. Linares, Chile, Nov. 3, 1877), was educated at the Chilean Military school and at the Academy of War. In 1905 he was appointed director of the National Military school of El Salvador. Returning to Chile in 1908, he was successively staff officer and division commander, director of a carabineer school, director in the Ministry of War and military attaché in Paris. From 1925 to 1927 he was minister of war with the rank of general; in 1927 he became minister of the interior and later that year vice-president of Chile. By this time Ibáñez was *de facto* chief executive of the nation,

and elections held in July 1927 confirmed him as president with virtually no limitation on his power. His administration was a mixture of dictatorship and welfare state, and until 1929 Chile enjoyed great economic prosperity. Ibáñez eventually was forced out of office in a bloodless uprising (July 1931) and went into exile in Argentina. He was an unsuccessful candidate for president in 1938 and in September of that year was arrested for suspected complicity in a *nacista* revolt in Santiago. He was sentenced to 20 years in prison but was released within a few weeks and left the country. Later he returned and was elected senator from Santiago. In 1952 he once more announced his candidacy for president as a Nationalist, reputedly with the backing of President Juan Perón of Argentina. Ibáñez was elected president for a six-year term on Sept. 4, 1952, by 432,920 votes against 488,415 distributed among three other candidates He was inaugurated on Nov. 3.

ICE HOCKEY. In the 1951-52 season the Autumn cup was won by Streatham with Nottingham Panthers as runners-up and the National league was won by Wembley Lions with Earls Court Rangers as runners-up Six teams competed in the Intermediate league with Wembley Terriers finishing first and Streatham Royals second. For the first time an intermediate league was organized in the midlands, in which teams from Grimsby, Liverpool, Blackpool and Nottingham competed, Liverpool finishing first. In the Northern Amateur tournament all games were played at Durham ice rink. The local team finished first with Earls Court Marlboroughs second and Wembley Terriers third; in the play-offs Earls Court Marlboroughs won the trophy

For the second year the special international invitation tournament for the Winston S Churchill cup was confined to teams from Canada, the United States and a representative England team. The trophy was won by England.

The world and European championships were played as part of the winter Olympic Games in Oslo. Canada retained its Olympic honours and also the world title, the United States taking second place. For third place Sweden beat Czechoslovakia in the replay, thus also retaining the European championship

In Scotland, the Autumn cup was won by Ayr Raiders with Falkirk Lions as runners-up, and the Canada cup by Falkirk Lions with Dundee Tigers runners-up The National league winners for the Coronation cup were Ayr Raiders with Dundee Tigers as runners-up and the Anderson cup for the National league play-offs was won by Falkirk Lions with Perth Panthers as runners-up. (J. F. A.)

United States and Canada. Detroit's Red Wings, after winning the 1952 championship of the National Hockey league, went on to capture eight straight play-offs and gain the Stanley cup, symbol of world supremacy. Detroit became the first team to win eight straight games in a Stanley cup series when they defeated the Canadians, 3-0, to take the trophy.

Gordie Howe, with 86 points, equalled his own National league record and won the Hart trophy as the most valuable player for the 1951-52 campaign. Sid Smith of Toronto received the Lady Byng Memorial trophy for good sportsmanship and ability. Sawchuk captured the Vezina trophy as the goalkeeper conceding fewest goals and Bernie Geoffrion of Montreal won the Calder trophy as the season's outstanding newcomer.

The Pittsburgh (Pennsylvania) Hornets headed the American league and the Saskatoon Quakers finished first in the Pacific Coast league. The Johnstown (Pennsylvania) Jets headed the senior division of the Amateur Hockey association of the United States and also the Eastern league; Toledo (Ohio) Mercurys carried off the International league championship. Canada won the world amateur tournament.

(T V. H.)

ICELAND. Island republic in the north Atlantic. Area: 39,768 sq mi. Pop.: (1940 census) 121,474, (1950 census) 144,263. Language: Icelandic, closely akin to Old Norse. Religion: Lutheran. Capital: Reykjavik (pop., 1951, 57,514). Presidents of the republic in 1952: Sveinn Björnsson and (from Aug. 1) Asgeir Asgeirsson (*q v.*), prime minister, Steingrímur Steinthórsson

History. Sveinn Bjornsson, the first president of the republic of Iceland, died on Jan. 25, 1952 (*see* OBITUARIES) The new president, Asgeir Asgeirsson, was elected for a 4-year term on June 29 and inaugurated on Aug. 1

The herring catch failed for the seventh summer in succession and further-increased emphasis was therefore laid on other fishing, in particular that of cod, haddock, redfish and halibut. The proportion of the catch that was prepared in various ways changed much during the year: the production of fish meal and dried salted fish diminished and much less fish on ice was sold than before, the production of frozen fish, stockfish and wet salted fish increased Of special interest was the increased export of frozen fish to the United States and wet salted fish to Italy

The building was continued of the two large hydro-electric plants started in the previous year A nitrogen factory was being built near Reykjavik and arrangements made for the building of a cement factory. Book-production further diminished, although conditions were not more unfavourable than in the previous year.

Education. Schools (1951-52) elementary 213, pupils 15,116, teachers 692, secondary 55, pupils 4,574, teachers 326, grammar 2, pupils 764, teachers 51, other school 58, pupils 4,397, teachers 399 University of Iceland students 680, professors and lecturers 60

Livestock and Fisheries. Livestock (Jan 1951) sheep 415,544, cattle 44,535, horses 42,280, poultry 97,219 Fisheries total catch (metric tons, 1951, 1952, eight months, in brackets), 370,655 (247,633)

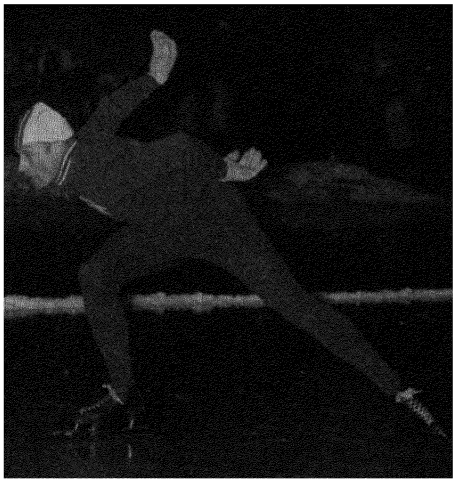
Finance and Banking (million krónur) Budget (1951 actual) revenue 414 5, expenditure 305 1, (1952 est) revenue 396 2, expenditure 332 4 Public debt (Jan 1952) 450 9, incl foreign debt 197 8 Note circulation (Dec. 1951) 198 Monetary unit *króna* (plural *krónur*), with exchange rates of Kr 45 70 to the pound sterling and Kr 16 32 to the U S dollar

Foreign Trade. (Million kronur, 1951, 1952, nine months, in brackets) Imports 922 1 (657 0), exports 726 6 (424 7) Main sources of imports (1951) U K 28 8%, U S 13 0%, Netherlands possessions in America 9 9%, Denmark 5 4%, Sweden 4 8%, western Germany 4 7%, Spain 4 5% Main destinations of exports (1951) U K 23 4%, U S 18 3%, Netherlands 11 5%, Italy 6 2%, Spain 5 4%, Poland 5 2% Main exports (million krónur 1951, 1952, nine months, in brackets) frozen fish 179 7 (135 6), fish meal 71 7 (40 1), herring oil 72 1 (4 4), fish on ice 70 9 (29 8), salted fish (dried) 66 8 (18 0), salted fish (uncured) 64 9 (84 6), herring (cured) 60 8 (13 8), cod liver oil 37 2 (22 4)

Transport and Communications. Roads (1951) 7,185 km Licensed motor vehicles (Jan 1952) cars 6,420, commercial vehicles 4,214 Shipping (Oct 1951) Vessels of 100 gross tonnage and over, 143, total tonnage 83,448, other registered vessels 530, total tonnage 16,786 Fishing fleet 631 vessels, gross tonnage 57,733 Telephones (Jan 1952) 21,368 Radio receiving sets (Jan 1952) 35,882 (G. TH)

ICE SKATING. The 1952 British speed championships were won by J. Laming (1 mi.), G. R Welham ($\frac{1}{4}$ mi.) and J. Dymock ($\frac{1}{4}$ mi.). The world speed championship was won by H. Andersen (Norway), with L. Parkkinen (Finland) second and I. Martinsen (Norway) third.

The British figure-skating championships for men, ladies and pairs were held at the Empress hall, Earls Court, on March 28. A. Swan (Australia) won the men's championship and Valda Osborn the ladies'. In the pairs John and Jennifer Nicks won the title for the fifth time. The men's world figure-skating title was won by R. Button (U.S.), with J. Grogan (U.S.) second; the ladies' by Jacqueline du Bief



Hjalmar Andersen, Norway, who won the 1,500-m., 5,000-m., and 10,000-m. events in the Winter Olympic Games at Oslo in February.

(France), with Sonia Klopfer (U.S.) second; and the pairs by Paul and Ria Falk (Germany), with Peter and Karol Kennedy (U.S.) second.

In the VIth Winter Olympic Games at Oslo, R. Button (U.S.) won the men's figure-skating event, with H. Seibt (Austria) second; Jeannette Altwegg (Great Britain) won the women's title (second, T. Albright, U.S.), and Paul and Ria Falk (Germany) the pairs event (second, P. and K. Kennedy, U.S.).

In the newly instituted world championship in ice dancing, held in Paris, L. Demmy and Jean Westwood (both Great Britain), closely followed by their compatriots J. Slater and Joan Dewhirst, took first and second place respectively.

After her success in the Winter Olympic Games, J. Altwegg decided not to defend her world or British titles and announced her retirement. For the second time she was awarded the Vandervel trophy for the best performance of the year. (T. D. R.)

United States. R. Button, 22-yr.-old Harvard student from Englewood, New Jersey, completed a brilliant amateur career in 1952 with a sweep of the national, world and Olympic figure-skating championships, and then, on Aug. 28, turned professional. He signed a contract for $150,000 with the "Ice Capades of 1953" and made his debut at New York's Madison Square Garden on Sept. 11. Button captured the national senior men's championship at Colorado Springs, Colorado, in March and in winning that title for the seventh time running equalled the record set by Roger F. Turner of Boston, 1928-34.

Tenley Albright, 16-yr.-old star from Newton Center, Massachusetts skated off with the women's senior championship. Ken Bartholomew of Minneapolis won national outdoor senior honours for the seventh time and third year running. Longsjo and Ray Blum, Nutley, New Jersey, tied for men's honours in the North American championships at Alpena, Michigan, while Barbara Marchetti and Doreen McLeod of Edmonton, Alberta, the Canadian champion, shared the women's. (*See* also OLYMPIC GAMES.) (T. V. H.)

IFNI: *see* SPANISH COLONIAL EMPIRE.

IMMIGRATION AND EMIGRATION. During Dec. 1951 and early 1952, there was a general review of migration in various countries and organizations. In Great Britain the Empire Settlement bill was opposed in parliament as inadequate, though the proposed amendment was withdrawn. The bill extended the British contribution (up to £1·5 million a year towards settlement schemes) to the end of May 1957. The expenditure in 1951-52 was estimated at £560,000. A Gallup poll taken in Dec. 1951 revealed that 31% of persons questioned wished to emigrate, mainly to Commonwealth countries. The average decrease of the British population by emigration over the previous 20 years was 200,000 a year. The Intergovernmental Refugee organization went officially out of existence on Dec. 31, 1951. Since Jan. 1947 the organization had assisted 1,446,700 refugees, of whom 706,177 were resettled: 155,529 in the United States, 117,085 in Palestine and Israel and 113,986 in Australia. A Provisional Intergovernmental committee was set up at the end of 1951 to arrange for the movement of migrants from Europe. Seventeen nations were represented and it was planned to move some 137,500 persons. Of these 90,000 were to be Germans including 35,000 ethnic Germans (Volksdeutsche).

Great Britain. The influx of foreign workers greatly decreased in 1952, partly because of the state of the labour market and partly because of the attitude of British workers. Eleven hundred Italian miners in training in Britain could not be given work and 400 of them were accepted by Belgium.

Canada. There were 194,391 immigrants in 1951. Legislative provision was made to assist the immigration in 1952 of 100,000 to 150,000 persons. At the end of 1951 there were about 20,000 persons in the U.K. awaiting passages to Canada.

Australia. Since the end of World War II 600,000 immigrants, including 180,000 displaced persons, had been accepted into the country. Nevertheless, only 0·6% of the working population were unemployed during the first quarter of 1952. The immigration quota for 1952 was reduced to 80,000, or one-third of the total average over the previous four years. Within the new quota 25% would be immigrants from the U.K. paying their own passages and 25% from the U.K. on assisted passages, with a similar division for immigrants from other countries.

New Zealand. In the 12 months ended March 31, 1952, New Zealand received 14,000 immigrants. The quota was now expected not to exceed 6,000 a year.

South Africa. An Immigration bureau was set up to facilitate immigration. At least 800 immigrants were expected from northern European countries. Emigration almost kept pace with immigration.

Germany. The pressure towards emigration from western Germany was greatly increased by a constant influx from eastern Germany: official figures for May, June and July 1952, were 5,318, 8,541 and 13,000, but the normal average was 200 a day (73,000 a year). Emigration figures up to the end of September by boat from the main ports were: Bremerhaven 12,438, Bremen 2,364, Hamburg 9,000. Enquiries at the West German Emigration office totalled 52,412 covering 81,031 persons. The main receiving countries were the United States, Canada, Venezuela, Brazil and Chile.

Israel. David Ben-Gurion stated that he aimed to build up the population of Israel (1·3 million) to 2 million by the end of 1953. Owing to the state of trade, distress in the work villages and difficulties with untrained and unsuitable settlers, plans for 1952 restricted immigration to 120,000 on a selective basis according to the productive capacity of applicants. In the latter months immigration was still further restricted. Much financial aid was received from the U.S. (the United Palestine appeal adopted in Nov. 1951 a budget of $145·6

million for the next 12 months), and an agreement was reached in September with western Germany for the payment (almost entirely in goods) over a period of years of DM. 2,500 million (DM. 200 million yearly) as a token of restitution to the Jews for their sufferings in the Third Reich. (B. L. B.)

United States. The number of entries of aliens and citizens during the fiscal year ending June 30, 1952, for the first time passed the 100 million mark to reach 107 million. Of these entries 97% were alien and citizen border crossers who may have made numerous entries across the Canadian and Mexican borders. The others were crewmen, immigrants and other aliens admitted as visitors, students, government officials and others admitted for temporary periods. In the fiscal year 1952, the number of aliens admitted for legal permanent residence rose to 265,520, which represented the highest figure since 1929.

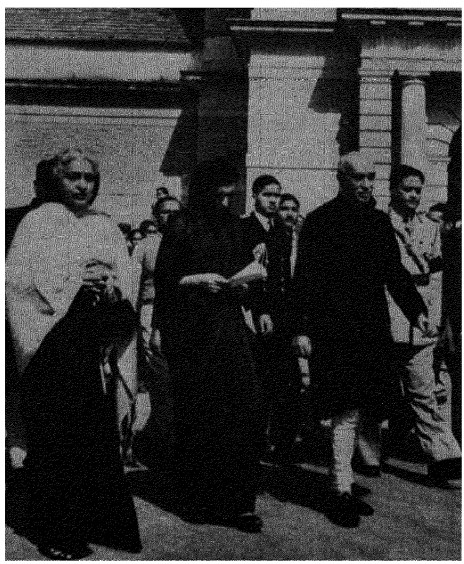
There were 77,196 displaced persons charged to quotas, and 1,982 non-quota displaced persons (chiefly orphans), who were admitted to the United States in the fiscal year 1952.

IMMIGRANTS TO U.S. BY COUNTRY OF BIRTH, YEAR TO JUNE 30, 1952

	Admitted		Admitted
All countries	265,520	Asia	9,428
Europe	202,884	Canada	28,141
Germany	50,283	Mexico	9,600
Greece	7,084	West Indies	6,723
Hungary	6,850	Central America	2,642
Italy	9,306	Other North America	986
Poland	33,211		
United Kingdom	17,631	South America	3,902
U.S.S.R.	12,697	Africa	740
Yugoslavia	17,223	Australia and N.Z.	416
Other Europe	48,599	Other countries	58

SOURCE: U.S. Department of Justice Immigration and Naturalization service.

This brought the total number of displaced persons admissions under the Displaced Persons act of 1948 (exclusive of ethnic Germans), to 340,094. Other quota immigrants, including 42,786 ethnic Germans, numbered 117,051, bringing the quota immigration total to 194,247, which was 39,970 above the established annual quota.



Jawaharlal Nehru with his daughter, Mrs. Indira Gandhi **(centre)**, *and sister, Mrs. Vijayalakshmi Pandit walking to the* **Cathedral** *Church of the Redemption, New Delhi, for a memorial service for George VI, Feb. 15.*

The 71,273 non-quota immigrants were chiefly natives of the independent countries of the western hemisphere and wives of United States citizens. More than half of the wives of citizens came from three countries where United States troops were stationed: Germany, Italy and Japan.

During the fiscal year 1952, there were 21,880 emigrants, including 9,691 who went to Europe, 2,441 to Asia, 2,760 to Canada, 2,227 to the West Indies and 1,984 to South America. (*See* also ALIENS; REFUGEES.) (A. R. MACK.)

INDIA. Republican self-governing member of the Commonwealth of Nations in southern Asia, a union of states. Areas and populations of the states are:

Name of State	*Area* (sq.mi.)	*Population* 1941 census	1951 census
Part A (governor's) states			
1. Assam	85,012	7,593,037	9,043,707
2. Bihar	70,330	36,545,575	40,225,947
3. Bombay	111,434	29,506,068	35,956,150
4. Madhya Pradesh	130,272	19,631,615	21,247,533
5. Madras	127,790	49,847,508	57,016,002
6. Orissa	60,136	13,767,988	14,645,946
7. Punjab	37,378	12,593,628	12,641,205
8. Uttar Pradesh	113,409	56,516,622	63,215,742
9. West Bengal	30,775	21,837,295	24,810,308
Total part A states	766,536	247,840,236	278,802,540
Part B (rajpramukh) states			
1. Hyderabad	82,168	16,338,534	18,655,108
2. Madhya Bharat	46,478	7,151,502	7,954,154
3. Mysore	29,489	7,329,140	9,074,972
4. Patiala-E. Punjab (PEPSU)	10,078	3,424,060	3,493,685
5. Rajasthan	130,207	13,282,105	15,290,797
6. Saurashtra	21,451	3,430,892	4,137,359
7. Travancore-Cochin	9,144	7,492,893	9,280,425
Total part B states	329,015	58,449,126	67,886,500
Part C (centrally administered) states			
1. Ajmer	2,417	588,960	693,372
2. Bhopal	6,878	785,322	836,474
3. Bilaspur	453	110,336	126,099
4. Coorg	1,586	168,726	229,405
5. Delhi	578	917,939	1,744,072
6. Himachal Pradesh	10,451	935,359	983,367
7. Kutch	16,724	500,800	567,606
8. Manipur	8,628	512,069	577,635
9. Tripura	4,032	513,010	639,029
10. Vindhya Pradesh	23,603	3,353,019	3,574,690
Total part C states	75,350	8,385,540	9,971,749
Part D territory			
Andaman and Nicobar Islands	3,215	33,768	30,971
Grand total	1,174,116	314,708,670	356,691,760

SOURCE: Census of India final population totals, March 1951 (Delhi 1952). No census was ever taken in Kashmir (*q.v.*), owing to special conditions prevailing there, and in the part B tribal areas of Assam, which had not been included in any former census and whose population was estimated as 560,000.

Language: two main groups, Aryan or northern (incl. Hindi used by approximately 47% of the total population, Bengali 8%, Marathi 7% and Gujarati 5%), and Dravidian or southern (incl. Telugu 9%, Tamil 7·5% and Kanarese 4·4%). English is the official language of the union to be displaced by Hindi in the Devanagari script by 1964. Religion: Hindu (about 80%), Moslem, Christian, Sikh, Buddhist, Parsee, Jewish, etc. Chief towns (pop.: first figure, 1941 census; second figure, 1951 census): New Delhi* (cap., 93,960; 279,063); Delhi* (521,849; 914,634); Calcutta† (2,108,891; 2,549,790); Bombay (1,489,883; 2,840,011); Madras (777,481; 1,429,985); Hyderabad (739,159; 1,085,074); Ahmedabad (591,267; 788,310); Kanpur or Cawnpore

* New Delhi and Delhi are counted as two cities. Together they had in 1951 a total population of 1,193,697 and ranked as the fourth largest urban agglomeration of India. † Greater Calcutta, including Howrah and suburbs, had in 1951 a total population of 3,490,281.

(487,324; 704,536), Amritsar (391,010; 320,465); Lucknow (387,177; 497,594); Nagpur (301,957, 449,441). President, Rajendra Prasad (*q.v.*); prime minister, Jawaharlal Nehru (*q.v.*).

Dominion and Republic, 1947-52. India, which acquired dominion status on Aug. 15, 1947, transformed itself into a republic on Jan. 26, 1950, but retained its membership of the Commonwealth of Nations. Its constitution established a union of states with a president elected for five years by an electoral college comprising all the elected members of the union and the state legislatures. A vice-president was to be chosen by the elected members of parliament. The executive authority was in practice exercised from the start by a cabinet responsible to parliament, a body consisting of the House of the People (maximum 500 members elected by adult franchise) and the Council of States (238 indirectly elected and 12 nominated members). Bicameral legislatures were set up in the six major states of Bombay, Madras, Bengal, Uttar Pradesh, Bihar and Punjab; elsewhere only one house was established Cabinet government was also instituted in the states; the governors were to be appointed by the president and, except in declared emergencies when the union government assumed direct responsibility for the administration, were to act on the advice of ministers. The former princely states became integral parts of the union, difficulties about accession arose only in Hyderabad where " police action " was found necessary in 1948, and in Kashmir where India was involved in a dispute with Pakistan.

Tribesmen raided Kashmir in Oct. 1947, and India accused Pakistan before the United Nations of aiding and abetting them. India promised, once peace was restored, to seek a plebiscitary confirmation of the accession. A cease-fire was reached on Dec. 31, 1948, and thereafter the controversy centred round the withdrawal of troops and the conditions necessary for the holding of the plebiscite. The influx of refugees resulting from partition gave rise to serious problems of rehabilitation which were handled fairly successfully. Of the 7 48 million displaced persons in India, nearly 800,000 families, forming the vast majority of the rural population, were resettled on the land, and Rs. 159 3 million advanced as loans. For urban resettlement, 12 new towns as well as many suburban extensions were built, and nearly 260,000 were found employment. The total expenditure on rehabilitation from 1947 to 1952 was Rs. 1,463 million. The republic was also faced from its inception with a serious threat of famine. The foreign policy was one of neutrality, tempered with sympathy towards nationalist movements in Asia and Africa.

History of 1952. *The Elections.* The year began with what was perhaps its most outstanding achievement, the successful conduct of elections to the union and state legislatures. Representative assemblies and the principle of election were not new to most parts of India; but the introduction of universal franchise in a country of long distances and, in many places, of difficult terrain, where illiteracy prevailed on such a large scale, was obviously a colossal experiment—and the registration of 176·6 million voters created the largest electorate in history. Some 225,000 polling stations were established and 56,000 presiding officers supervised the ballot. Voting began in Oct. 1951 and the last results were announced in March 1952. Fourteen All-India parties took part. Opposition to the Indian National Congress, the party in power, proud of its past record and claiming to be a progressive centre party, came mainly from the Socialists and the Communists on the left, and the Jan Sangh and allied groups, the representatives of orthodox Hinduism, on the right. There was also the newly formed Kisan Mazdoor Praja party (merged in August with the Socialist party), composed mainly of ex-Congressmen who claimed to abide by the ideals which they said Congress had abandoned on assuming office. Over 17,000 candidates contested 4,505 seats. Every available medium of propaganda was used, but on the whole there was moderation and restraint; 107,580,000 voters went to the booths. Polling averaged 40% in the towns and 60% in the villages, and the women displayed a keen interest.

In the House of the People, Congress gained 363 seats, polling 44 85% of the total votes, the Communists 23 seats, the Socialists 12, the K.M.P. 9, the Jan Sangh 3, other splinter groups 39 and independents 40. In all the 22 state assemblies and in the three electoral colleges of Kutch, Manipur and Tripura, Congress was returned as the largest single party and in every state except the Patiala and East Punjab States Union was able to form a ministry. This success was largely the achievement of Jawaharlal Nehru, who undertook an election tour of over 25,000 mi. and addressed mammoth open-air meetings in almost every part of the country. The utter failure of the reactionary and communal parties was a healthy sign and a proof of the maturity and sobriety of the electorate. In the Council of States, Congress gained 146 seats. Rajendra Prasad was elected president, defeating the other four candidates by a huge majority, and Sarvepalli Radhakrishnan (*q.v.*) was unanimously elected vice-president. On May 13 the new parliament met and Nehru announced his new cabinet of 15 members The oppositions, larger and livelier than before, made parliamentary government at the centre and in the states a reality.

Food. The chief problem confronting the government was clearly food. In 1951 there was no increase in production or in procurement, and the new year began with a failure of crops in Uttar Pradesh, Rajasthan, Kutch and the Punjab. There was drought for the fifth successive season in certain districts in Madras, and floods ravaged Bengal, Assam and Bihar. But even so the government decided in February to plan for the future rather than for the immediate present, and to withdraw subsidies for all food grains except milo, which was consumed mainly by the poor. But fortunately India for the first time had a large stock of food grains which was continuously increased by imports (from 1·33 million tons in January to 3·7 million tons in June). This, along with a good wheat harvest, improved procurement, and heavy rains in south India in May enabled a drastic revision of policy in June. Madras, Bihar, Uttar Pradesh, Saurashtra, Hyderabad and Mysore abolished rationing and price control but established fair-price shops as a precautionary measure. In Bengal free movement of grains between districts was allowed, but the government of India assumed the responsibility for feeding Calcutta. Other states wished to adopt the same policy, but the Union government, fearing a rise in prices and anxious to reduce imports, decided to continue controls on wheat and rice and to forbid inter-state movement of coarse grains.

In August the agricultural situation was literally darkened by an invasion of locusts which infested 60,000 sq.mi. in Rajasthan and slowly moved eastwards. They were, however, soon destroyed by air operations, costing Rs. 2·5 million.

Foreign Aid. The necessity of increasing agricultural production led to a willingness on the part of India to receive financial assistance from the United States. Pursuant to the general agreement for technical co-operation signed on Dec. 28, 1950, a specific agreement was signed on Jan. 5, 1952. The U.S. agreed to provide $50 million to be jointly administered by the two governments and used for the execution of agreed projects, the government of India making supplementary funds available. During the year 11 operational agreements were signed, allocating the money given by the U.S. and providing for the expenditure of $86 million

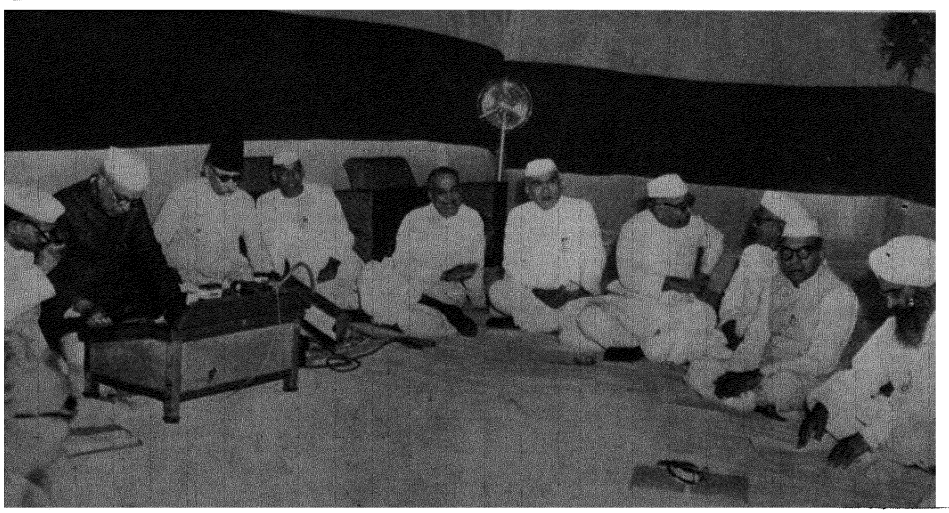
by the Indian government. The projects covered the supply of fertilizers and iron and steel, locust control, soil and forest research, desert control, development of marine fisheries and ground-water irrigation, malaria control, training of village-level workers, development of community projects and assistance in the execution of river valley schemes. Particular emphasis was laid on the community development projects to which the government of India allocated nearly 85% of its expenditure. Fifty-five project areas were chosen, each containing about 300 villages. The objective was to develop, within three years, the material and human resources of the area through the co-operative endeavour of the inhabitants with active assistance from the state. Work began in June in 44 project areas. An extensive survey was carried out and field operations commenced in October. To hasten these projects the Ford foundation gave $1,873,485 for a programme of rural extension service. Five centres for training personnel were started and a community project covering a hundred villages began in PEPSU. India and the U.S. together undertook the largest rural development programme in the world.

On Nov. 3, by a supplementary agreement, the U.S. agreed to provide a further $38·35 million, and from operational agreements allocated portions of this amount for the purchase of iron and steel and fertilizers, for community development projects and for malaria control.

Foreign Policy. This co-operation had no obvious political implications, but it decreased Indian suspicions of the United States, and fostered an appreciation of her motives. Relations with the other powers continued to be cordial. The Chinese government sold 100,000 metric tons of rice to India. An Indian cultural delegation reached China in April and during their tour of six weeks were received everywhere with enthusiasm. In January, the U.S.S.R.'s sudden intervention—for the first time in four years—in the Kashmir dispute before the U.N. Security council awakened curiosity in India as to Soviet motives, but there was no sequel. The Soviet Union offered to sell industrial equipment to India, and in April Joseph Stalin accorded the retiring ambassador, Sarvepalli Radhakrishnan, the unusual courtesy of an interview. On June 9 India, which had refused to sign the multilateral treaty concluded at San Francisco, signed a bilateral peace treaty with Japan, waiving all reparation claims and restoring Japanese property located in India. Japan was to be accorded " most favoured nation " treatment among countries not in the Commonwealth, and an agreement regulating fishing rights was to be reached later. Japanese industrial and parliamentary missions visited India. Trade agreements were signed with western Germany, Italy, Norway, Austria and Finland, and a loan, the amount of which was to be settled later, was offered to Nepal. In December a goodwill mission from Yugoslavia received a warm welcome.

India continued to be an active member of the United Nations. She persevered in her efforts to evolve a lasting settlement in Korea, supported the moves to bring the Tunisian problem before the Security council and to summon a special session of the general assembly for its consideration, and, when these efforts failed, raised the matter at the annual session of the general assembly in October. Regarding the treatment of Indians in South Africa, she suggested in January the appointment of a commission of three members to help her and Pakistan reach an agreement with the South African government. The general assembly accepted the suggestion, but the South African government refused to act on it and no advance was made. In October India brought before the general assembly, as an independent issue, the agitation of the non-Europeans in South Africa.

In Ceylon, the general elections in May revived the issue of the voting rights of the 800,000 Indian residents. Many of them were disenfranchised by the decision of the government of Ceylon that only those Indians who had registered themselves as citizens and taken the oath of allegiance could vote. The government of India refused to raise the question before the U.N. but requested the government of Ceylon to mitigate the injustice done to those taken unawares by the suddenness of the elections. The government of Ceylon refused to amend the law but relaxed the rules pertaining to registration. It rejected, however, the suggestion of Nehru that the whole problem be referred to an independent authority for arbitration.



The working committee** of the Indian Congress in session in Calcutta in March. At desk on left is Jawaharlal Nehru, **prime minister of India.

Relations with Pakistan formed the chief source of concern. In May the International Bank for Reconstruction and Development sponsored talks in Washington between engineers of the two countries about the utilization of the waters of the Indus, but with no result. In June India complained to the International Civil Aviation organization about Pakistan's refusal to grant direct air access to Afghanistan. Pakistan insisted on restricting the free movement of persons between East Bengal and India, and a passport system came into effect on Oct. 15. In August a trade pact was signed, but it was more an assurance that trade would not be discontinued than any advance on the existing position. Coal and jute, the two most important commodities of trade between the two countries, were outside its purview. In November Pakistan banned the import of Indian films.

Kashmir. But above all there was the question of Kashmir. In January Frank Graham, the U.N. mediator, reported to the Security council that India had agreed to withdraw an additional 7,000 troops and Pakistan had accepted a proportionate reduction: the points still at issue were the time and scope of demilitarization and the quantum of forces to remain thereafter, and the time for the formal introduction of the plebiscite administrator. Graham suggested that the most practical means of demilitarization would be a continuous co-ordinated process leaving at the end on both sides the smallest possible number proportionate to the number at the time of the cease-fire. This proposal, however, granting equal status and military parity to Pakistan, was unacceptable to India. She was ready to withdraw the bulk of her forces, but insisted on keeping a sufficent number to safeguard Kashmir from foreign invasion and internal disturbances. The U.N. extended the period of Graham's mission and he visited Delhi and Karachi in March. He said he had found a general lessening of tension, and both countries had withdrawn their troops from the border. But he reported that he could make no further headway without the help of the plebiscite administrator, as further demilitarization would affect the pre-requisites of a plebiscite. India agreed to withdraw unconditionally one division of 18,000 men but Pakistan contended that even then India's forces would greatly exceed her own. In May Graham resumed negotiations and after preliminary discussions with the delegates of the two countries at Lake Success convened a conference of ministers at Geneva in August. The discussions lasted two weeks but led to no agreement. In December the Security council invited India and Pakistan once more to meet within thirty days under Graham's auspices and seek a settlement on the specific number of forces to remain on each side of the cease-fire line at the end of the period of demilitarization. They suggested that this number should be between 3,000 and 6,000 armed forces on the Pakistan side and between 12,000 and 18,000 armed forces on the Indian side. India rejected the resolution for failing to make clear that Pakistan had been the aggressor, but expressed her willingness to participate in negotiations.

The dispute with Pakistan and the pledges given to U.N. gave Kashmir a special—and somewhat anomalous—position among the states of India. Alone among the member states a national movement grew up there, and in July the government of India allowed it to elect its head, to fly its own flag alongside and subordinate to the national flag, to impose restrictions on Indian citizenship and the fundamental rights guaranteed by the constitution, and to give restricted application to the powers of the president and the supreme court. Foreign affairs, communications and defence were the responsibility of the union government; residuary powers were vested in the state.

Home Affairs. The duty of the government to maintain law and order was emphasized by some of the events of the year. Communal animosity was always beneath the surface and ready to show its angry face at the slightest provocation. Minor riots broke out in Delhi in May and in Uttar Pradesh in August. In Saurashtra and Rajasthan some of the dispossessed princes and estate-holders gave tacit encouragement to violence and dacoity. And throughout India the Communist party encouraged discontent and agitation. In the elections they had polled only 4,712,009 votes (4 45% of the total), but they made up in organizational efficiency what they lacked in numerical strength. Now avowedly wedded to parliamentary methods, they yet had a long record of terrorist endeavour, and, on their own confession, were still in possession of arms. To curb all these elements the government secured from the new parliament a renewal of the Preventive Detention act till the end of 1954.

A commission was appointed with very wide and general terms of reference to investigate the conditions of the press. In November the government of India decided to form the Telugu-speaking areas of Madras state, excluding Madras city, into a separate Andhra state.

Planning and Production. In July 1951 was published the draft five-year plan, envisaging a development expenditure on public account of Rs. 17,930 million, with emphasis on irrigation and power projects and an increase in agricultural productivity. In March 1952 it was revised to become a six-year plan, with a public expenditure of Rs. 23,337 million, of which more than a quarter was allocated to agriculture and irrigation and power projects, and another quarter to the development of communications. The final plan, as announced in December, increased the number of projects, set higher targets and gave greater prominence to social services Public expenditure was now estimated at Rs. 20,687 million by 1956.

But 1952 was also a year of results. In March the prime minister declared open the fertilizer factory at Sindri. Rs. 230 million were spent on this undertaking, which was Asia's largest and most advanced fertilizer-producing plant to date. By the end of August its production was 91,118 tons. The Chittaranjan locomotive workshops began production. At Parnera in March Nehru switched on India's first large-scale dyes and pharmaceutical factory, a joint enterprise of India and the U.S, costing Rs. 20 million. In Calcutta a new mint came into operation, and the National Instruments factory was expanded and fully equipped. The government of India assumed control of the shipbuilding yard at Visakhapatnam and began the construction of three vessels, each of 8,000 tons. Work was begun on the construction of a new port at Kandla, on the west coast, of a factory to manufacture penicillin at Pimpri, of a machine tool factory at Jalahalli and of a telephone cable factory at Rupnaraimpur. In December a rare earths factory was inaugurated at Eloor.

The 27th session of the International Institute of Statistics was held in New Delhi and Calcutta from Dec. 1951 to Jan. 1952. An international conference on planned parenthood was held at Bombay in November.

Education. The 1950 constitution laid down that within ten years the state should provide free and compulsory education for all children up to the age of 14. Education was in the main to be the responsibility of the component states, and the union government allotted only Rs 64,053,000 to this head in 1952-53; but the states lacked funds and gave priority to productive capital expenditure. In 1949-50 the cost per head of education in India was Rs. 2 76 Recognized schools (1949-50) primary 206,270, pupils 17,450,000, teachers 517,585; secondary 19,705, pupils 4,718,000, teachers 195,820, vocational 48,730, pupils 1,395,000, teachers 24,413. Unrecognized schools 8,947, pupils 362,000, teachers 10,553. Universities 28, students 351,000, professors and lecturers 18,730. Illiteracy (1941): 14 6%

Agriculture. Crops on the whole were good in 1952, and the produce per acre, because of improved methods, was generally higher than in 1951. But the area under cereals fell by nearly 3 8 million acres as compared with 1951, and the area under non-cereal crops (sugar cane, ginger, pepper, tobacco, oilseeds and fibres) increased by nearly 3 4

million acres. Self-sufficiency in food was not possible, especially as the population had increased by 12·5% in the period 1941-51.

Main crops ('000 metric tons, 1951; 1952 in brackets): barley 2,341 (2,136); maize 1,701 (1,959); rice 20,295 (20,767); wheat 6,374 (5,768); grain 3,593 (3,157); potatoes 1,630 (1,701); sugar, raw value 5,616 (5,895); coffee 200; tea 288 (193); tobacco 263 (225); cottonseed 1,288; groundnuts 3,437 (3,037); linseed 361 (309); rapeseed and mustard seed 748 (900); sesame seed 453 (441); cotton (bales) 2,971 (3,134); jute 3,301 (4,678).

Livestock ('000 head, 1951 census): buffaloes 42,854; cattle 150,298; sheep 39,975; pigs 4,173; goats 47,121; chickens 65,625; other domestic animals 3,478. Fisheries: total catch (1949) 513,764 metric tons.

Industry. Industrial production continued to increase in 1952. The general index, based on 1946 as 100, stood in June at 118, compared with 116·7 in June 1951. Progress was particularly marked in the coal, sugar, cement, cotton, jute and fertilizer industries. But the failure of minor industries caused a continuous decrease in the opportunities for employment. From January to June about 230,000 secured employment through 128 exchanges but 418,909 were still on the register. From January to May, 1,441,000 man-days were lost through industrial disputes.

Production. ('000 metric tons, 1951; 1952, six months, in brackets): coal 34,307 (18,679); electricity (million kwh.) 5,870 (2,967); crude oil 260 (133); pig iron 1,853 (919); steel ingots 1,500 (777); finished steel 1,051 (535); refined copper 7·19 (3·22); refined lead 0·9 (0·7); aluminium, smelter production 3·9 (2·1); manganese ore 1,284; asbestos 82 (44); rubber 17·4; superphosphates 61 (23); ammonium sulphate 51 (78); mica 9·9; ilmenite 219·6; salt 3,099 (2,292); sugar 1,141 (1,162); gold ('000 fine oz.) 227 (122·6); cement 3,251 (1,681); cotton yarn (million yd.) 588·5 (312·4); cotton fabric (million m.) 3,811 (2,038); jute manufactures 875 (496); sheet glass ('000 sq.ft.) 11,040 (4,900); paper and board 132 (67); cars and trucks (number) 22,272 (9,816); bicycles (number) 114,276 (76,117); radio receivers 68,100 (33,941).

Finance and Banking. Prices fell after June 1951 and reached their lowest level in March 1952; thereafter government measures to promote exports caused a recovery.

TABLE I. PRICE AND COST-OF-LIVING INDEX NUMBERS
(General year ended Aug. 1939 = 100)

	Wholesale Prices	Calcutta Cost of Living
1950	400·7	349
1951	439·3	370
1951 (Jan.-July)	389·6	345

Budgets (million rupees): (1951-52 est.) revenue 4,011·4, expenditure 3,754·3; (1952-53 [Feb. 1952 est.]) revenue 4,250 (incl. customs 1,900, income tax 1,500), expenditure 4,062 (nearly 50% for defence); (1952-53 capital) receipts 764, expenditure 1,515; (1952-53 [May 1952 revised est.]) revenue 4,050, expenditure 4,010. The May budget envisaged a fall in customs revenue and an increase in capital expenditure. National debt (March 1952; March 1951 in brackets): 25,874 (25,615). Currency circulation (Aug. 1952; Aug. 1951 in brackets): 11,008 (11,964). Union government balances (Aug. 1952; Aug. 1951 in brackets): 1,037 (1,909). Scheduled bank deposits (Aug. 1952; Aug. 1951 in brackets): 615 (666). Gold and foreign exchange (million U.S. dollars, Aug. 1952; Aug. 1951 in brackets): 1,984 (1,674). Monetary unit, *rupee* with an exchange rate of Rs. 13·33 to the pound sterling and Rs. 4·775 to the U.S. dollar.

Foreign Trade. In 1950 and the first half of 1951 the Korean war caused an abnormal rise in the prices of Indian exports, but thereafter both the demand and the prices fell. India's trade increased, but the gap between exports and imports increased as well, and in Jan.-June 1952 India had an unprecedented deficit. The United States was India's chief source of supply; India's best customer was the United Kingdom. There was a decline in trade with Pakistan, and very little trade with the U.S.S.R. and China.

TABLE II. FOREIGN TRADE (Rs. million)

	Imports	Exports	Balance
1950	5,446	5,609	+163
1951	8,648	7,840	−808
1952 (Jan.-June)	4,923	3,203	−1720

Main sources of imports (1951-52): U.S. 30%; U.K. 16%; Pakistan 12%; Persia 3%. Main destinations of exports: U.K. 26%; U.S. 18%; Pakistan 6%; Australia 6%. Main imports: grains, pulses and flour 27%; raw cotton 16%; machinery and vehicles 17%. Main exports: cotton manufactures 8%; jute manufactures 39%; tea 13%. Main export: jute.

Transport and Communications. Roads (1950): 245,000 mi. Licensed motor vehicles (Dec. 1951): cars 145,290; commercial vehicles 125,383. Railways (1952): 33,343 mi. (under nationalized control except 776 mi. of minor lines). Traffic, first-class railway (April 1, 1951, to March 31, 1952): passenger-mi. 39,030·2 million; freight ton-mi. 28,965·9 million. In April-June 1952 there was a fall in income from passenger traffic (Rs. 277 million compared with Rs. 312 million for April-June 1951) and a fall in revenue from goods traffic (Rs. 363 million compared with Rs. 371 million). Shipping: merchant vessels, 100 gross tons and over (July 1951) 183; total tonnage 455,329; vessels with cargo in external trade ('000 net registered tons, 1951; 1952, six months, in brackets) entrances 9,209 (5,115); clearances 7,682 (3,986). In Jan.-May 1952 India shipping carried 6% of India's imports and 9% of its exports. Air transport (1951): passenger mi. 264·658 million; cargo ton-mi. 12·459 million; mail carried (tons) 3,206. Telephones (1951): 168,397. Radio licences (1951) 566,500.

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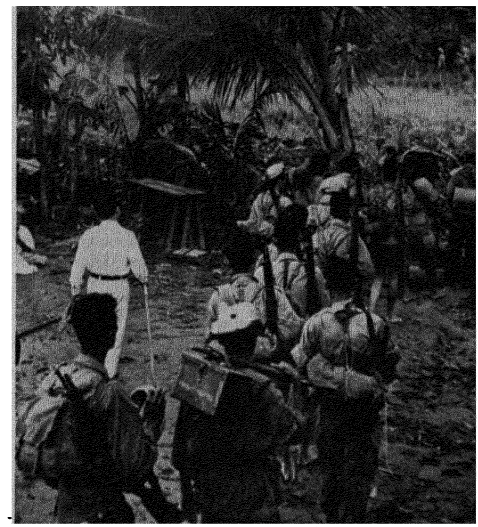
(S. GL.)

INDIA, FRENCH: *see* FRENCH INDIA.

INDIA, PORTUGUESE: *see* PORTUGUESE OVERSEAS TERRITORIES.

INDOCHINA. A country of southeast Asia bounded N. by China, W. by Burma and Thailand and S. and E. by



King Norodom Sihanouk of Cambodia (in white) with his troops on operations against terrorists near the Thailand frontier in the autumn campaign of 1952.

the South China sea; divided into three associated states of the French Union. Areas and populations are:

	Area	Population (1936 census)	Population (1948 est.)
Vietnam	126,608	18,972,000	22,663,000
Tongking (Bac-Ky)	44,660	8,700,000	9,851,000*
Annam (Trung-Ky)	56,974	5,656,000	7,184,000*
Cochin-China (Nam-Ky)	24,974	4,616,000	5,628,000
Cambodia	69,866	3,046,000	3,748,000
Laos	89,320	1,012,000	1,169,000†
Total	285,794	23,030,000‡	27,580,000

* 1943 est. † 1947 est. ‡ Incl. 326,000 Chinese and 42,000 Europeans; in 1946 there were only 26,000 Europeans, incl. 23,000 French and *assimilés* (Eurasians with French citizenship).

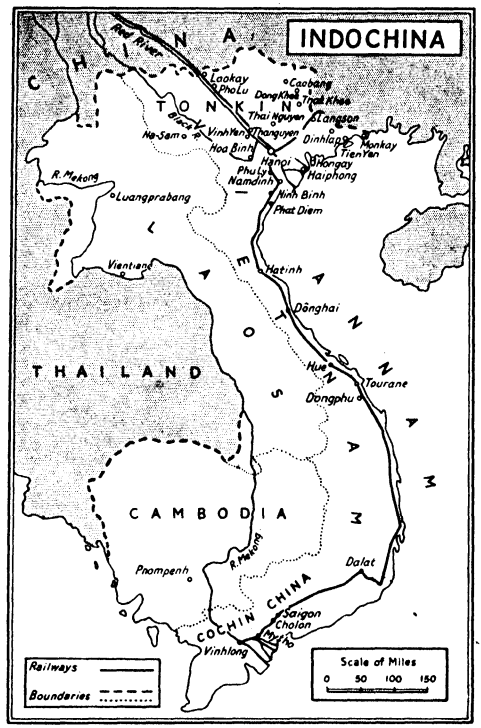
Population: Vietnam, mainly Annamites; Cambodia, Cambodians or Khmers; Laos, Thais; southern highlands of Annam and Laos, Mois (backward Indonesians akin to Bornean Dayaks); northern highlands of Laos and Tongking, tribes of various origins (Man, Meo, Kha); 75% of Indochinese population lives on coastal plain, *i.e.* on 10% of total area, the Red river delta (Tongking) and the Mekong

delta (Cochin-China) being among the world's most densely populated areas. Language: Vietnam, mainly Annamese; Laotians speak a Thai dialect different from that of Siamese proper. Religion: Vietnam, mainly Confucian; Cambodians are Buddhist; Mois, pagan. Chief towns (pop., 1949 est.): Saigon, capital of Vietnam, with seaport of Cholon (1,700,000); Hanoi (166,000); Haiphong (92,000); Pnom-Penh, capital of Cambodia (128,950); Vientiane or Vienchan, capital of Laos (13,700). Rulers and commissioners. *Vietnam:* ruler, Bao Dai; high commissioner, Jean Letourneau. *Cambodia*: ruler, King Norodom Sihanouk; commissioner, Pierre Risterrucci. *Laos*: ruler, King Sisavang Vong; commissioner, Miguel de Pereira.

History. The first three years of open warfare between the French forces and the Vietminh (1947-49) had resulted in the re-occupation by the French of most of the Red river delta in Tongking (north Vietnam) and rather less than half of Cochin-China (south Vietnam). More and more, as the conflict developed, the northern area became the seat of war while in the south rebel activity was of a guerrilla type (making full use of swampy and wooded country) or of a terrorist character, as in Saigon. During the early months of 1950 the pacification of the Red river delta proceeded successfully. Mopping-up continued, first around Phat Diem at the southern end and near Haiphong, and then around Laokay, 200 mi. to the northwest on the China border.

In May 1950 the French re-occupied the delta towns of Ninh Binh and Phu Ly. On the other hand, there was growth of Vietminh activity in the mountain areas to the north where Pho Lu was captured by the rebels (February) and then retaken by the French (April). By March there were signs that Chinese material aid was reaching the Vietminh. In May the town of Dong Khee 50 mi. from the China border was taken by the rebels, using four 105-mm. guns, but retaken by French forces on the same day; and in the same month General Marcel Alessandri announced that in the period Oct. 1949-May 1950 over 6,000 sq.km. of territory, with 3 million inhabitants, had been re-occupied by French forces. In the early autumn, however, a series of dramatic reverses overtook the French. On Sept. 18 Dong Khee was taken and the Foreign Legion force which had been occupying it was almost annihilated by well-organized and powerfully armed Vietminh units. In the following month the French withdrew from a chain of northern outposts stretching along a 200-mi. arc and including Caobang, Langson, That Khee, Pakha, Hoang Su Phi and Laokay. Although they took Thai Nguyen, 50 mi. north of Hanoi, which had been the Vietminh capital, they lost it again to the rebels shortly afterwards. The French columns withdrawing from That Khee and Caobang were overrun and three-quarters annihilated by the Vietminh.

General Alphonse Juin, who hurried out to Indochina in Oct. 1950, decided that a strong and numerous Vietnamese army had become an imperative necessity. On Oct. 10 a United States military mission under General Francis G. Brink arrived in Saigon and at the end of the month U.S. aircraft, including 40 Hellcat fighters, began to flow in. By October Hanoi seemed to be threatened, an *alerte* was proclaimed there, and the evacuation of French women and children began. The construction of fortified posts around the city was started. By December the Vietminh threat to the coal-mining region of Hongay, 80 mi. east of Hanoi, had become serious following the French evacuation of outposts in that area. General Jean-Marie-Gabriel de Lattre de Tassigny was appointed high commissioner and commander-in-chief on Dec. 6. The year 1950 ended with a Vietminh attack, launched by over 10,000 men, on Vinh Yen, 30 mi. northwest of Hanoi, and threatening pressure on Tien Yen far to the east towards Monkay.



In Jan. 1951 Franco-Vietnamese forces mounted a counter-offensive in the Monkay area and regained some ground around Haiphong. Nevertheless the Vietminh continued to attack Vinh Yen fiercely with 40,000 troops advancing in waves. French civilian air traffic was interrupted so that reinforcements could be sent to Tongking from south Vietnam. After five days the Vietminh assault on Vinh Yen was checked and Franco-Vietnamese forces launched counter-attacks.

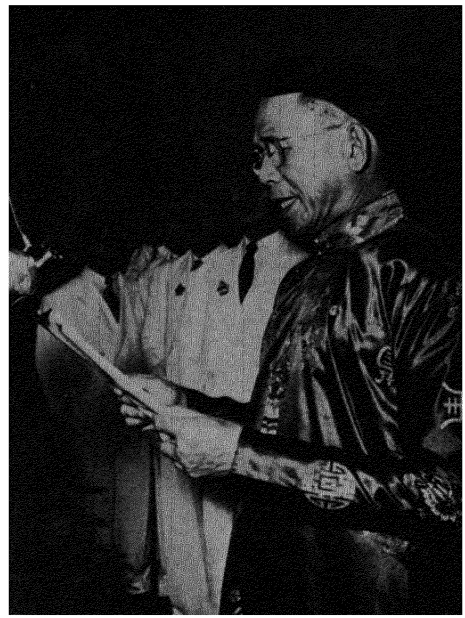
On General de Lattre's orders the building of a ring of concrete block-houses around the Red river delta was begun (Jan. 1951) and "groupes mobiles" were organized to ensure aggressive defence. Haiphong was made an autonomous fortress, and General Gonzalès de Linarès took over command in north Vietnam. In March General de Lattre flew to Paris and obtained 15,000 reinforcements from north Africa. French troops and Thai partisans retook Phong Tho and Than Uyen (May). On May 28 the Vietminh attacked the Red river delta near Phu Ly and Ninh Binh (where Lieut. Bernard de Lattre de Tassigny, the c.-in-c.'s son, was killed) with 40,000 troops, largely with the object of capturing the rice harvest. In June fighting continued in the western sector of the delta but the Franco-Vietnamese defence was successful. In October, after the rains, the Vietminh attacked in the Thai country but were repulsed with heavy losses. Mopping-up of Vietminh elements in the Red river delta continued. In Nov. 1951 the Franco-Vietnamese forces took the initiative and captured Choben and Hoa Binh, 50 mi. west of Hanoi. In December the Vietminh concentrated strong forces in an effort to retake Hoa Binh but were repulsed with casualties estimated at 7,000. On Jan. 11, 1952, General de Lattre, to

whose energetic year of leadership the Franco-Vietnamese forces had owed their recovery after the reverses of 1950, died at Neuilly, near Paris (*see* OBITUARIES).

During Jan.-Feb. 1952 the battle for Hoa Binh continued. The Vietminh harassed the Franco-Vietnamese supply line to Hoa Binh so that 18 battalions had to be used to protect them, and the Vietminh were able meanwhile to re-infiltrate into the Red river delta with three divisions. The Franco-Vietnamese troops withdrew from Hoa Binh (Feb. 22) and engaged the Vietminh forces in the delta. Fighting and mopping-up there lasted three months.

On Jan. 23 Jean Letourneau, the French minister in charge of relations with Indochina, left for Saigon on a visit of friendship to the associated states. On April 1 he was made high commissioner in succession to General de Lattre, remaining a member of the French cabinet. General Raoul Salan was appointed commander-in-chief of the armed forces in Indochina. The new high commissioner visited Washington in June and reported, on his return to Paris, that deliveries of U.S. aid to Indochina were to be accelerated, that by the beginning of 1953 all material allocated for that year would have been assured, and that, thanks to the expansion of the Vietnamese army, some French units would be withdrawn from Indochina in 1952. General Nguyen Van Hinh was appointed chief of staff of the Vietnamese army by Bao Dai (March 8). In the early months of 1952 the strength of the French expeditionary army in Indochina was estimated at 173,000 and that of the Vietnamese forces (regulars and irregulars) at 112,000. The Vietminh were estimated to have 350,000 troops in the field, nearly half of whom were in regular formations including five organized divisions. Aid from China was being furnished to the Vietminh in the shape of technical advisers, arms and training facilities in south China.

The 1952 campaigning season opened with the capture by the Vietminh of Nghia Lo, a mountain-post about 100 mi. northwest of Hanoi, after an assault which lasted five days (Oct. 19). This was the beginning of a Vietminh offensive in the hilly country inhabited by the Thai tribesmen which had hitherto been under French-Vietnamese control. Two thousand French and Vietnamese troops, harassed by Vietminh units, withdrew 50 mi. along mountain tracks to the Black river. General Salan and Letourneau visited the front, General de Linarès took over operational control and the Thai tribesmen were called upon to take up arms. At the end of October French-Vietnamese forces struck into the lines of communication of the Vietminh and captured Phu Tho (Nov. 2). This was followed by a successful parachutist attack on Phu Doan. Important arms and rice-dumps were captured. Re-inforcements of troops and material were sent by air to the remaining French-Vietnamese outposts in the Thai country. In mid-November, however, the Franco-Vietnamese units had to withdraw from the Phu Tho—Phu Doan region, suffering considerable casualties in hand-to-hand fighting. It was estimated that 35,000 grenades, 1½ million rounds of ammunition, 2,300 mines, 1,000 rifles and 25 tons of Russian-made shells had been captured from the Vietminh during the Phu Tho operation. Towards the end of November, however, the Vietminh continued their advance in the Thai country. Two French key posts were annihilated, 75 mi. west of Hanoi, and on Nov. 23 the important centre of Son La had to be given up by the French-Vietnamese forces which withdrew to Na Sam, a village with an air-strip which was then steadily reinforced by air until it was held by about 10,000 troops. The Vietminh invested Na Sam with nearly three divisions but their attacks were beaten off and most of their forces in the area were gradually withdrawn towards Laos and the Red river delta (December). According to French reports the Vietminh lost 6,000 killed in the fighting around Na Sam. Despite the fierceness of the fighting in the Thai country, the main objective of the Vietminh rebels remained the Red river delta with its rice resources. In mid-November two attacks on Phat Diem, on the southwest side of the delta, were repulsed; but two Vietminh divisions were based on Than Hoa in this area and infiltrations into the delta continued.



Nguyen Van Tam, prime minister of Vietnam, reading a speech during the investiture of his government in Saigon on June 25.

Political developments inside Vietnam in 1952 were marked by the resignation of the prime minister, Tran Van Huu, in June, and the formation by his successor, Nguyen Van Tam, a former chief of police and minister of the interior, of a " national coalition " of 12 ministers (6 from north Vietnam, 5 from south Vietnam and 1 from central Vietnam). The new prime minister announced a political programme, the principal features of which were: the formulation of a budget (the first since the creation of the Vietnam state); an agricultural reform project; the formation of a provisional national council as an interim step prior to the holding of elections for a parliament; the introduction of a labour code; and a proposed law to allow the formation of trade unions. The budget envisaged an expenditure of 8,600 million piastres in 1952 of which nearly 60% was to be on the armed forces. The relative economic weakness of Vietnam was clearly illustrated by the fact that the proportion which it would contribute to the total would be about 51%. French financial help and United States economic aid would provide most of the remainder. In addition France was to send aid in kind to Vietnam worth 2,700 million piastres and the United States was to provide military help worth 600 million piastres. Vietnam's contribution to the military budget (1,750 million piastres or 37%) was however a considerable increase on its past provision. In July and August a seven-point land reform programme was announced which was to fix maximum rents for land; to set up an agricultural bank with a capital of 50 million piastres for financing the

rchase of land up to 10 ha. per family from landlords by land-rved peasants; to provide for the development of peasant operatives; and to institute technical services for agricul-e. On Sept. 1 the new national council met for the first ie. It consisted of 30 appointed members drawn from the ee regions of Vietnam and from among officials, pro-sional men and industrialists, and was to have consultative ictions. A month earlier the prime minister had announced it early in 1953 this provisional body would be replaced a national assembly brought into being by indirect ctions—the elected village councils choosing electoral leges which, at province level, would elect representatives the national assembly.

The national council held two further meetings (in October 1 November). Resolutions were passed favouring special nsideration of the non-propertied classes in regard to ntributions to national defence; the transportation of rice north and central Vietnam; greater flexibility in calling students for military service; modernization of agricultural thods and organization; and the admission of forest ducts from the non-controlled zones of the country. In vember Nguyen Huu Tri, a former governor of north tnam, who had a past record of successful administration, s restored to this post.

ndustrial rehabilitation in Bao Dai Vietnam made gradual gress in 1952. During the first nine months of the year duction in various industries was higher by the following centages than output during the corresponding period of 1: coal 9%; cement 16%; salt 33%; electric energy in gon-Cholon 30%.

t the meeting of the High Council of the French Union Paris in November Vietnam was represented by six delegates uding the prime minister; and Cambodia and Laos by e delegates each. Resolutions were passed in favour of aining technical aid from organizations of the United tions and other bodies but with the proviso that France uld always be consulted and that technicians of the French ion should be preferred. It was also decided to study the sequences for the French Union of Japan's adhesion to general agreement on tariffs and trade (G.A.T.T.) and terms of a trade treaty with Japan. (D. A. SN.)

ducation. Schools (1947): primary 679, pupils 264,816; secondary teachers 302, pupils 12,105. Technical and higher educational tutions 32, teaching staff 101, students 2,101.

griculture. Main crops ('000 metric tons 1948; 1949 in brackets): 4,350 (4,600); sugar cane 200; sugar (raw) 18; cassava 35; dry s 21; groundnuts 5; cotton seed 1; coffee 312; tea 1; tobacco 8·2; on, ginned, 1; rubber 44·6 (43·7). Livestock ('000 head, 1948-49): es 13; cattle 1,682; pigs 2,258; sheep 20; goats 26; buffaloes 1,290. t production (1948): 42,000 metric tons. Number of tractors 9): 196.

dustry. Production ('000 metric tons, 1948; 1949 in brackets): coal (499); tin concentrates 32 (60); salt 65 (114).

inance. Budget (1950 actual): expenditure, excl. cost of military rations, 1,385 million piastres. Monetary unit (common to all three es): *piastre* = 17 metropolitan French francs; free rate (Nov. 1952) tre = Fr. 8·50.

oreign Trade. (Million piastres, 1950; 1951 in brackets.) Imports 2 (6,276); exports 1,632 (2,784). Principal exports: rubber; rice; per and pimentos; maize; kapok; coal.

ransport and Communications (1950). Serviceable roads: 7,000 km. or vehicles (1950): 29,700. Ships entered (Saigon-Cholon): 854. raft landed: 822. Railways (1950): passenger-km. 72 million; ht-ton-km. 130. Telephones (1949): 9,129. Wireless receiving sets 9): 27,000.

NDONESIA. Asian republic (former Dutch East ies, except New Guinea) consisting of two groups of nds: (1) Java and Madura; (2) Sumatra, Borneo, Riouw-gga archipelago, Banka, Billiton, Celebes, Molucca nipelago and Lesser Sunda islands. Area (excl. New nea): about 583,000 sq.mi. Pop. (mid-1951 est.): 00,000; two-thirds live in Java. Language: Bahasa onesia, an adaption of Malay, was being propagated as the official language; 25 major languages and *c.* 250 dialects spoken. Religion: Moslem *c.* 90%, Christian 3·4%, Hindu 1·4%. Chief towns (pop., 1951 est.): Jakarta (cap., 2,800,000); Jokjakarta (1,848,886); Surabaya (714,898); Bandung (659,213); Semarang (310,942); Surakarta or Solo (266,365). President, Ahmed Sukarno; prime ministers in 1952, Sukiman and (from April 1) Wilopo (*q.v.*).

History. The general situation in 1952 was marked by impending crises, financial and economic in the first place, but spreading to other sectors of public life as well. In his address on Independence day (Aug. 17) President Sukarno himself mentioned a loss of faith in democracy and in the government, a crisis of internal security and a crisis of morality in the public service.

The first acute difficulties, however, arose over a matter of international policy. In January the minister for foreign affairs and the U.S. ambassador had reached agreement on the U.S. assistance to Indonesia on the basis of the Mutual Security act. The news soon set in motion a vivid opposition in parliament and in the press, preoccupied by vague fears that such assistance might detract from Indonesia's policy of neutrality between the western democratic and the Soviet bloc. On Feb. 23 this opposition forced the Sukiman cabinet to resign.

At that time negotiations between Indonesian and Dutch delegations had been going on for some months at The Hague for a general revision of the 1949 agreements and about the status of Dutch New Guinea, which territory the Indonesian government still desired to annex. The resignation of the cabinet caused an indefinite suspension of these talks. The programme of the new Dutch cabinet that took office in September, as reflected in the queen's speech at the opening of the parliamentary sessions, indicated that Holland was no longer prepared to consider Indonesian claims to New Guinea, and this made the success of further negotiations on



President Sukarno (left) with Sukiman (right), prime minister of Indonesia from April 20, 1951, and Wilopo who succeeded Sukiman on April 1, 1952.

an amiable settlement of the other questions between the two countries doubtful.

A new Indonesian cabinet formed by Wilopo took office on April 1, based like those before on a coalition of the Moslem (Masjumi) party and the Nationalists, with a sprinkling of members from smaller groups, including this time the Socialist party. Though the M.S.A. deal was replaced by an arrangement for aid via the U.S. technical assistance administration based on the "Point Four" programme, the new minister for foreign affairs inherited from his predecessor another irksome problem, viz., the ratification of the San Francisco peace treaty with Japan, which Indonesia had signed, though other Asian nations indulging in neutrality, like India, had abstained. At the end of the year no ratification of either project had taken place.

The internal security situation deteriorated in some areas, such as west Java, where armed gangs sometimes operated in strengths of several hundreds, and south Celebes. In other parts the opposite was true, and there martial law was partially withdrawn. Labour unrest in the agricultural and urban industries reappeared, and strikes flared up in spite of the compulsory mediation prescribed by law. Such conflicts were partly promoted by the Communist-led federation of labour unions (S.O.B.S I.), though the general tactics of the Communist party for the time being followed a nationalist rather than a revolutionary trend

The general financial and economic difficulties of the state overshadowed these anxieties. A budgetary deficit of some R.4,000 million was expected on a total expenditure of R.12,800 million. About 35% of the Indonesian revenue consisted of customs receipts, and customs duties and excise accounted for 65% of tax revenue. These figures indicate the close relation of Indonesia's finances, as of an exporting country of raw materials, to the price levels in world markets The reduction in values of its main exports (rubber, tin and copra) which began in 1951 consequently upset the balance. Faced with these developments, the government embarked in August on a determined "austerity" policy, by penalizing all but the bare necessities of life through levies of varied severity on imports of luxury goods.

The Indonesian parliament, consisting of groups of members appointed by the president of which none was sure of its political support among the people, was reluctant to co-operate with unpleasant measures and obstructed the executive's endeavours to cope with its difficulties through firm action. In October this led to a severe crisis, when parliament, debating army reforms, was forced to go into a prolonged recess by crowds of demonstrators in the capital, who appeared to have support in military and high political circles. This event in its turn caused a dangerous split between the regular part of the army and its officers on the one hand and on the other the former "guerrillas". The latter elements deposed the commanding officers of divisions in east Java, Celebes and south Sumatra, and protested that henceforth they would take orders only from the president, their leader during the revolution. At the end of the year the tension had abated somewhat but the hazardous situation was not yet straightened out. (W. G. P.)

Education. Schools (1950) primary 23,700, pupils 4,174,031, teachers 72,891; secondary 1,250, pupils 165,399, teachers 7,500; Chinese 681, pupils 162,315, teachers 3,421 Teachers' training colleges 397, students 21,023. University education: faculties 14, students 3,238.

Agriculture. Main crops ('000 metric tons, 1950, 1951 in brackets): rice, paddy (Java and Madura only) 5,370 (5,470), maize (Java and Madura 1949; 1950 in brackets) 1,600 (1,850); sweet potatoes (Java and Madura) 1,300 (1,365), cassava 7,465; sugar (raw value, Java and Madura) 277 (427); groundnuts (1950) 416; palm kernels (exports) 32·4, soya beans 266 (286); copra (exports) 211 (303); palm oil (exports) 97·2 (58·1); tobacco (Java and Madura, 1949) 10; tea (1949; 1950 in brackets) 27·3 (35·3); coffee (estates only 1949, 1950 in brackets) 10·9 (10·6). Index of agricultural production, (1949, 1934-38 = 100). 83. Livestock ('000 head, 1950): sheep 2,334; cattle 3,618, pigs 1,254, horses 616, buffaloes 2,773; goats 7,474 Fisheries: total landings (1948) 472,000 metric tons, men employed 258,000, boats 25,000

Industry. Fuel and power ('000 metric tons, 1951; 1952, three months, in brackets) coal 861 (230 7), crude petroleum 7,440 (1,870) Raw materials ('000 metric tons, 1951) tin concentrates 31 2 (1952, six months, 7 3); natural rubber 817 (1952, five months, 313 4), bauxite (1950) 678

Finance and Banking (million rupiah) Budget (1951 est.) ordinary revenue 7,530, ordinary expenditure 7,806, (1952 est.) ordinary revenue 7,296, ordinary expenditure 9,090 Short term national debt (Aug 1951; Aug. 1952 in brackets) 3,200 (2,100) Total national debt (Dec 1949; Dec 1950 in brackets). 4,385 (6,086) Currency circulation (March 1951; March 1952 in brackets) 2,805 (3,434) Gold reserves (million U S dollars, Aug 1951, Aug 1952 in brackets) 230 (280) Bank deposits (March 1951, March 1952 in brackets) 1,865 (1,948) Monetary unit *rupiah* with a basic selling exchange rate (Oct 1952) of 10 64 to the pound sterling and 3 81 to the U S dollar

Foreign Trade. (Million rupiah, 1951, 1952, six months, in brackets) Imports 3,064 (4,163), exports 4,664 (4,336) Main sources of imports (1951) U S 20%, Japan 19%, Netherlands 12% Main destinations of exports Malaya and Singapore 34%, Netherlands 21%, U S. 17%, U K 6% Main imports textiles 34%, rice 9%, machinery 13%, metals and manufacturers 8% Main exports rubber 42%, petroleum and products 20%, copra 8%, tin 7% Volume of exports, 1951 (1948 = 100) rubber 184, tin 95, copra 217

Transport and Communications. Main roads (1948) 2,400 mi Licensed motor vehicles (Dec 1950) cars 20,000, commercial vehicles 19,000 Railways (1950) 3,960 mi., passengers 105 million, goods carried 5,316,000 metric tons Shipping regularly serving Indonesia (1947) merchant vessels 154, gross tonnage 757,000 Air transport (1950) passenger-mi 92 million, cargo ton-mi 4 0 million Telephones (1951) 43,000 Wireless receiving sets (1951) 150,000

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INDUSTRIAL HEALTH. In June 1952 the International Labour conference, meeting at its 35th session at Geneva, considered the wide problems relating to the protection of the health of workers in places of employment (see *International Labour Conference Report V (1)*, Geneva, 1952). The committee dealing with this particular problem of industrial health recognized the need for international regulations. It considered the problems under the headings of the notification of occupational diseases and the technical measures necessary for the control of health hazards in industry, together with the need for medical examinations, both pre-employment and periodical. The matter was to be discussed at the next session of the International Labour conference and certain proposed conclusions were drafted for presentation to the plenary sessions It was still undecided whether international regulations should be adopted and the form of regulation might take either that of a series of recommendations or of a convention supplemented by a recommendation. In general it may be said that the Factory acts of 1937 and 1948, together with the special regulations made under them, are, from the British point of view, an almost ideal form of protecting the health of workers in factories and other places which come under the factory acts.

With the ever-increasing number of chemical substances used in industry, the difficulty of correct diagnosis and treatment of cases of gassing had become a problem of some magnitude, particularly when the patient was sent to hospital or to his doctor without an adequate history. In order that diagnosis and treatment should be placed on an assured footing, the Association of British Chemical Manufacturers, through its Works Safety committee, made a distinct contribution to industrial safety by preparing a series of gassing casualty labels, to be completed in the works and sent with the casualty to either hospital or home. These labels were designed to give the doctor in attendance a brief account of

the nature of the harmful substance to which the worker had been exposed, together with details of the degree of exposure and such first-aid treatment as had already been given in the factory. Recommendations were made on the label relating to immediate treatment and subsequent treatment. It was stressed that the labels were not intended as instructions to medical men but rather as guidance notes for them when faced with the need for immediate action in an emergency which might be unfamiliar to them. (See *A System of Labels for Gassing Casualties sent to Hospital*, Assoc. Brit. Chem. Manufacturers, London, 1952.)

In the annual report of the chief inspector of factories for 1950 (Cmd 8445, H.M.S.O., London, 1952) details were given of the incidence of industrial diseases reported during the year 1950. Whilst in general the incidence of industrial diseases showed a steady decline, comment was made on the increase in the number of cases of epitheliomatous ulceration reported since 1920. In 1950 there were 195 cases, with 13 deaths, as compared with 45 cases and only 1 death in 1920. The substances responsible are pitch, tar and oil, and the largest number of deaths is attributable to oil. Considerable research was being carried out into the carcinogenic properties of the various oils used in industry by the department of experimental pathology in the University of Birmingham.

The most serious, incapacitating and fatal of all industrial diseases is pneumoconiosis occurring amongst coal-miners. In the past few years the number of deaths had been in the region of 1,000 a year. The history of lung diseases of coal-miners in Great Britain, perhaps one of the most monumental of the medical histories of disease ever written, had been prepared by A. Meiklejohn (see *Brit. J. Indust. Med.*, 1951, 8,127; 1952, 9, 93; 1952, 9, 208). It was published in three parts and brought into prominence the significance of the economic and social background of the industry, illustrating the awakening of the national conscience on behalf of those who are responsible for the nation's main primary product. Meiklejohn outlined in the third of these studies the important researches which were being carried out, both by the Medical Research council and the National Coal board.

Apart from those diseases which were prescribed under special regulations, there were, in 1952, 38 prescribed (compensatable) industrial diseases. The last of these to be prescribed as an industrial disease, and one of considerable significance, was tuberculosis in certain occupations involving close and frequent contact with sources of tubercular infection (see *National Insurance (Industrial Injuries) (Prescribed Diseases)*, H.M.S.O., no. 305, London, 1951) This prescribing specially applied to persons engaged in medical treatment or nursing, to research workers engaged on research in connection with tuberculosis and to laboratory workers, pathologists and post-mortem workers handling tubercular material. Whilst much progress had previously been made in the treatment of tuberculosis and its recognition as a social disease of great importance, this prescribing of the disease represented a step forward of considerable human and economic importance. (A. J. Ar)

United States. Health, safety and medical programmes in small factories and workshops attracted unusual attention during 1952. The U.S. Department of Labour amended and strengthened its manual of health and safety practices with which manufacturers must comply in carrying out the terms of federal contracts. A publication issued by the public health service described successful small-plant health programmes and was intended to encourage the adoption of similar activity elsewhere. In anticipation of increased demand, medical organizations refined existing methods of short-term training for service as part-time industrial physicians.

The president's Commission on Health Needs of the Nation cited industrial health as defective in certain important aspects and called for corrective action. Deficiencies were noted in the administration of workmen's compensation, in safety and health legislation, in in-plant preventive medical programmes, in the extent of coverage by existing medical care prepayment plans, and in research, and recommendations were made as to how these obstacles could be overcome.

Union health and welfare programmes continued to develop among hotel, building-maintenance, laundry workers and teamsters, following the example previously set by the garment workers and miners. The soft-coal miners' health and welfare fund made plans for three memorial hospital associations in Kentucky, West Virginia and Virginia, to comprise ultimately a total bed capacity of 1,000 beds.

Utility companies, manufacturers of household appliances and medical authorities joined to consider methods of spreading authentic information to the public, to industry and to professional groups concerning work simplification and energy-saving devices for housewives with cardiac, tuberculous and other disabling diseases.

The number of mines and mills engaged in the production and processing of uranium ore had doubled in the past several years and findings indicated that health control measures were essential. Steps were taken to convince operators about necessary protective installations and devices. Chromate manufacture was similarly studied because of reputed excessive occurrence of lung cancer in workers in this field and in order to identify the responsible agent. The Seventh Saranac symposium on diseases of the lungs resulting from dust was held at Saranac lake, New York, under the auspices of the Trudeau foundation. Special interest centred about the identification of forms of pneumoconiosis attributable to non-siliceous material. Calcined diatomaceous earth became the subject of much interest since convincing evidence showed that this agent is responsible for chronic disabling pulmonary fibrosis.

Ethylene diamine tetra acetate was regarded as a most promising advance in the treatment of lead poisoning. Further studies were being made regarding the dosage and the exact nature of its depressive action on blood forming tissue. (*See* also Accident Prevention.) (C. M. Pn.)

INFANTILE PARALYSIS. Poliomyelitis was not very prevalent in Great Britain in 1952. During the year 4,504 cases were notified in England and Wales, which is about the annual average for the period after 1947, when the disease first became a major public health problem. This total compares with 7,646 cases in 1947 and 7,752 in 1950, which were the years of highest incidence. As usual, the lowest number of weekly notifications occurred at the beginning of April, and from then the prevalence increased gradually until the second half of June, when cases became markedly more numerous and widespread. During July and August about 250 new infections were notified each week. Numbers began to decline early in September and this fall continued slowly and steadily until the end of the year. The disease was most rife in the northeast and in this region the case incidence was 15·5 per 100,000 of the population. This comparatively high rate was largely accounted for by an outbreak which occurred on Tyneside in the early summer, Gateshead and district being particularly affected. Later in the year cases were most common in the southern countries, but only in Southend-on-Sea, Essex, was there an exceptionally high incidence.

There was nothing unusual in the type of illness prevailing during the year and 32% of the cases had no paralysis. In the remainder the degree varied considerably and in many the disability was only transitory. The age distribution was

also similar to that in other recent years, the number of cases in the three age groups—0 to 5 years, 5 to 15 and over 15—being about equal. It was becoming recognized that no age is immune from poliomyelitis and in 1952 there were several instances of infants under a month old contracting the infection in a severe form.

Several European countries had severe poliomyelitis outbreaks during the year. In western Germany the towns of the Ruhr and the Rhineland were severely affected, as were the rural districts of the adjacent southern Netherlands. Denmark experienced the most serious epidemic recorded in that country. It was centred in Copenhagen, where, in the period August-November, nearly 3,000 cases were admitted to hospital. Of these, one in eight was so badly paralyzed as to require special measures to maintain respiration. It is doubtful whether there had previously been such a concentration of severe poliomyelitis cases in Europe.

In the United States 1952 was also a year of relatively high incidence and, with over 42,000 cases, it surpassed 1949, the previous peak year. The infection was first markedly apparent in Texas, where an epidemic began early in June and reached its height in mid-July. The largest concentration of cases in the state was at Houston. Another epidemic was centred in western Iowa and in the neighbouring part of Nebraska. Several other southern and mid-western states had more cases than usual, but the eastern states were comparatively free. The Texas and Nebraska outbreaks were notable for the extensive use of injections of Gamma globulin (a concentrated blood derivative). Preliminary reports suggested that this might prove a potent means of controlling epidemics. (*See* also EPIDEMICS.) (D TN.)

INFANT MORTALITY: *see* VITAL STATISTICS.

INNS: *see* HOTELS, RESTAURANTS AND INNS

INSANITY: *see* MENTAL DISEASES

INSECTS: *see* ENTOMOLOGY

INSURANCE. An analysis of British insurance companies' accounts published in 1952 showed further substantial income expansion. The combined fire and accident premium income of 24 representative British offices rose in 1951 by £44,884,000 to £366,115,000. The consolidated underwriting profit was £17,421,000, or 4 7% of the premiums, as compared with £23,132,000, or 7 2% in 1950. Marine premiums were £48,493,000, an increase of £8,245,000 over the figure for 1950, and provided a trading surplus higher by £711,000 at £4,565,000. Marine funds at the end of 1951 totalled £69,218,000, an increase in the year of £5,784,000. The increased premium income was in part due to inflationary pressure, but company chairmen reported much genuine business increase, particularly among overseas connections. The upward surge in premiums required corresponding increases in trading reserves and, with claims enhanced by the depreciating value of money, a considerable strain was thrown upon the trading accounts.

Including group life and pension business, the total new ordinary life sums assured written in 1951 exceeded £700 million, as compared with £600 million in the preceding year. New sums assured under industrial life policies, as represented by eight leading industrial life offices, expanded by £15,632,000 to £187,836,000, the average sum assured per policy being £45·2 against £43·8 and £39·5 in the two preceding years. The total industrial premium income was £102,500,000, an increase in the year of £4,205,000, and industrial life funds advanced by £20,220,000 to £699,591,000.

There was a sustained demand during 1952 for life assurances subject to the provisions of the Married Women's Property acts, and for policies based on an income benefit for dependants. New group life and pension schemes were less evident than in 1951, but endowment assurances written for "executive and non-controlling directors" were again sought. As a result of higher interest yields, many offices announced a reduction in non-participating rates, which, in addition to the ordinary form of whole-life and endowment policies, affected a number of ancillary schemes having a non-profit basis.

Losses on the fire account were noticeably heavier than in 1951. In the United Kingdom a heavy toll was exacted in the cotton industry by costly fires in mills and warehouses. Underwriters were presented with the problem of unsold stock accumulation, and in places values at risk exceeded the international market capacity. Cotton proved difficult, with an accumulation in the country of origin of up to two seasons' harvest, and sugar storage in Cuba was also greatly extended. An oil mill explosion and a heavy warehouse loss in Israel formed part of the generally unfavourable experience. In many countries floods and landfalls caused important disasters, recoveries under insurance bearing little relation to the damage sustained. The insurance cost of bush fires and floods in New South Wales was placed at £1,900,000. Australia also suffered several severe fires in industrial and storage risks. Earthquake hazards in the Pacific were emphasized by an insurance loss of £1 million in eastern California, and insurers were involved in severe tornado damage throughout the six states of the Mississippi valley. Rioting, incendiarism and pillage threw claims stated at £3 million on to the British market. In Malaya, the companies continued insurance cover in an effort to assist the estate managements through the present emergency.

With inflation in various parts of the world and continuance of the rearmament programme, premiums showed an advance, the extent of which was partly offset by rate reductions in certain areas, and changes affecting long-term insurance in the United States.

Increased premium rates for motor business in the United Kingdom and in the U.S. became effective in the year, but were generally considered to be based on inadequate data. Following unfavourable underwriting results in 1951, efforts were directed more towards the consolidation of existing business than towards new sources of income. Common law liability of employers proved heavier than expected in the premiums charged, and adjustments to higher levels were made for certain trades and occupations. Property-owners and general third-party liability, personal liability cover, fidelity guarantees, personal accident protection, and plate glass and burglary insurance remained in good demand and produced satisfactory results.

The breadth and strength of the British marine market was demonstrated by the acceptance of £6,160,000 out of a total insurance of £11 million on hull and disbursements of the new U.S. liner "United States". Theft, pilferage, non-delivery of cargo and losses under goods in transit cover caused concern to underwriters, as also the rising cost of hull repairs, particularly under delayed claims. Progress in aviation produced new insurance problems and increased demand for hull, cargo and liability cover. (P. Ss.)

North America. In early 1952, approximately 86 million persons in the United States owned $253,000 million of life insurance in legal reserve companies. By mid-year the total had increased to $265,000 million. In Canada, at the beginning of 1952, more than 5 million policy-holders owned about $17,200 million of life insurance. In both the countries the premiums paid for life insurance in 1951 were equal to about 2·5% of the people's income. In that year, legal reserve life insurance companies made benefit payments to

U.S. families of almost $4,000 million. Benefit payments to Canadian families amounted to $249 million.

As at July 31, 1952, assets of U.S. and Canadian legal reserve life insurance companies reached $76,000 million, made up of about 40% corporate securities, 30% mortgages, 15% government bonds and 15% other assets. For 1951 the net interest rate earned on assets of U.S. companies was 2·98% after federal income taxes. This was virtually unchanged from 1950.

Net earned premium income during 1951 of some 746 major companies in the fire insurance industry totalled $3,390,259,709, an increase of about 8% over 1950. Losses and expenses kept pace with the premium increase so that the actual gain from the underwriting of fire insurance risks was $16,561,156 in 1951, as compared with $196,075,919 for 1950. The volume of fire insurance coverage continued to increase in 1952. The extended coverage endorsement, which is attached to many fire insurance policies and which broadens the coverage to include such risks as windstorm, hail, riot, explosion and smoke, produced heavy losses in 1951. A marked improvement was experienced in 1952 under this form.

Automobile insurance plagued the companies with severe losses in 1951. Premiums in this field amounted to $2,882,924,200 in that year, a gain over 1950 of $364,126,745. The year 1952, with its rate increases and with additional financial responsibility statutes in two or three states, portended a premium volume in excess of $3,000 million.

Despite the heavy premium increase in 1951, losses and expenses in automobile insurance exceeded income by more than $100 million. A slight improvement in the situation was noted in the first half of 1952. But the impact of inflation on claim costs, judgments, hospital and medical fees and repair costs, continued to exact a heavy toll in the automobile insurance field.

Both general liability and workmen's compensation insurance proved troublesome in 1951. The upward rate revisions of 1951 began to reflect themselves and it did not appear that 1952 would be profitable for these lines.

Accident and sickness insurance continued its speedy growth. Hospital expense coverage experienced a 12% increase in 1951 over 1950; surgical expense, a 20% increase; medical expense, a 28% increase; cash sickness benefits, a 6% increase.

During 1951 a programme was initiated to standardize the policies known as professional liability coverages. These forms protect against errors and omissions by doctors, dentists, druggists, hospitals, etc. A new druggist liability policy was issued in 1951. (L. J. AN.)

Voluntary health insurance coverage continued to expand during 1952. It appeared that by the end of the year about 90 million persons would hold about 100 million contracts providing some kind of hospital coverage. Surgical coverage amounted to about 75 million, but medical insurance continued to lag behind, with about 32 million members. (A. G. S.)

INTERIOR DECORATION. In 1952 the concept of " outdoor-indoor " living was further extended, particularly in those countries where freedom of experiment in building was limited only by cost. The work of United States architects was watched closely from other countries, since their experiments with architectural features indicated the future nature of interior decoration. The development of the house with a core of wood and stone within a shell of glass was particularly noteworthy. When all the walls of a room were of glass and each opened on a wide view, the interior decoration inevitably became subsidiary to the outdoor. Even where such luxurious treatment was not possible the use of the window-wall forced furniture and fittings to play a secondary part. The features within the room were so designed as to carry on the main features of the terrace or garden onto which the window-wall looked. Moreover, textural effects within the room repeated those of outside, and the modern room became marked by new " clichés ", such as the roughcast wall surrounding the fireplace and the clutter of climbing plants evolved from decorous Swedish example



An example of modern interior design. Part of a house completed in 1952 at Welwyn Garden City, Hertfordshire, showing large sliding windows, a dining table in an alcove and a brickwork fireplace. R. J. Nichol, architect.

into a jungle-like growth spreading even into the kitchen or bathroom.

Allied with these experiments in opening up the house to the outdoors, U.S. architects, influenced by Japanese models, also attempted to "free" the space within by eliminating indoor partitions, where these were necessary they were often of glass or removable hangings. This development had already moved across the Atlantic and could be seen in such innovations as the inclusion of the staircase in the main living room, thus enlarging the indoor scene. The stairs themselves were treated in many original ways to produce an effect of lightness—risers were left out, treads cantilevered and newels made slender. Fireplaces in the U.S. tended to be low-roofed oblong cavities, but in Italy a more enterprising treatment resulted in several variants of the canopy chimney. Other European countries developed forms of the freestanding stove. In England the increased use of stoves and solid fuel open fires failed to produce any outstandingly fresh treatment of the fireplace. In all countries, doors—on the domestic scene at any rate—remained without special character. For public buildings, however, there was a puckish sense of fantasy in the use of armourplate glass doors whose presence was only made visible by elaborate push-bars and knobbed bosses.

Public buildings in England had more enterprising interiors than those permitted by utility housing standards. Unusual wall surfaces were widely used: ribbing and fluting were common, and variants of the broken surface, although owing much to acoustical experiment, were chosen as often as not for their visual effect. In the private house increased interest in the wall-surface was shown by "highlighting" one wall or an alcove with a patterned wallpaper while covering the remaining walls in a more neutral colour. New thoughts in continental European interior decoration were also applied mainly to public buildings. For the fifth year in succession the Salon des Arts Ménagers devoted part of its space to interiors for "la vie collective"—this year for schools. Although architects and designers paid increasing attention to such problems as the use of colour in factories, and heating, lighting and acoustics for large working areas, the public was slow to show any interest.

In Europe the movable features in the small home showed more experiment than the architectural elements. An Institute of Contemporary Arts exhibition in London (June) summed up the cosmopolitan *avant-garde* style. A self-conscious search for a contemporary idiom led to the rejection by many advanced designers of most of the familiar forms; steel rods, pre-formed plywood and foam-rubber were shaped into trapezoids, trapeziums or asymmetrical curves to place about the room. Designers claimed to be introducing the freedom of Italian design as an escape from the "folksy" Scandinavian shapes. The forms of the 1950s also owed much to the "dream-shapes" of contemporary painters. Many designs recalled interlocking jigsaw patterns, and perhaps owed their prevalence not so much to an artistic impulse as to the virtuosity of a new machine age.

Meanwhile, of course, the general public in every country continued to furnish according to a conventional notion of what was expected, and centred their interior decoration, if they were Anglo-Saxons, round the television set. However, between these two extremes, much good work was to be seen, and designers were delighted to assist the trend towards the addition of colour and ornament to the clean lines bequeathed by the late functional period. (*See* also POTTERY AND PORCELAIN.) (H.L.)

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT. During 1952 the International Bank for Reconstruction and Development continued to encourage speedier economic development in its member countries. Loans totalling more than $257 million were made during the first 10 months of 1952, as compared with a total of about $208·5 million for the entire year 1951. By Oct. 15, 1952, bank lending had reached $1,489,287,000, with a total of 72 loans in 27 countries. The bank also gave increased technical assistance to its members.

Lending Operations. From Jan. 1, 1952, to Oct. 15, 1952, the bank made 14 loans totalling $257,504,000 in 11 countries. Mexico received a loan of $29·7 million for power development. Two loans were made to Peru: $2·5 million to provide modern facilities at the Port of Callao for the handling of general cargo and for the unloading and storage of bulk grain and $1·3 million to import agricultural equipment. A loan of $28 million was made to Southern Rhodesia to aid in carrying out the government's four-year programme for economic development. The loan would help to finance imported equipment and materials needed for power expansion. A loan of $7 million was made to Royal Dutch Airlines (K.L.M.) to help to finance a programme to replace part of its air fleet. Two loans were made to Pakistan: $27·2 million for railway rehabilitation and $3·25 million for agricultural machinery to help to reclaim 660,000 ac. of the Thal desert in West Pakistan

A loan of $20 million was made to the Bank of Finland for the further development of the wood-products industries, for the expansion of electric power facilities and for agricultural improvement Turkey received $25·2 million to pay the foreign exchange costs of a multipurpose dam on the Seyhan river, a power-generating plant, and power transmission lines to industrial centres.

Loans totalling $37·5 million were made in Brazil: $25 million to help to finance an electrification programme in the state of Rio Grande do Sul; and $12·5 million to buy rolling stock and equipment and renew track on the Central do Brasil railroad. A loan of $50 million was made to help Australia finance development in agriculture and land settlement, coal mining, iron and steel production, electric power, railways, road transport, the production of non-ferrous metals and industrial minerals and manufacturing industries.

Colombia received a loan of $25 million to help build a railroad in the Magdalena River valley and to build and equip railroad repair shops in Bogotá. Iceland received a loan equivalent to $854,000 to help to build a nitrogen fertilizer plant.

Other Activities. In 1952 the reports of missions to Iraq, Ceylon and Surinam were presented. One of the bank's economists and an engineer visited Nicaragua for a ten-month period to help the Nicaraguan government to draw up a development programme. A number of specialized missions to study particular development problems were sent to various member countries. The report of a joint bank-F.A.O. (Food and Agriculture organization) agricultural mission to Chile was presented in Nov. 1952.

Four countries—Burma, the German Federal Republic, Japan and Jordan—joined the bank during the year, bringing total membership to 54 and increasing the capital subscription to $9,036,500,000. The bank increased its funds for loans by the sale of two bond issues, totalling $110 million in the United States, and one issue of C.$15 million in Canada. The bank's direct obligations outstanding on Oct. 15, 1952, totalled the equivalent of $555,902,798. Sales from the bank's loan portfolio had increased to $61,228,135 by Oct. 15. Net earnings for the fiscal year ended June 30, 1952, amounted to $15,872,883, all of which was credited to a general reserve. In addition the bank added $7,558,906 to its special reserve Total reserves at the end of June aggregated $85,712,754.

In March 1951 the United States International Development

Advisory board, a representative group of private citizens appointed by the president of the United States in accordance with the Act for International Development, published a report entitled *Partners in Progress*, which proposed that an international finance corporation be created as an affiliate of the bank, to help to finance private enterprise by equity investment or by loans made without governmental guarantee. A report was prepared as a basis for continuing to explore the proposal with member governments and interested business groups. In June 1952 the United Nations Economic and Social council approved a resolution requesting that explorations continue, and that the bank inform the council in 1953 of the results of its study. (E. R. Bk.)

INTERNATIONAL COURT OF JUSTICE.

During the year 1952 the court gave the following judgments:

Ambatielos (Greece—United Kingdom). These proceedings, begun on April 9, 1951, related to loss alleged to have been suffered by a Greek subject, Nicolas Eustache Ambatielos, in consequence of a contract which he concluded in 1919 with the British government for the purchase of nine steamships then under construction, and by reason of certain decisions of the English courts in connection therewith. Greece relied on two treaties of 1886 and 1926 as conferring jurisdiction on the court. The United Kingdom objected to the jurisdiction and on July 1, 1952, the court decided (by 13 votes to 2) that it had no jurisdiction to decide on the merits of the claim, but further decided (by 10 votes to 5) that it had jurisdiction to decide whether the United Kingdom was under an obligation to submit the dispute, in so far as the claim was based on the 1886 treaty, to arbitration.

Anglo-Iranian Oil Company. (See *Britannica Book of the Year 1952.*) On Feb. 11, 1952, Persia formally objected to the jurisdiction of the court, which was alleged by the United Kingdom to be founded on the declaration ratified by Persia in 1932 accepting the compulsory jurisdiction of the court. The Persian declaration was limited in terms to "*les différends qui s'élèveraient après la ratification de la présente déclaration, au sujet de situations ou de faits ayant directement ou indirectement trait à l'application des traités ou conventions acceptés par la Perse et postérieurs à la ratification de cette déclaration.*" The United Kingdom contended, first, that the declaration covered *all* treaties whenever concluded (*i.e.*, that the word *postérieurs* governed *situations ou faits* and not *traités ou conventions*), and that the Anglo-Iranian dispute related *inter alia* to breaches of treaty obligations undertaken by Persia towards other countries of which the United Kingdom was entitled to take advantage by reason of most-favoured-nation clauses in the Anglo-Persian treaties of 1857 and 1903. Secondly, if the declaration were held to be limited to treaties concluded after 1932, the United Kingdom argued that the Anglo-Iranian company's concession of 1933 which Persia had revoked was, by reason of the special circumstances of its formation, a "*traité ou convention*" within the meaning of the declaration, or alternatively that, since Persia's treaty with, for example, Denmark, was subsequent to 1932, it did not matter that the Anglo-Persian treaty which gave the United Kingdom the right to claim the benefits of it was prior to 1932. In a judgment given on July 22, 1952, the court (by 9 votes to 5) upheld the Persian objection, rejecting each of the United Kingdom's arguments. The British judge (Sir Arnold McNair (*q.v.*), president of the court) voted with the majority.

Rights of U.S. Nationals in Morocco. In these proceedings, begun on Oct. 28, 1950, the court had to determine the validity of claims made by the United States, based on a number of treaties, to special rights for U.S. citizens in the French protectorate of Morocco. The court, in a judgment given on August 27, decided: (i) unanimously, that France was not entitled to impose restrictions on imports of U.S. goods into Morocco to which goods imported from France were not subject; (ii) by varying majorities, that, since the surrender by the United Kingdom and Spain of their capitular rights in Morocco, the United States could not claim such rights by virtue of most-favoured-nation clauses, and was confined to the capitular rights conferred on her by bilateral and multilateral treaties to which she was a party; (iii) unanimously, that the United States was not entitled to claim that laws and regulations in force in Morocco applied to U.S. citizens only if the U.S government assented thereto, (iv) by 6 votes to 5, that U S citizens in Morocco were not exempt from taxes.

Judiciary. Five of the judges came to the end of their term of office on Feb. 5, 1952. They were judges I. Fabela, G. H. Hackworth, H. Klaestad, S. B. Krylov and C. de Visscher. At an election held on Dec. 6, 1951, Hackworth and Klaestad were re-elected, and Sir Benegal Rau (India), E. C. Armand-Ugon (Uruguay) and S. A. Golunsky (U.S.S.R.) were elected, as judges for a term of nine years. On the same day L. F. Carneiro (Brazil) was elected for a similar term in place of J. Azevedo (deceased). The court elected as its president (for three years from Feb 6, 1952) Sir Arnold McNair, and as its vice-president J G. Guerrero (El Salvador)

(H. A. P. F.)

INTERNATIONAL LABOUR ORGANIZATION.

The 35th session of the International Labour conference, held June 4-28 at Geneva, was attended by 654 delegates and advisers from 60 member states—the largest attendance in its history—and official observers from the United Nations, the World Health organization and many other groups Libya was admitted to membership as the 66th member Six international agreements were added to the world labour code: three conventions concerning (1) minimum standards of social security, (2) holidays with pay for agricultural workers, and (3) a revised maternity convention, adopted originally in 1919; and three recommendations to supplement the conventions on maternity protection and holidays with pay, and to promote consultation between employers and workers in industrial disputes. The report of the director-general dealt chiefly with international technical assistance. Fifteen out of 25 sessions of the conference were devoted to discussion of this report, with the result that much helpful criticism was received and practically unanimous support of the programme assured. A total of 103 conventions and 95 recommendations were adopted by the conference.

The operational activities in connection with manpower, migration, under-developed areas and technical assistance had become so important as to threaten the earlier emphasis on the international labour code and labour legislation, but the temper of the conference showed clearly that this was not now the case. The budget voted by the conference for 1953 was $6,469,085, and the assessments voted were: U S. 25%, U K. 12·79%, France 7 49%, Germany 4 87%, India 4 13%, Canada 3·98% and all other members less than 4%.

Ratification of conventions totalled 1,315 in September. Reports of action taken, required for both conventions and recommendations, reached a higher level than usual, though many governments seemed to be negligent in their obligation to bring them to the attention of the constitutional authority within the prescribed time.

At the fifth Conference of American States Members of the I.L.O., held April 17-29 at Petropolis, Brazil, 14 countries were represented and three others sent observers. The director-general's report dealt chiefly with the incidence of inflation, trade unionism and freedom of association in

Latin America. Land reform and the welfare of rural workers were the main subjects discussed.

The fourth Inter-American Conference on Social Security, held at Mexico City, March 24-April 8, 1952, was a larger body with 126 delegates from 22 American countries. Representatives from the United Nations, the Food and Agricultural organization, the World Health organization, the Organization of American States and the International Social Security association, as well as observers from France and Spain, attended the conference. The agenda included the extension of social security to agricultural workers, general family benefits, and medical and pharmaceutical problems of social security. (S. McC L.)

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INTERNATIONAL LAW. The Rights of States. The deadlock on admitting new members to the United Nations continued during 1952 (*see* UNITED NATIONS).

There was a tendency for states to claim certain rights seaward from the coast beyond the traditional three-mile limit. On the basis of the sector theory, accepted by Canada but not by the United States, the Soviet Union claimed title to all land north of its territory. Soviet jurists also argued for title to the sea and the ice floes in this sector on the grounds that navigation was possible only when assisted by shore services, that the Soviet Union maintained navigation in the area as an internal route, that much of the sea was included in gulfs between Soviet territory, and that some of it, particularly the Kara sea, had been claimed since the 16th century with general acquiescence. The Soviet Union also claimed a maritime belt 12 mi. wide on its Baltic coast, but this claim was contested by Sweden.

Juristic discussion tended to support the right of a state to the sea bed as far out from its coast as resources could be exploited, but with insistence that this did not imply claims to fishery or navigation control. The U.S. claim of this type, asserted in 1945, had resulted, however, in a controversy between the federal government and the states of the union as to the title of oil and other resources of the sea bed within this extended area. In a case involving California, the Supreme court supported the claims of the federal government because of its exclusive international responsibility. Earlier decisions recognizing state title to the bed of internal waters were not, therefore, applicable. The same rule was subsequently applied in cases involving Texas and Louisiana. The states sought to have these decisions reversed by congress and the issue was debated extensively in the presidential campaign of 1952.

A number of cases dealt with privileges and immunities of states and their agents. The Soviet Union, and the United States in retaliation, restricted movements of each others' diplomatic officials in their respective territories. A U.S. Senate resolution called for the registration of foreign diplomatic and consular officers in the United States under the Foreign Agents Registration act. China was permitted by a U.S. federal court to sue certain Chinese officials alleged to have defaulted with Chinese funds. The court held that the Formosan government, recognized by the United States as the government of China, was capable of representing China and that the matter was within the court's jurisdiction even though it concerned Chinese internal relations. (*Republic of China* v. *Pang-Tsu Mow et al.*, 101 Fed. Supp. 646, 1951).

Rights of International Organizations. The juristic status of international organizations had been generally acknowledged by both jurists and courts, and their privileges and immunities had been defined by numerous treaties, as well as by analogy to the privileges and immunities of states and diplomatic officers. The secretary-general of the United Nations dismissed from the secretariat certain U.S. citizens who had refused to testify before a U.S. Senate committee as to whether they were Communists. Other members of the secretariat were suspended. The secretary-general thus refused to recognize the immunity of secretariat members in respect of proceedings before official agencies of their own country on matters outside their functions in the U.N.

The United Nations and the specialized agencies had manifested their jural personality by concluding more than 300 agreements with states. Many of these agencies had been accepted as jural persons before the courts of member states. In one case the International Relief organization was permitted to sue in a U.S. court (*I.R.O.* v *Republic S.S. Corporation* 189. Fed. [2nd] 858, 1951).

The role of law in the proceedings of the United Nations continued to be debated. A resolution introduced by Great Britain in the general assembly called for greater attention to international law in the drafting of requests for advisory opinions. The International Court of Justice dealt with an unusual number of cases during the year. The International Law commission in its report to the general assembly in Oct. 1952 presented a draft code of arbitral procedure and indicated progress in the codification of the law of nationality and statelessness, of the régimes of the territorial sea and the high seas, and of treaties.

Rights of Individuals. Juristic writing manifested a tendency to acknowledge that individuals are subjects of international law. The important issue, as suggested by the U.S. secretary of state, Dean Acheson, is less concerned with legal principle than with practical measures for affording protection. Debate on the proposed Covenant of Human Rights and the proposed Convention on Freedom of Information continued in U.N. bodies. Some attention was given to the right of peoples and nations to self-determination in connection with the Covenant of Human Rights, with the régime of non-self-governing territories, and with the request for a hearing in the general assembly by Tunis and Morocco sponsored by a number of Arab and Asiatic states.

The Supreme court of California sustained the opinion of the Court of Appeals nullifying the California Alien Land law which discriminated against land ownership by Japanese. It did so, however, on the ground that the law denied "equal protection of the laws" required by the 14th amendment of the U.S. constitution, and explicitly overruled the opinion of the Court of Appeals that it violated the pledge of the United States in the U.N. charter to respect human rights. The court said that the self-executing character of a treaty provision depended upon the intention of the parties, and found that "although the member nations obligated themselves to co-operate with the international organization in promoting respect for, and observance of, human rights, it is plain that it was contemplated that future legislative action by the several nations would be required to accomplish the declared objectives, and there is nothing to indicate that these provisions were intended to become rules of law for the courts of this country upon the ratification of the charter." (*Fujii* v. *California*, 242 Pacific Reporter [2nd], 617, 1952).

Major issues of individual rights were raised in the Anglo-Iranian Oil company dispute and in the Korean truce negotiations. The Anglo-Iranian dispute precipitated much juristic discussion of the rights of private concessionaires in foreign territory. It was pointed out that new concepts of nationalization of private enterprise had considerably reduced the effectiveness of the protection which international law formerly gave to private rights of this type.

The Korean truce negotiations had been halted during the year because of the insistence by the North Koreans and Chinese that all prisoners of war in the hands of U.N. forces must be repatriated. This demand rested in part on article 118 of the Geneva convention of 1949 concerning prisoners of war which declares "prisoners of war shall be repatriated without delay after the cessation of hostility." Article 7 of this convention states "prisoners of war in no circumstances renounce in part or in entirety the rights secured to them by the present Convention." The U.N. negotiators considered that the right secured to the prisoners is an individual right to be repatriated if they desire and not a right of their government to demand their repatriation. Since the prisoners in question deserted, as a result in some cases of inducement by the United Nations, it would be a gross breach of faith to return them by force to probable execution by the Communist authorities.

International Crimes. No progress was made on the proposed International Criminal court and the text as drafted was widely criticized by jurists. Nor had progress been made on the definition of international crimes by the International Law commission. Justice Robert H. Jackson expressed the opinion, at the annual meeting of the American Society of International Law, that codification of international criminal law might be premature. The jurisprudence of the actual trials of war criminals, he thought, provided a basis for important juristic developments in this field.

Opinion in Germany and Japan had demanded clemency for convicted war criminals. The issue was raised in connection with the Japanese peace treaty by which Japan accepted the convictions by Allied courts and agreed that clemency in any case must depend upon consent of the government or governments which imposed the sentence. In the case of persons sentenced by the international military tribunal, consent by a majority of the governments represented on the tribunal was required (article 11). Before the treaty went into effect General Douglas MacArthur had released on parole 300 Japanese war criminals who had completed more than one-third of their sentence. On April 15 it was announced that the Japanese government had cleared the name of General Masahuru Homma, the former commander of the Philippines, executed in 1946 for responsibility for atrocities, including the Bataan "death march". On April 28, when the peace treaty went into effect, the Japanese government granted amnesty, including pardons, reduction of sentences, and restoration of civil rights, to 1·3 million persons, none of them, however, war criminals convicted by Allied courts. On July 29, it asked the Allies to consent to clemency for 230 war criminals serving sentence, but eligible to clemency on the basis of a Japanese law identical with that established on the subject by General MacArthur. The United States set up a board of clemency and parole for war criminals on Sept. 4 to consider these requests.

On Sept. 17, the German chancellor, Konrad Adenauer, appealed to world public opinion for aid in the solution of the problem of war criminals and prisoners of war. There were 1,017 Germans still in the custody of the western countries though 75% of those condemned by Allied courts had been released. The number of prisoners of war and war criminals still in the U.S.S.R. was unknown but was certainly more than 100,000. On Oct. 8, General Vassily Chuikov of the Soviet Union and the three western commissioners agreed to relax the conditions of war criminals in Spandau prison.

Treaties. Discussion continued on the different opinions expressed by the International Court of Justice and the International Law commission concerning the effect of reservations to multilateral treaties, and some constructive suggestions were made. (*See* W. W. Cox, *Proceedings American Society of International Law*, Washington, 1952, p. 26 ff.) The situation left the secretariat of the United Nations in a quandary as to who were the parties to some such treaties and when they came into force. The inconclusive action of the general assembly, "leaving to the appreciation of each of the states which may be concerned the legal consequences of reservations to future conventions" was, in the opinion of Manly O. Hudson, "far from an encouragement to orderliness in the process of international legislation." The international law commission was to study the matter further in its effort to codify the law of treaties. The process of international legislation continued, mainly through the agency of the United Nations and the specialized agency. Some 90 general treaties had been negotiated under U.N. auspices.

During the year there was much discussion in the United States, both juristic and popular, on the proposal to amend the U.S. constitution in order to restrict the treaty-making power. A proposal by Senator John W. Bricker of Ohio, supported by more than 50 senators, sought to reduce the use of executive agreements and to eliminate the self-executing character of treaties. A proposal by the American Bar association would have gone further by making it impossible for a treaty to become effective as internal law if its provisions went beyond the congressional powers of domestic legislation. International lawyers were generally adverse to these proposals which they thought would severely impair the United States' capacity to protect its citizens abroad and to increase the general protection of human rights by international legislation, and would jeopardize the good faith of the United States in numerous instances by subjecting treaties to impairment by action or inaction of any of the states of the union. The proposed restrictions on the making of executive agreements would, in the opinion of the Defence Department, render co-operation with other governments in North Atlantic or other international defence activities practically impossible, and would also impair programmes of technical assistance, international exchange of persons and reciprocal commercial agreements. This movement arose from opposition to executive political commitments such as those of the Yalta conference and to limitations on states rights and American domestic jurisdiction which might be consequent upon ratification of treaties like those on genocide and human rights. Most jurists felt that the fears expressed in this agitation were exaggerated.

War and Aggression. The Korean operations of the United Nations continued during the year.

A number of cases concerning individual rights in time of war were dealt with by national courts during the year. A U.S. court held that a person of dual United States and Japanese nationality retained his U.S. allegiance while in Japan during the war and was guilty of treason when he engaged in brutal treatment of U.S. prisoners of war (*Tomoya Kawakita* v. *United States* 190 Fed. [2nd] 506, 1951). A U.S. court held that a U.S. citizen did not have good title to property originally owned by Dutch citizens, confiscated by the Nazis during their occupation of the Netherlands, and acquired by the U.S. citizen after several transfers. The Netherlands also failed to acquire title on the basis of a decree of the government in exile during the occupation. The court questioned whether German rights as a military occupant were nullified by the agressive character of the Nazi occupation. (*State of Netherlands* v. *Federal Reserve Bank of New York*, 99 Fed. Supp. 655, 1951.)

A British prize court held that vessels in process of construction in a drydock in a German port occupied by British forces before the surrender of Germany in 1945 but not formally captured until 1947 were good prize subject to condemnation as enemy property. It held that these hulls

were not property on land and were captured during hostilities. (*The Hermes*, 1 Lloyd's Prize Cases, [2nd] 289, 1951.) (*See* also INTERNATIONAL COURT OF JUSTICE.) (Q. W.)

INTERNATIONAL MONETARY FUND. During 1952 membership of the fund was increased to 54 by the admission of Burma on Jan. 3, Japan on Aug. 13, Germany on Aug. 14, and Jordan on Aug. 29. The aggregate of fund quotas was thus increased to $8,736 5 million. Major assets consisted of approximately $1,680 8 million in gold, $5,692·3 million in members' currencies and $1,356 2 million in capital receivable from members whose par values had not yet been established. Indonesia and Haiti were admitted to membership in the fund at the seventh annual meeting (Sept. 1952) with formalities to be completed later.

The establishment with the fund of an initial par value for the Ceylonese rupee was effected on Jan. 16, 1952. As from Sept. 30, 1952, the par values expressed in gold and U S. dollars had been established for the currencies of 41 of the fund's members. The executive board agreed to a change in the par value of the Yugoslav dinar (which became effective Jan. 1, 1952). This change not only represented a drastic devaluation but also signified a far-reaching reform of the economic system of Yugoslavia.

In 1952 the fund entered a new period of activity in the field of restrictions. Its articles of agreement provided that five years after the date on which the fund began operations—and each year thereafter—member countries still maintaining restrictions inconsistent with the fund's articles should consult with the fund on the underlying factors affecting the further retention of such restrictions. The majority of the fund's members still maintained the restrictive measures permitted during the postwar transitional period, although they varied widely in form and intensity. The procedure being followed in these consultations (which began in March 1952) was set forth in the *Third Annual Report on Exchange Restrictions* published by the fund in May 1952.

During the year, the fund board carried on extended discussions on the appropriate use of its resources. Measures were adopted which were designed to safeguard the revolving character of its resources, and at the same time facilitate their use by members willing to pursue financial and payments policies and practices that would enable them to make more rapid progress towards a stable system of non-discriminatory multilateral trade. The principle underlying a decision of the executive board on Feb. 13, 1952, was that exchange purchased from the fund should not remain outstanding beyond a period reasonably related to the payments problem for which it had been purchased from the fund. This period would fall within an outside range of three to five years. A further decision was taken on June 19, 1952, in response to the first request received from a member (Belgium) for a stand-by arrangement rather than an actual drawing, and in Oct. 1952 general principles and procedures relating to stand-by arrangements were agreed on.

Between March 1, 1947, when the fund commenced operations, and Sept. 30, 1952, 21 member countries had obtained short-term financial assistance by purchasing foreign exchange from the fund with corresponding amounts of their own currencies. During 1952 purchases by Brazil of $37 5 million, by Paraguay of $875,000, by Turkey of $10 million, and by Australia of $30 million brought these transactions to a total of $892,408,380 (as on Sept. 30, 1952). The fund also made a stand-by arrangement which would permit the government of Belgium to purchase on a revolving basis up to $50 million in currencies held by the fund. The following countries repurchased amounts of their own currencies from the fund during 1952 with payments of gold or dollars or both: the Netherlands, $27,351,500; Brazil, $65,500,000; Chile, $3,679,308; Peru, $3,097,299; Syria, $418,000; and Turkey, $4,997,729. With these payments, repurchases totalled $184,693,539.

In 1952 the fund continued to maintain active and close relations with its members in the general field of technical assistance. On March 21 the fund informed its members that it was prepared to provide them with a regular technical service in connection with their gold transactions. Fund representatives visited 37 countries to consider problems relating to their national economies and financial systems.

The fund's board of governors held its seventh annual meeting in Mexico City, Sept. 3-12, 1952. At that time the executive board presented its *Annual Report* which stated that, during the seven years since World War II and more than five years since the fund began operations, exchange restrictions of many types had continued in existence and international payments were still far from a state of balance. (*See* also INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT.) (F. A. S.)

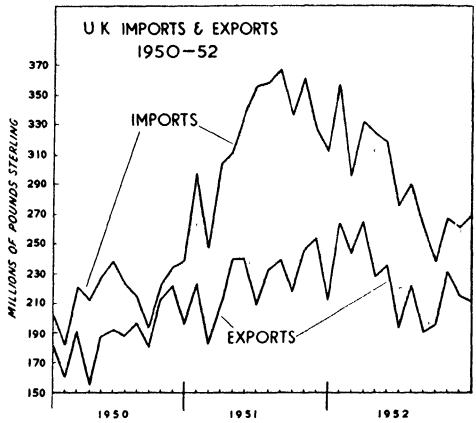
INTERNATIONAL REFUGEE ORGANIZATION: *see* REFUGEES

INTERNATIONAL TRADE. World exports in 1952 were tending to decline from the record levels of 1951. At an annual rate, exports for the first quarter were approximately $77,000 million, as compared with about the same level for the year 1951. After allowing for price changes, however, the volume of trade in the first half-year probably declined by at least 5%.

In 1952 there was an improvement in the balance of payments of the world with the United States, after a serious deterioration in 1951. This change was made possible in part by a resumption of heavy purchasing abroad by U.S traders following the sudden and sharp slump in the middle of 1951, but even more by declines in purchases from the United States by the rest of the world When large deficits with the dollar area reappeared, particularly for European countries late in 1951, a number of those countries tightened their exchange and import restrictions. There was an inevitable time-lag before these restrictions came into effect, but by the third quarter of 1952 it was evident that reductions in imports from the United States were sizable. This reduction in U S. exports and increase of imports operated, by the third quarter, to reduce the U S export surplus, exclusive of military-aid shipments, to considerably less than $1,500 million at an annual rate, as compared with $3,500 million in the second quarter.

After the declines in raw-material prices in early 1952, many countries in the far east and some in Latin America imposed or tightened restrictions against U.S goods. Some countries in all parts of the world had increased their purchases so rapidly in 1951 that they were in serious over-all balance of payments difficulties and felt compelled to extend controls over all imports. Restrictions were also continued and, in some cases, extended, against trade with the countries of the Soviet bloc, particularly China.

United Kingdom. The first half of 1952 brought a substantial improvement in Britain's trading position. The adverse trade balance totalled $1,316 million, or $518 million less than that in the second half of 1951 and $227 million less than the figure for the first half of 1951. The chief factor accounting for this improvement was an 8% decrease in imports, from $5,762 million in July-Dec. 1951 to $5,325 million in Jan.-June 1952. This included a significant reduction, of approximately 14%, in purchases from non-sterling countries. The increase in the value of imports in the first half of 1952 over the same period of 1951 was because prices of goods purchased by the U.K. in the early months of 1952 were higher on the average than in 1951.



The value of United Kingdom exports in the first half of 1952 was $3,772 million, which was almost identical with the latter half of 1951 but well above the first half, when exports totalled $3,472 million. The significant change in the export picture was a drop of 13% between the value in the first and second quarters of 1952. This was accounted for partly by the new restrictions placed on imports by several Commonwealth countries, but also by declines in the general demand for British exports.

Attempts to decrease the dollar trade deficit continued to be frustrated. While in the first half of 1951 this deficit totalled about $417 million, the first six months of 1952 showed a deficit of $679 million, an increase of 63%. Defence support aid from the United States, totalling $300 million for the period ended June 30, 1952, enabled Britain to maintain imports for supporting defence production on an otherwise impossible scale.

Britain's terms of trade in 1952 were decidedly more favourable than in the preceding year. Although import prices did not show a decline below the average for 1951 until June 1952 (and then only a one point reduction), the prices of exports increased slowly but steadily. The overall export index (1951 = 100) was 106 for the first half of 1952, as compared with 105 in the second half of 1951 and 95 in the first half.

Western Europe. As compared with the last half of 1951, the combined trade of the 17 European countries comprising the Organization for European Economic Co-operation stagnated or fell during the first six months, and particularly the second quarter, of 1952. Exports of the group, which totalled $14,293 million in the second half of 1951, declined to $13,878 million in Jan.-June 1952. Only the United Kingdom, the Netherlands, Greece and Turkey showed small increases. The O.E.E.C. member countries also showed a small import decline from $17,201 million in the second half of 1951 to $17,102 million in the first six months of 1952.

In terms of value, exports showed a decline to the level of the second quarter of 1951, about 60% above the 1948 level, but in terms of volume, the second quarter 1952 index of 163 (1948 = 100) was the lowest since the third quarter of 1950. The same situation obtained in regard to imports. The volume index of 124 in the second quarter of 1952 touched the lowest level since the third quarter of 1950 when the index was 116.

1952 saw a setback in the liberalization of intra-European trade. Europe's largest traders, the United Kingdom and France, reimposed quantitative restrictions on their imports. Italy, however, completely liberalized its trade with O.E.E.C. countries and the German Federal Republic also further liberalized its imports.

The O.E.E.C. countries as a group in the first six months of 1952 showed a considerable increase in their gold and dollar payments deficit over the previous year. This could be accounted for largely by their substantially increased imports from North America, which in the first quarter of 1951 amounted to 14% of their total imports and in the first half of 1952 amounted to 22%. At the same time the European nations were selling less to the United States and Canada.

The situation in the various O E E.C. member countries varied considerably. French foreign trade showed a serious deterioration during the first six months of 1952, as compared with the corresponding period for 1951. In 1952 imports increased substantially and exports declined; so that the trade deficit rose from $88 million in Jan.-June 1951 to $474 million in the same period of 1952, an increase of more than five times French trade with the United States also showed a marked deterioration—exports declined by 17% between Jan.-June 1951 and 1952 and imports increased by 20%, leaving a trade deficit of $217 million for the first six months of 1952, as compared with $105 million for the same period of 1951. Italy, too, was running a large foreign trade deficit of about $1,000 million at an annual rate. Other countries showing increased trade deficits in the first six months included Austria, Portugal and Sweden.

On the other hand, several European nations made substantial improvements in their trade positions in the first six months. Notable among these were the German Federal Republic, the Netherlands, Switzerland and Denmark. The German Federal Republic emerged in the second quarter of 1952 with a substantial trade surplus. Belgium continued its surplus of the year before at a somewhat increased rate. Belgium's continuing extreme creditor position made necessary a new agreement within the European Payments union, as its export surplus continually outran agreed quotas.

TABLE I UNITED KINGDOM OVERSEAS TRADE BY COMMODITIES
(£ million)

	Imports		Exports	
	1951	1952	1951	1952
Food, drink and tobacco	1,298 9	1,214 5	161 0	157 5
Grain and flour	246 7	262 3	2 4	6 9
Meat	213 1	221 5	2 4	2 1
Dairy produce	165 6	146 4	4 0	2 4
Fruit and vegetables	111 9	96 7	2 0	1 4
Beverages and cocoa products	169 2	167 0	52 1	54 1
Tobacco	81 5	51 9	24 5	24 6
Raw materials	1,715 4	1,399 9	95 2	101 7
Coal	8 8	2 7	29 2	55 5
Iron ore and scrap	46 3	73 6	07	04
Non-ferrous ores and scrap	79 2	92 6	1 5	2 3
Wood and timber	220 6	163 9	·3	2
Cotton and waste	258 9	128 3	3 0	3 1
Wool and waste	246 1	177 3	35 5	25·1
Silk and waste	4 8	6	2 6	3·4
Oil seeds, nuts, fats, etc	352 7	406 4	5 7	2 8
Paper-making	144 8	111 4	1·6	1 7
Rubber	161 3	103 3	2 1	1 4
Manufactured articles	884 6	851 4	2,273 2	2,232 7
Coke and fuels	2	5	4 9	10 5
Iron, steel and products	42 7	126 1	159 6	191 7
Non-ferrous metal group	167 4	207 4	70 5	110 4
Electrical goods	6·7	7 4	96 6	109 6
Machinery	54 9	108·7	365 2	421 7
Cotton, incl yarns	56 4	40·6	209 2	148 1
Woollen, incl. yarns	30 4	8·9	176·8	123·9
Silk and artificial	26 1	9 0	64 3	41 0
Other textiles	43 6	24 4	40 3	35 4
Chemicals, drugs and dyes	65 9	42 4	142·7	138·1
Oils, fats and resins	156 6	103 0	41 9	62·3
Paper, etc.	84 8	43 9	42 4	38·8
Vehicles, incl. ships and aircraft	20 3	27 3	480·3	479 2
Total, all products	3,914 2	3,481 5	2,580 0	2,549·6

TABLE II. TRADE OF O.E.E.C COUNTRIES COMBINED, BY AREAS OF ORIGIN AND DESTINATION*
(In millions of dollars)

Country	Imports (c i f) Jan - June 1951	Imports (c i f) July- Dec 1951	Imports (c i f) Jan - June 1952	Exports (f o b) Jan - June 1951	Exports (f o b) July- Dec 1951	Exports (f o b) Jan - June 1952
Total trade	16,474	17,201	17,102	12,855	14,293	13,878
Trade with.						
Member countries	6,301	6,711	6,614	6,281	6,736	6,478
Overseas territories	2,260	2,285	2,459	1,599	1,924	2,002
Non-member countries	7,913	8,205	8,029	4,975	5,633	5,398
United States	2,051	2,367	2,431	936	874	891
Canada	396	707	685	264	268	217
Central and South America	1,202	1,306	1,074	903	1,068	944
Non-member sterling area	2,135	1,687	1,824	1,478	1,875	1,666
Eastern Europe	670	932	801	555	720	752
Other . .	1,459	1,206	1,214	839	828	928

* The O E E C countries are Austria, Belgium Luxembourg, Denmark, France, German Federal Republic, Greece, Iceland, Ireland, Italy, Netherlands, Norway, Portugal, Sweden, Switzerland, Trieste, Turkey and the United Kingdom

A solution was found at least temporarily under which Belgium received an additional payment from the E P U, extended further credit to members, increased its imports by placing defence orders in France and the United Kingdom and received a credit of $50 million from the International Monetary fund.

United States. U.S trade in the first six months of 1952 continued at high levels. Total exports for Jan.-June 1952 were $7,976 million, as compared with $7,366 million in Jan.-June 1951 and $7,664 million in July-Dec. 1951. Only military-aid shipments kept export values for the first half of 1952 above 1951 levels.

U S. imports amounted to $5,405 million in the first half of the year, a figure 10% below that for the corresponding period of 1951 but 9% above that for the second half of 1951. Since average prices of goods imported by the United States had dropped considerably from the mid-1951 figure, the volume of imports in the first six months of 1952 was within 4% of the record level of the corresponding period a year earlier and 12% greater than the volume of the second half of 1951.

Geographically, the distribution of U.S. foreign trade followed the pattern of recent years in the first half of 1952. However, the short-term fluctuations, which had been so prevalent in the two years since the beginning of the war in Korea, continued. The Latin-American area was still the leading supplier of U S. imports, providing about one-third of the total. Canada was the second source, followed by the far east and Europe. In striking contrast to prewar years was the sharply increased proportion of imports coming from Africa and the near east. In 1952 this proportion was about 8%, more than twice as high as the corresponding 1936-38 figure.

Europe was as usual the principal destination for U.S. exports during the first half of 1952, taking about one-third of the total. The next largest share—one-fourth—went to Latin America. Canada, with somewhat less than one-fifth, outranked the far east by a fairly narrow margin Africa and the near east accounted for a much smaller proportion of the trade.

Canada. Preliminary figures for Canadian trade during the first eight months of 1952 showed an export surplus of about $240 million compared with a net deficit of $336 million at the end of Aug. 1951 (figures in terms of Canadian dollars used throughout this section). This was accounted for by a spectacular increase in exports to other countries, accompanied by a decline in imports.

Canada's exports, which totalled $2,100 million in the first six months, represented an increase of 20% over the similar period of 1951. After adjustment for price changes, this was a 17% increase. Imports, on the other hand, totalled $1,950 million, a decline of about 8%, as compared with the imports in the first half of 1951. The falling-off was almost entirely in consumer goods. Imports of capital goods expanded somewhat.

Trade with the United States continued to show a merchandise deficit. Imports fell slightly during the first six months, but exports remained about the same as in the first half of 1951. The United States, which had taken 64% of Canada's exports in Jan.-June 1951, reduced its share in the same period of 1952 to 53%, although in terms of money value the amount was nearly the same.

The paramount factor in the heavy 1952 exports was the large overseas business in Canadian grain, lumber and metals. Canada's exports, for example, to the United Kingdom in the Jan.-June 1952 period were 55% higher than in the same period of 1951; exports to the other Commonwealth countries were 40% higher, and to western Europe about 67% more Canada's imports in the first six months, far from compensating for increased exports, showed declines with most major trading partners The Commonwealth countries' exports to Canada, including those of the United Kingdom, declined from $371 million in Jan.-June 1951 to $253 million in the same six months of 1952. Continental Europe's exports were about 7% less, leaving a very large deficit in their trade balance with Canada.

The Canadian dollar continued to sell at premium prices in the United States. This reflected the country's extremely favourable export position in 1952 and the continued large influx of capital, largely from the United States

Latin America. The foreign trade of the 20 Latin-American republics in 1951 rose to high levels. Only incomplete data were available for the first half of 1952, but these showed a tendency for imports to increase further in value and for exports to fall off to some extent for most countries, with a few exceptions, of which the most important were Venezuela and Cuba.

Data from U S sources indicated that imports by the 20 Latin republics from the United States amounted to $1,902 million in the first half of 1952, about 2% less than in the last part of 1951 but well above any earlier semi-annual totals except those of 1947. Exports advanced 13%, to $1,661 million, a total exceeded only in the first six months of 1951 when a peak of $1,872 million was reached. The $241 million excess of imports over exports, although contrasting sharply with an export surplus of $65 million a year earlier, was only about half as large as in the second half of 1951. The five principal trading partners of the United States in Latin America—Brazil, Mexico, Cuba, Venezuela

TABLE III GEOGRAPHIC DISTRIBUTION OF UNITED STATES FOREIGN TRADE ($ million)

	Exports* Jan -June 1951	Exports* Jan -June 1952	General Imports Jan -June 1951	General Imports Jan -June 1952
Total	15,020	7,366	10,962	5,405
America				
Canada	2,588	1,379	2,275	1,155
Brazil	699	291	910	389
Colombia	226	117	362	178
Cuba	539	283	418	250
Mexico	711	341	326	218
Venezuela	455	242	324	196
Europe				
Belgium and Luxembourg	377	169	216	93
France .	427	212	263	88
German Federal Republic	519	232	229	94
Italy	456	268	140	72
United Kingdom	893	395	466	238
Asia and Australasia				
Australia.	177	101	350	85
India	464	304	296	137
Japan	597	346	206	99
Malaya	58	20	425	246

* Includes re-exports

and Colombia—took about 75% of U.S. total exports to that area, a slightly greater percentage than a year earlier.

Some of the republics, including Brazil, Argentina, Uruguay and Chile, found it necessary toward the end of 1951 to strengthen their controls over purchases from the United States. The surplus of imports over exports in merchandise trade continued in 1952 to be a drain on Latin-American dollar assets and an important factor in the rise in short-term commercial debts of some of the countries, especially Brazil. The Latin-American republics continued to enjoy substantially more favourable terms of trade in their transactions with the United States than before the outbreak of the Korean war in June 1950, despite some decline in those terms since the second quarter of 1951.

The advance in Latin-American exports to the United States in 1951 over 1950 was about 15%, compared with a 31% increase in their exports to the O.E.E.C. countries. For the first six months of 1952 there were indications that Latin-American exports to the United States almost equalled the half-yearly average for 1951, while shipments to the O E.E.C. countries dropped. Substantial reductions in exports to the United Kingdom, Italy and Belgium greatly outweighed increases to the German Federal Republic and Sweden. On the import side, it appeared that the United States continued in 1952 to supply about one-half of all Latin-American imports, or the same proportion as in 1951. In the first six months of 1952 there was a marked drop in imports from France, Italy and Sweden, although important increases from the United Kingdom, the German Federal Republic and Belgium.

Near East. Egypt's favourable balance of trade of Jan.-June 1951 of $10 4 million was turned into a deficit of $130 million in the corresponding period of 1952. This abrupt shift put a drain on the country's dollar and sterling balances and caused the government in July to intensify its exchange restrictions on luxury and semi-luxury goods.

Israel's trade deficit remained almost unchanged from 1951 at an annual rate of about $290 million. This deficit was met by Export-Import and other bank loans, new investment in Israel, U.S. grants and gifts from world Jewry.

Turkey's exports rose in the first six months by about 12% over the 1951 average. Imports, however, stimulated by Turkey's capital development programme, rose by nearly 30% in the same period. The resulting deficit was nearly four times that of the preceding year at the same date.

Following the nationalization of the Persian oil industry and the loss of gold from oil sales, Persian exports dropped from $818 million in 1950 to an annual rate of $126 million during the first half of 1952. Imports also fell, though far less drastically, as Persia drew on reserves for necessary supplies. These totalled $169 million at an annual rate during Jan.-June 1952, as compared with $229 million in 1951.

South Africa. The South African balance of payments on current account, in balance in 1950, showed a deficit of $305 million in 1951 which continued into 1952. The primary cause of this lack of balance, in addition to declines in the values of exported goods, was an increase in imports, resulting from a relaxation of import controls in 1951. The government established quotas to curtail imports in 1952, allowing imports of industrial raw materials and maintenance parts at 75% of the 1951 level and of consumer goods at 66% of 1951 imports. These, together with the larger than expected inflow of foreign capital, were expected to secure a satisfactory balance of payments account for the year.

Far East. India's foreign trade in the first six months of 1952 continued the adverse trend of the second half of 1951, with a deficit of $730 million at an annual rate, as compared with $490 million for the year 1951. As a result, India's sterling balances were depleted by nearly 1,000 million rupees.

The heavy decline in the first half of 1952 in the market prices of rubber and tin caused Malaya to have an adverse trade balance of $13·6 million compared with a favourable balance of $320 4 million during the same period of 1951. The United Kingdom continued to be Malaya's best customer, and Malaya obtained the major portion of its essential requirements from sterling sources. Shipments to the dollar area declined in value terms because of the sharp fall in rubber prices (tin shipments more than doubled in value), but new restrictions on imports from the dollar area enabled Malaya to maintain a favourable balance with the United States, although at a much lower level than in the corresponding period of the previous year.

The foreign trade of Hong Kong in Jan.-June 1952 was much smaller than in the first six months of 1951. Exports declined by more than 50% and imports by more than 25%. The major cause was the drastic reduction in trade with China, following the severe import and export controls introduced in Hong Kong in June 1951. The value of exports to China in the first six months was reduced to 15% of the level in the corresponding period of 1951. Imports from China declined to about 75% of their former level. Hong Kong's exports to the United States continued a steady decline as a result of the wider application of U.S. restrictions prohibiting importation of goods of Chinese origin.

Japan's exports, which had increased rapidly between 1950 and 1951 as Japanese production climbed to well above pre-World War II levels, began to level off in the early months of 1952 and showed a slight downward movement in the second quarter. Imports showed declines from a year earlier of about 6%.

Among the remaining far eastern countries there was a fairly consistent trade pattern. Burma, Ceylon, Indonesia and the Philippines all reached record export levels in 1951, largely because of high prices for their leading export commodities, but, following severe declines in the prices of rubber, tin, copra and tea, their exports began to decline in the first quarter of 1952 and, particularly in Ceylon and Indonesia, dropped still further in the second quarter. In early 1952 imports were maintained at about the high level of 1951, then they tapered off in Ceylon and the Philippines but continued to climb in Indonesia and Burma.

Pakistan's exports rose to their highest level in the first quarter of 1952 and then fell abruptly in the second quarter. The reduction was primarily the result of a decline in world demand for cotton and jute. In order to stimulate exports of jute, Pakistan reduced export duties and prices at the middle of the year. Imports, which had also risen to a record peak early in 1952, were put under restrictions in August after Pakistan's balance of payments deficit more than doubled between the first and second quarters.

Australia and New Zealand. With the drastic decline in wool prices, the value of Australia's exports in the first six months of 1952 dropped to a level nearly 30% below the 1951 peak. Exports in 1951 totalled $2,204 million; in Jan.-June 1952, on an annual-rate basis, they were $1,576 million. This figure represented a volume of exports about 12% above 1948. Imports, many of which had been ordered under contract earlier, reached an all-time peak of $3,144 million at an annual rate during the first quarter of 1952. Severe restrictions on imports were imposed in March to halt the drain on reserves, and imports declined in the second quarter of 1952 to an annual rate of $2,182 million, still nearly 15% above the 1951 level of $1,911 million. The Commonwealth treasurer, in presenting the new budget on Aug. 6, said that Australia's international reserves had fallen

to £A362 million on June 30, 1952, as compared with £A843 million a year earlier. He also stated that the import restrictions announced on March 8 had become fully effective and had brought Australia's immediate balance of payments problem under control.

New Zealand's trade showed a gain in exports, rising from $693 million in 1951 to an annual rate during the first quarter of 1952 of $749 million. This was accomplished, despite sharply decreased earnings on wool, because large shipments of meat to Great Britain at high prices tended to offset that loss. The increase in exports, however, did not begin to be large enough to pay for the 50% rise in imports—from $596 million in 1951 to an annual rate in Jan.-March 1952 of $908 million. Following agreements at the Commonwealth conference in late 1951 to achieve a surplus of $25 million with non-sterling countries, New Zealand reimposed exchange restrictions and other import control measures. (*See* also BALANCE OF PAYMENTS, BUSINESS REVIEW; EASTERN EUROPEAN ECONOMIC PLANNING; INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT; INTERNATIONAL MONETARY FUND; TARIFFS.) (F. HL.)

INVENTORS, AWARDS TO. The Royal Commission on awards to inventors under the chairmanship of Lord Cohen continued to deal with claims referred to it by government departments concerning the crown's use of inventions, designs, drawings or processes.

The commission dealt with further claims under head 1 of their terms of reference which provided an alternative to the procedure under the Patents and Designs acts whereby a claimant was entitled to apply to a judge of the High court for the settlement of the terms of use (about £175,000 had been awarded under this head). Most of the claims heard by the commission were under head 3 of the warrant, that is to say, in respect of claims for which the owner of the invention, design, drawing or process does not assert any monopoly right. The most important claims dealt with in 1952 related to radar and radar installations.

PRINCIPAL AWARDS TO INVENTORS, Nov 1, 1951-Oct 31, 1952

Claimant	*Head of Term of Reference*	*Subject*	*Award*
Sir Robert Watson-Watt	3	Radar	£50,000
A F. Wilkins	3	Radar installations	£12,000
Dr. E G Bowen	3	Radar installations	£12,000
R. Hanbury-Brown	3	Radar installations	£1,200
Dr A G Touch	3	Radar installations	£2,400
Dr. D Taylor	3	Radar installations	£2,400
L H Bainbridge-Bell	3	Radar installations	£2,400
W A S Butement	3	Radar installations	£1,200
G A Roberts	3	Radar installations	£2,400
H Larnder	3	Radar installations	£2,400
P E. Pollard	3	Radar installations	£1,200
J. Bell, E Langham	3	Electrical computing	£2,000 (jointly)
A C Brinsmead	3	Wreck dispersal devices	£1,500
R A W A Lochner	3	Degaussing of ships	£5,000
S Butterworth, M W Burgess, N F. Barber	3	Degaussing of ships	£5,000 (jointly)
W C. Potts	3	Degaussing of ships	£1,000
Dr A. B Wood	3	Degaussing of ships	£1,200
Commander H E Wethered	3	Degaussing range equipment	£1,000
Sir Charles Goodeve	3	Degaussing of ships	£7,500
S. L. Payne	3	Degaussing of ships	£1,500
Resistance Welders, Ltd	3	Flash butt-welding for airscrew hubs	£2,000

The commission recommended an award of £50,000 to Sir Robert Watson-Watt and a further £44,600 to 20 other claimants. A total award of £23,300 was also made to the group of claimants who were concerned with the inventive measures generically known as degaussing which were taken to counteract the German magnetic mine. Under head 3 a total of about £440,000 was awarded.

One claim pending under head 4 of the terms of reference arose out of the information disclosed during the war to, and alleged to have been used by, the U.S. government.

(R. G. L.)

INVESTMENTS ABROAD. The Bank of England continued to publish in 1952 official statistics on United Kingdom overseas investments. These statistics were designed in the main to provide a continuation of the series of studies, covering the years 1928 to 1938, published by Lord Kindersley in the *Economic Journal*. This series related to nominal capital values, and thus gave no indication of the actual market value of the investments; it provided nevertheless a convenient basis for investigating changes in ownership. The Bank of England statistics covered (i) loans to overseas governments and municipalities; (ii) shares and debentures of U.K. registered companies who operate abroad, but excluding, for example, insurance and shipping companies whose activities are divided between home and abroad; (iii) shares and debentures of companies registered overseas.

The figures published in 1952 gave detailed data for 1950 (*see* Table II) and indicated a small (£18 million) net decrease in the nominal value of U.K. investments abroad, made up as follows: gross repayments including redemptions, etc., especially of Australian and Brazilian government loans and of Mexican Railway loans, amounting to £65 million nominal (£56 million in cash value), gross new investment (new issues, capital written up, etc.) mainly in Commonwealth government loans and in shares and loans of South African gold-mining companies, amounting to £61 million nominal or £63 million cash. The process of replacing U.S. non-domestic securities by domestic securities had continued. In addition there was a net sale of securities through the market to non-residents to the value of £14 million nominal and £12 million cash. The decrease in investments' cash value was only £5 million.

An unofficial estimate by A. R. Conan provided a somewhat more comprehensive estimate of U.K. overseas investments. He attempted to value them at current values, and for this purpose equity holdings were valued by him on the basis of their actual or prospective income-yielding capacity. His estimates also included all direct investments and not only those quoted on stock exchanges His estimate of the current value of the United Kingdom's overseas investments is shown in Table I.

TABLE I ESTIMATED VALUE OF U K. OVERSEAS INVESTMENTS

	1938	1949-50
	(in £ million)	
Main sterling area*	2,050	2,000
United States and Canada	1,000	1,100
Latin America, Europe, China and Japan	1,150	750
Not specified	300	350
	4,500	4,200

* Ireland, Australia, New Zealand, South Africa, India and British colonies
SOURCE A. R Conan, *The Sterling Area* (London, 1952)

The interest and dividend income from the securities included in the Bank of England statistics of overseas investments amounted to £142 million in 1950, an increase of about £25 million over 1949. Total loan interest was slightly down. Outstanding increases in dividends were those declared by rubber and tin companies in Malaya (the result of the re-stocking boom following the outbreak of the Korean war), also by gold mines, tea companies and oil companies. Also 1950 was the first full year when the effect of the higher sterling value of U.S. dollar dividends was felt.

More complete and later summary estimates of U.K. income from overseas interest, profits and dividends were provided by the official Treasury statements on the U.K. balance of payments. These estimates related not only to total earnings

remitted as payment of interest, dividends and taxation, but also to management expenses in the United Kingdom and to re-investments. Like the Bank of England statistics, they excluded the overseas earnings of U.K. insurance and shipping companies; they also excluded the earnings of the oil companies. Total earnings amounted to £280 million in 1951, as compared with £245 million in 1950 and £185 million in 1949. The figures for the first six months of 1952 showed, however, a slight decline as compared with the same period in 1951: from £148 million to £130 million.

The *Annual Report* of the Council of Foreign Bondholders for 1951 (published in 1952) reported no addition to the list of countries in total default of their external debt. Indeed the year 1952 brought important and satisfactory settlements in respect of both Germany's and Japan's prewar debts. The suggested terms of settlement of the German prewar debts that were agreed between creditors and debtors in London in Aug. 1952 and were recommended for the approval of the governments concerned (as set out in detail in the *Economist*, Aug. 16, 1952) broadly proposed: to keep as closely as possible to the original terms of the contract without reducing the original principal amounts, that arrears of interest, after being re-calculated at about two-thirds of their contractual rates, should be funded usually into 20-yr. bonds carrying interest at 3%; that the future interest rates on the outstanding loans should be somewhat reduced below those of the original contracts; that the maturity dates should be extended and amortization should begin after five years, that contracts with dollar and gold clauses should be redefined so that gold clauses would become dollar clauses but dollar clauses would be honoured in full. Under this agreement Germany would be expected to pay for the immediate annual service of all bonds, etc (only a proportion of which, of course, was held by United Kingdom interests) a sum of the order of £35 million, rising to between £45 million and £50 million when the sinking fund payments should begin in five years' time.

The German settlement was followed closely by an agreement with Japan in Washington at the end of Sept 1952. According to this settlement the service on the outstanding issues was to be resumed immediately at the full contractual rates. Arrears of interest that accumulated between 1942 and 1952 were to be paid in full in equal instalments over the next ten years. All currency clauses were to be honoured, but the maturity dates of bonds with currency clauses were to be extended by 15 yr. from the contractual date and those of bonds without a currency clause by 10 yr. (L. Rs)

TABLE II UNITED KINGDOM INVESTMENT ABROAD, ALL SECURITIES BY COUNTRIES (a) NOMINAL CAPITAL AT END OF YEAR, (b) INTEREST AND DIVIDENDS

	1938		1949		1950	
	(a)	(b)	(a)	(b)	(a)	(b)
Commonwealth						
British West Africa	55	4 3	43	3 9	44	5 3
Anglo-Egyptian Sudan	17	9	11	1 0	11	1 0
British East Africa	24	1 0	19	1 4	24	1 4
British Central Africa	73	5 9	86	8 3	92	10 0
South Africa	199	17 5	149	15 9	160	18 6
India	388	18 5	61	6 2	63	8 1
Pakistan			9	8	9	1 2
Ceylon	28	1 7	25	2 5	25	3 9
Malaya	67	4 0	69	5 3	69	11 4
Australia	520	22 2	385	16 5	370	16 6
New Zealand	134	5 8	69	2 9	68	3 0
Canada	420	15 9	172	6 9	161	7 4
British West Indies	21	1 3	27	1 9	28	1·9
Other	18	9	7	6	8	8
Total	1,962	99 8	1,133	74 1	1,134	90 5
Foreign Countries						
Republic of Ireland	16	8	21	9	24	1 0
France	11	4	8	4	8	6
Germany	45	2 0	45	—	45	*
Austria	11	5	9	1	9	1
Denmark	14	6	7	3	6	3
Norway	11	4	3	1	3	1
Hungary	16	4	15	—	15	—
Rumania	19	4	14	—	14	—
Greece	26	4	24	1	24	*
Rest of Europe	64	2 4	50	1 9	50	2 0
Burma	20	2 1	10	3	10	6
China	37	1 5	36	1	36	1
Japan	50	2 6	47	1	47	1
Netherlands East Indies†	24	1 2	21	3	21	3
Persia	34	5 2	‡	‡	‡	‡
Egypt	10	6	11	2 7	10	3 1
United States	268	7 1	115	10 0	124	14 8
Mexico	66	4	52	9	40	1 1
Cuba	28	1	24	1	24	1
Argentina	368	7 8	40	5	40	6
Brazil	164	1 6	79	2 2	64	2·2
Chile	63	9	46	1 0	44	1 0
Peru	25	4	22	3	22	5
Uruguay	23	4	8	5	6	3
Rest of South America	37	1 7	34	1 9	33	1 4
Other	40	1 5	33	1 6	34	1 9
Total	1,491	43 2	775	26·5	751	32 1
Not classifiable	93	12 5	131	15 7	134	19 3
Total	3,545	155 4	2,038	116 4	2,020	141 8

* Less than £50,000 † Indonesia ‡ Included in "Not Classifiable".
NOTE Totals may not add because of rounding.
SOURCE *United Kingdom Overseas Investments—1938 to 1948* (Bank of England, London, 1950), *United Kingdom Overseas Investments—1949 and 1950* (Bank of England, London, 1952)

TABLE III ESTIMATES OF UNITED KINGDOM INVESTMENT ABROAD BY CATEGORIES, 1938-48
(in £ million at end of year)

	1938	1940	1944	1946	1948	1949	1950
Government and municipal loans	1,521	1,458	978	859	795	795	785
U K companies							
share capital	817	806	768	748	583	590	587
loan capital	367	335	279	255	120	106	106
Overseas companies							
share capital	473	422	327	303	311	373	374
loan capital	368	318	192	164	158	174	168
Total	3,545	3,338	2,544	2,329	1,967	2,038	2,020

NOTE Totals may not add because of rounding
SOURCE *United Kingdom Overseas Investments—1938 to 1948, ibid—1948 and 1949, ibid—1949 and 1950* (Bank of England, London, respectively 1950, 1951 and 1952)

United States Investments Abroad. The value of U S private and government investments in foreign countries amounted to $36,824 million on Jan. 1, 1952, a rise of about $2,100 million over the same date in 1951. By the end of June 1952 their value had probably increased by an additional $1,000 million, reflecting a net outflow of private and government long-term capital of $725 million and $331 million respectively, and the reinvestment of foreign subsidiary earnings. Most of the movement of private capital, $560 million, was in the form of direct investments and reflected important U.S. managerial interests in the recipient enterprises. The balance was in portfolio securities involving no important voice in the management of foreign enterprises.

The increase in foreign investments in the first half of 1952 roughly paralleled new plant and equipment expenditures in the United States. The high rate of both foreign and domestic investment indicated a continued need for raw materials and processing facilities. This need was reflected in the flow of capital to Canada.

In 1950 about 38% of the overflow of U.S. direct-investment capital went to Canada. During the next year the proportion rose to 45% and probably was the same or higher in 1952. In dollar terms, the net movement of about $250 million invested in Canada during the first six months of 1952 was only 10% below the total for the whole of 1951. Of these sums, probably threequarters went into petroleum and mining ventures during 1951-52, compared with 65% in 1950.

The flow of U.S. direct investment capital to Latin America approximated $175 million during the first six months of

1952, compared with $187 million for the whole of 1951. U.S. investments in other countries also increased in the first half of 1952 compared with the previous year, petroleum development continuing as one of the chief attractions. The Indian ambassador to the United States, Binay Ranjan Sen, urged U.S. investments in India, particularly by support of Indian industries, and also recommended the formation of an investment company in which both U.S. and Indian capital would participate, initially on a 70%-30% basis.

In August the U.S. government announced through the Mutual Security agency that U.S. companies were showing marked interest in the possibilities of foreign investments in countries where they could be insured by their own government against loss by expropriation or blocked exchange. The agency further stated that from the inception of the programme in 1948 it had taken in about $500,000 in premiums from the 40-odd companies that had purchased insurance on nearly $40 million of investments and that no payments on claims had been made

TABLE IV. ESTIMATED VALUE OF U S INVESTMENTS ABROAD, JAN 1, 1952
(millions of dollars)

Type of Investment	O E E C Countries*	European Countries	Canada	American Republics	Other	Total
Total	*13,425*	*1,185*	*8,040*	*7,198*	*3,171*	*36,824*†
Direct	3,047	157	4,349	5,504	1,632	14,889
Dollar bonds	80	7	1,291	166	175	2,082
In local currencies	374	38	1,984	26	58	2,480
Other long-term	984	200	173	260	107	1,724
Short-term deposits	214	36	108	56	33	447
Other short-term	257	37	121	648	255	1,318
U S government	8,469	510	14	538	911	13,884

* Incl O E E C Dependencies † Incl $363 million private dollar bonds to international institutions and $3,442 million from U S government to international institutions
SOURCE U S Department of Commerce

The net investment of $165 million in foreign dollar bonds and in other securities and indebtedness of foreigners during the first half of 1952 was somewhat below the annual rate for 1951. Holders of defaulted bonds issued by other foreign countries were encouraged during the year by German and Japanese steps to restore their credit standing. Other developments during the year included sales to the public of shares of investment companies with portfolios of Canadian securities.

Long-term loans of the U.S. government to foreign countries totalled $331 million in the first half of 1952, the outflow of $141 million in the first quarter alone equalling the total for the whole of 1951. The increase reflected larger credit advances to foreign countries under the Mutual Security programme than had taken place under the European Recovery programme in 1951.

Earnings on U.S. investments in foreign countries were about $2,700 million in 1951. Of this sum about $2,000 million was calculated in the U.S balance of payments as income received. A total of $700 million of foreign subsidiary earnings remained abroad for reinvestment and an unspecified portion of the income received from branches abroad was also returned, as new investments. From indications available early in 1952 receipts from abroad for the year were expected to exceed those of 1951.

The vast bulk of earnings was accounted for by direct-investment company earnings of about $2,300 million. Oil company profits reflected the rapid replacement of Persian oil by increased production by U.S. companies abroad. Production of crude oil by the major U.S. companies abroad, which had averaged 1,800 million bbl. per day in 1950, rose to an average of 2,400 million bbl. per day for the last half of 1951. The increase in earnings of the companies in that year was reported as directly proportional to the increase in production. One of the companies involved, Standard Oil company (New Jersey), reported that approximately $320 million of its consolidated net income in 1951 was earned by subsidiaries operating outside the United States. Several foreign countries asked for an increase in their share of profits to a 50% basis during 1952 on oil and mining concessions that had been earlier granted to U.S. firms.

Foreign Investments in the United States. The value of foreign investments in the United States on Jan 1, 1952, of $21,166 million, showed little change from 1951. The increase of about $100 million during this period contrasted with an increase of $2,600 million for 1950. During the first six months of 1952 a noticeable change in value resulted from a rise of $730 million of foreign short-term claims on the United States.

During part of the first quarter of the year foreigners continued to suffer losses of gold and dollars to the United States. With the marked increase in U.S. imports during the whole of the first quarter of the year, the export surplus was reduced and on balance foreigners increased their short-term claims on the United States by $168 million, although losing $557 million of gold to the U S. Treasury The improvement in international economic relations that became evident in March was reflected in further increases of about $560 million of foreign banking balances and other short-term assets in the U.S in the second quarter although the United States acquired somewhat in excess of $100 million of foreign gold in this period The gold losses were mainly by Great Britain, the United Kingdom accounting for $520 million of the $557 million sold to the United States by foreigners in the first quarter of the year.

The rise in banking claims on the United States in the first six months, on the other hand, was shared between a large number of countries Details available for the first five months of the year showed that of a total increase of $667 million $189 million was for Canadian accounts, the United Kingdom accounted for $114 million of a total of $139 million for Europe, Venezuelan and Cuban balances each rose about $67 million, and Japan's increase of $130 million comprised the bulk of the rise of $214 million for Asia

TABLE V ESTIMATED VALUE OF FOREIGN INVESTMENTS IN THE UNITED STATES, JAN 1, 1952
(millions of dollars)

	O E E C Countries*	European Countries	Canada	American Republics	Other	Total †
Total	*9,805*	*233*	*3,318*	*2,547*	*2,482*	*21,166*
Direct	2,290	25	967	141	76	3,499
Stocks	2,396	25	673	445	145	3,684
Bonds‡	301	25	33	53	10	428
Other	986	51	140	218	86	1,481
Short-term deposits	276	62	497	1,328	1,543	5,783
Other short-term	471	27	32	171	88	848
U S government§	1,085	18	976	191	534	5,443

* Incl O E E C dependencies
† Incl by international institutions, bonds $6 million, short-term deposits $77 million, other short-term, $59 million, U S government obligations, $1,822 million
‡ Incl about $100 million state and municipal obligations
§ Incl U S currency and coin held abroad with an estimated value of $817 million which cannot be distributed by area
SOURCE U S Department of Commerce

Apart from liquidations of $67 million of U.S. government securities, foreigners engaged in relatively small transactions in long-term investments in the United States during the first half of the year. Several potentially large direct investments were announced, however. The chairman of Bowaters Newfoundland Pulp and Paper mills announced that a $51·5 million newsprint and kraft mill would be built in southern Tennessee. The New Continental Oil Company of Canada, Ltd., was reported to have paid $6 million for land and 35 producing oil wells in Texas. Other Canadian interests were engaged in transactions in the U.S. section of the Williston basin, mainly in Montana. Canadian interests were also reported ready to acquire extensive areas of prospective oil lands in northern Wyoming.

In July the British firm of Ferranti Electric, Ltd., through its U.S. subsidiary of the same name, won a U.S. army award for power transformers for a dam in North Dakota with a bid totalling more than $1 million.

Total foreign earnings on investments in the United States were about $540 million in 1951 while income payments to foreigners were just under $400 million, the difference being undistributed earnings of direct-investment subsidiaries. While only meagre data were available for 1952, it appeared that income payments would be higher than in 1951. (*See* also BALANCE OF PAYMENTS.) (M. AB.)

See A. R. Conan, *The Sterling Area* (London, 1952).

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: 168,043 sq.mi. Pop. (1950 est.): 5,100,000. Language: Arabic 67%, Kurdish 25%, others 8%. Religion: Moslem 93·5%; Christian 5%; others 1·5%. Chief towns (pop., 1947 est.): Baghdad (cap., 552,000), Mosul (279,400), Basra (206,000), Kirkuk (148,300). Ruler, King Faysal II; prime ministers in 1952: Nuri es-Said, (from July 12) Mustafa el-Umari and (from Nov. 23) General Nureddin Mahmud.

History. On Jan. 21, W. Averell Harriman, the director of the Mutual Security agency, announced that Iraq would be debarred from U.S. technical and economic aid owing to its failure to comply with the provision of the Mutual Security act requiring recipients to contribute fully to the defence of the free world and to develop their capacity for self-defence to the best of their ability.

In February, the commander-in-chief of the British forces in the middle east visited Baghdad to discuss with the Iraqi government questions of collective security and the supply of war material and equipment.

On March 16 the Iraqi parliament ratified the Arab security and economic aid pact which eventually came into force on Aug. 23 after it had also been ratified by Egypt, Syria, Jordan and Saudi Arabia.

In July, on the termination of the existing five years' financial agreement between the British and the Iraqi governments, a further agreement was signed by both countries by which Iraq's remaining blocked sterling balance (about £23 million) was released by the British government. The Iraq government had expressed its intention of continuing to hold some of this money as part of the cover for its currency. It had also been agreed to set up machinery for regular exchanges of information on financial and economic matters and that Iraq's financial relationship with Great Britain would continue on the basis of common membership of the sterling area.

In May the Emir Abdulilah, the regent of Iraq, accompanied by Nuri es-Said, the prime minister, paid a state visit to Spain. In August King Faysal II travelled to the United States where he was the guest of President Harry S. Truman. On his return he visited Great Britain and, with the regent, was the guest of Queen Elizabeth II at Balmoral. He had attended the funeral of King George VI in February.

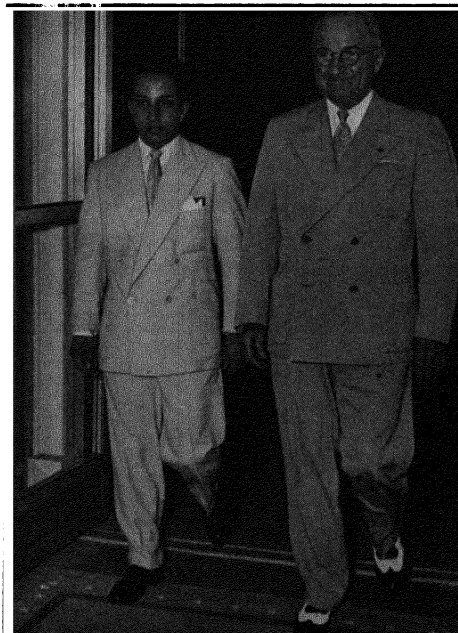
In June the regent visited Amman at the time of the breakdown of the health of King Talal of Jordan. He advanced the view that as the question of the Jordan throne concerned the Hashemite family, a senior representative of that house should preside over the proposed council of regency in Jordan. But the Jordan cabinet rejected his contention.

When opening the new Zubair oilfield near Basra in January, the prime minister stressed the reliance of Iraq's economic development on that of its oil industry. On Feb. 7 the government signed an agreement with the Iraq Petroleum company under which profits would be shared equally between the two parties. It was ratified a week later by the Iraqi Chamber of Deputies and by the Senate. On April 23 the construction of the Iraq Petroleum company's trans-desert pipeline from Kirkuk to Banias on the Syrian coast was completed. It was 556 mi. long.

On July 9 Nuri es-Said resigned and was succeeded as prime minister by Mustafa el-Umari. The new cabinet, announced on July 12, was a non-political administration.

On Nov. 4 four of the five political parties announced their intention of boycotting the elections, due in Feb. 1953, unless the existing two-stage system of voting was replaced by a direct system. On Nov. 17 the prime minister, Mustafa el-Umari, promised a commission to prepare legislation for direct voting to be submitted to the new parliament which would be elected under the two-stage system. But on Nov. 22 there were widespread demonstrations and rioting in Baghdad demanding immediate electoral reform. Mustafa el-Umari's government thereupon resigned and was succeeded by a new cabinet led by General Nureddin Mahmud, the chief of the general staff. He immediately declared martial law in Baghdad and quickly quelled the rioting; and on Nov. 24 the leaders of the political parties (except Nuri es-Said and Salih Jabr) were arrested. Simultaneously an announcement was made that the elections would be according to the direct system. Decrees, designed to reduce the cost of living, were promulgated, abolishing taxes on land, vegetables and fruit and reducing several import customs duties and export duties from 5% to 1%.

On Dec. 2, 200 Communists were arrested. It was alleged that on the instigation of Persian Communists (the Tudeh Party) they had been behind the Baghdad riots.



King Faysal of Iraq with President Truman during his visit to the U.S., on which he was accompanied by his uncle, the regent.

Throughout the year the programme of the Iraq Development board made progress. In January the contract for the digging of the 40-mi. escape canal from Samarra on the upper Tigris to the Wadi Tharthar depression was awarded to a British firm. The work would take four years to complete, and was designed to avert the flooding of the low-lying country along the river from Baghdad to its mouth. A further sum of I.D. 40 million was being devoted to local flood control and land reclamation along the southern reaches of the river. In the north a large scheme for the boring of artesian wells had already made much progress. The resulting supplies of water were intended for crop irrigation to encourage the nomadic tribes to settle permanently on the land. In June a contract for the building of a barrage across the Euphrates at Ramadi was awarded to a French company.

A trade agreement was signed in May between the Iraqi and the Federal German governments. (O. Tw.)

Education. Schools (1949-50): primary 1,194, pupils 196,336, teachers 6,740; intermediate 133, pupils 22,899, teachers 492; secondary 71, pupils 7,222, teachers 983; vocational 10, students 1,275, teachers 64. Institutions of higher education 10, students 5,200, lecturers 124.

Agriculture. Main crops ('000 metric tons, 1950; 1951 in brackets): barley 900; wheat 520 (650); rice 255 (180); dates (1949) 170; tobacco 8·0; cotton, ginned 8·0; cottonseed 15 (17); wool, clean basis 9. Livestock ('000 head, 1949): sheep 7,055, goats 1,849, cattle 822, buffaloes 130, camels 291, horses (1950) 184, mules 52, donkeys 413.

Industry. Industrial establishments (1948): 1,762; persons employed 27,248. Fuel and power: crude oil production ('000 metric tons, 1951; 1952, three months, in brackets) 7,980 (2,405); electricity (million kwh., 1949, public utilities only) 38.

Finance and Banking (million dinars). Budget (1949-50): revenue 27, expenditure 32; (1950-51 est.) revenue 27, expenditure 28. Currency circulation (Aug. 1951; July 1952 in brackets) 31·7 (30·0). Bank deposits (April 1951; April 1952 in brackets): 14·3 (17·3). Monetary unit: Iraqi *dinar* at par with the pound sterling and with an exchange rate of 0·357 dinars to the U.S. dollar.

Foreign Trade. (Million dinars, 1951; 1952, first four months, in brackets.) Imports 51·0 (20·9); total exports 59·3 (20·9), oil exports (30·1). Main sources of imports (1951): U.K. 34%; U.S. 14%; Italy 7%; Ceylon 6%. Main destinations of exports: U.K. 36%; Netherlands 14%; India 10%; Japan 7%. Main imports (1949): textiles 18·0%; tea and sugar 12·6%; iron and steel 12·1%; boilers 11·1%. Main exports (1951): oil 51%; barley 21%; dates 9%.

Transport and Communications. Roads (1949): 4,500 mi. Licensed motor vehicles (Dec. 1950): cars 8,789; commercial 10,292. Railways (July 1949): 1,027 mi. Traffic (1947-48): passenger-mi. 329 million; ton-mi. 367 million. Air transport (1949): passenger-mi. 5,861,000; cargo net ton-mi 118,600. Telephones (1951): 17,630. Radio receiving sets (1950): 30,000.

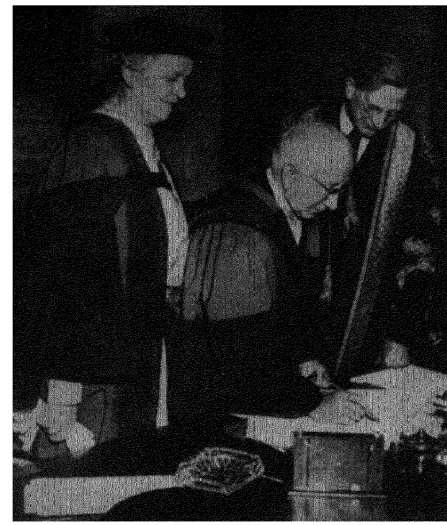
See International Bank for Reconstruction and Development, *The Economic Development of Iraq* (London, 1952).

IRELAND, NORTHERN: *see* NORTHERN IRELAND.

IRELAND, REPUBLIC OF.

Independent republic on an island W. of Great Britain. Area: 26,601 sq.mi. Pop.: (1946 census) 2,955,107; (1951 census) 2,960,593. Language: English *c.* 76%, Erse (Gaelic) *c.* 24%. Religion (1936 census): Roman Catholic 93·4%, Episcopalian 4·9%, Presbyterian 1%, Methodist 0·3%, Jewish 0·1%. Chief towns (pop. 1951 census): Dublin (cap., 522,183); Cork (74,567); Limerick (50,820); Dun Laoghaire (47,920). President, Seán Tomás Ô Ceallaigh (Sean T. O'Kelly); prime minister, Eamon de Valera.

History. Economic rather than political issues dominated the parliamentary scene in 1952. De Valera's government, risking the possible deflection of its independent supporters in the Dail, and thereby endangering its precarious working majority, took a strong line in finance. For the same kind of reasons that operated elsewhere in the sterling area, the budget imposed what, for the hitherto fortunately situated Irish citizen, amounted to drastic increases in taxation. The opposition immediately tried to make political capital out of the increases; the public, however, seemed to accept them with varying degrees of resignation—and the government went on its way, if not exactly rejoicing, at any rate with a firmness that, to a stranger, might appear incompatible with the slenderness of its majority in the Dail.



President and Mrs. S. T. O'Kelly after receiving honorary degrees from Eamon de Valera (right) chancellor of the National University of Ireland, at Iveagh House, Dublin.

But, while economics continued to mould politics, the mystery as to what fundamental principle still separated the two main parties went on deepening. Three by-elections in June did nothing to illuminate it, the relative strengths of government and opposition remaining exactly as before. There were rumours of a new party, but the deep conservatism of the Irish people apparently included the political framework as it is, for nothing new emerged. In the national rather than the party political sphere it was announced that the republic held firmly to the policy of remaining outside N.A.T.O. while partition lasted; and there was colourful pageantry in Dublin in June when Seán T. Ô Ceallaigh was formally inaugurated president. Nationalist members of parliament and senators from the six counties attended the ceremony. It was a tribute to the personality of Ô Ceallaigh (affectionately known to Irishmen as "Seán T.") that his nomination for another seven-year term as president was unopposed.

In July, Dublin, which has a long medical tradition, was the scene of a joint conference of the Irish and British Medical associations. The same month saw the ending of all food rationing in the republic. The items that came off the ration were bread, flour, sugar, tea and butter. At the same time subsidies on sugar, tea and butter were withdrawn altogether; those on flour and bread reduced. On July 11 Dublin printers began a strike that left both the capital and a wide area throughout the country without newspapers. On Aug. 29 agreement was reached between the trade unions involved and the employers, and Dublin's morning and evening newspapers appeared again next day, after a gap of seven weeks.

The rapid expansion of the Irish trade in dead meat continued. Many new meat-processing factories were registered; one in Dublin would, when finished, be the largest of its kind in Europe. Its first products were chilled beef for Great Britain and the United States. The U.S. Department

of Agriculture reported that in 1952 Ireland shipped more refrigerated meat to the United States than any other foreign country. One reason for this phenomenal development was Ireland's freedom from foot-and-mouth disease. Although the Irish refrigerated meat trade was only two years old, it earned, during 1952, twice as many dollars as all other twenty-six county exports combined.

The republic's main industry, agriculture, had a prosperous year. The harvest was one of the best for half a century. Enough barley and oats were grown to meet all demands for feeding stuffs and yet leave a margin to induce an increase in the number of livestock carried on farms during the winter.

Arrangements were begun for *An Tostal*, Ireland's national festival, which, planned for April 1953, was preparing to rival the glories of Edinburgh Appropriately, at the same time as festival plans began to take shape, Aer Lingus, the Irish national airline, reported a record profit of over £92,000 for the year ended March 31, 1952. Passenger traffic provided the bulk of the earnings, but cargo traffic also increased by 33%. The Electricity Supply board, the government-sponsored body for the generation, distribution and sale of electric light and power, reached its silver jubilee. In 1930 the E.S.B. had 48,000 consumers on its lines; in Sept. 1952, 350,000. As the hydro-electrical resources of the island were now almost fully exploited, the E.S.B. announced more peat-fired generating stations, using milled in contrast to sod peat. The first considerable ship-launching for 15 years (a steel-hulled vessel of 1,100 tons) took place in a Dublin shipyard.

The adverse trade balance for the first nine months of 1952 was £57,396,000, or £39,819,000 below that for the same period of 1951. Imports for the nine months were valued at £129,628,000, as compared with £149,890,000 for the corresponding period of the previous year. An interesting trend developed in August when, for the first time, exports to Great Britain exceeded imports from that country, mainly because of increased food exports. There was also a favourable balance with Northern Ireland of £975,000. There was, however, a heavy adverse balance with the dollar area for August, amounting to £1,491,000. Nevertheless, commenting on the favourable trade returns as a whole, some political prophets predicted that if the same trends continued the republic's deficit on the balance of payments might be wiped out altogether by March 1953. There was strong Irish representation at the Frankfurt trade fair and every indication of increased Irish exports to western Germany. The Irish mercantile marine was further strengthened during the year, and a national loan of £20 million, at the generous rate of 5%, was oversubscribed

But in spite of encouraging trade statistics and financial returns, the printing strike, a hold-up in the port of Dublin and a threatened strike of building operatives were all symptoms of uneasiness in the industrial system. The cause was not difficult to locate, as testified by a rise in the interim cost-of-living index of 18% since Feb. 1951. At the same time there was a growing threat of redundancy in leading national undertakings, particularly in transport, and an increase in unemployment.

The Dublin Gate Theatre company performed *Hamlet* at the scene of the play's action, the castle of Elsinore in Denmark. A former Abbey actor and a French author—both distinguished architects—were chosen to draw up plans for Dublin's new Abbey theatre, to be built on the site of the old Abbey, which was destroyed by fire in 1951. A special postage stamp was issued to commemorate the 100th anniversary of the death of the Irish poet and musician, Thomas Moore. (D. I.)

Education. Schools (1950-51)· elementary 4,878, pupils 450,889, teachers 12,792, secondary 424, pupils 48,559. Universities 2 (the National university has 3 constituent colleges) students 7,231, professors and lecturers 564

Agriculture and Fisheries. Main crops ('000 metric tons, 1950; 1951 in brackets)· wheat 333 (252); oats 537 (580); barley 121 (170), rye 3 (3); potatoes 2,920 (2,810); sugar, raw value 98 (99); flax fibre 1 4 Livestock ('000 head, 1951) cattle 4,381; sheep 2,702; pigs 548, goats 50, horses (1949) 402, mules (1949) 5, poultry 18,570. Wool production ('000 metric tons, clean basis, 1950, 1951 in brackets) 4 (4). Food production ('000 metric tons, 1950, 1951 in brackets)· meat 146 (153), of which beef and veal 60 (81), pork 70 (58), butter from co-operative creameries 50 4 (33 1), cheese 3 2 (2 5). Fisheries (wet fish, 1951). 13,981 metric tons

Industry. Persons employed in industrial establishments (1951) 220,000 Fuel and power (1951; 1952, six months, in brackets) coal ('000 metric tons) 184 8 (98 8); electricity (million kwh) 1,008 (561 5); manufactured gas (million cu m) 166 8 (87 6) New houses constructed under state aid (1951) 12,132 Index of industrial production (1951, 1952, six months, in brackets; 1948 = 100) 132 (127).

Finance and Banking (£ million) Budget (1951-52 est) revenue 80 5, expenditure 81 6, (1952-53 est) revenue 86 6, expenditure 101 7 National debt (March 1949, March 1950 in brackets) 113 0 (130 6) Currency circulation (July 1951, July 1952 in brackets)· 56 3 (62 1) Bank deposits (quarterly average, July-Sept 1951, July-Sept 1952 in brackets) 252 7 (257 7) Gold and foreign exchange (million U S dollars, Sept 1951, Sept 1952 in brackets)· 204 (200) Monetary unit Irish pound at par with the pound sterling

Foreign Trade. (£ million 1951, 1952, six months, in brackets) imports 204 5 (84 7), exports 81 4 (45 6) Main sources of imports (1951) Great Britain 47%, U S 13% Main destinations of exports Great Britain 84%, U S 4% Main imports (1951)· machinery and vehicles 14%, textiles and manufactures 13%, wheat and corn 7%; coal 6% Main exports live animals 36%, meat, fish and dairy products 23% Index of volume of trade (on basis of 1948 100, 1951) imports 117, exports 135

Transport and Communications. Roads (1950) 49,170 mi Licensed motor vehicles (Dec 1950) cars 85,140, commercial 40,748 Railways, two principal railways including cross-border operations (1950) 2,460 mi , passengers carried 21 million, goods carried ('000 metric tons) 4,476, goods, ton-mi 327 million Air transport (1950) passenger-mi 50 million, cargo, ton-mi 495,000 Inland waterways 566 mi Telephones (1951) 82,031 Wireless receiving sets (1950) 296,388

IRON AND STEEL. At the end of 1952 the iron and steel industry of Great Britain found itself in the now familiar state of organizational uncertainty and productive efficiency. The government's bill for denationalization had passed its second reading in November after a debate chequered by a counting out, but not otherwise distinguished for originality. The industry was thus nominally still under the control of the Iron and Steel corporation of Great Britain, pending the establishment of the "holding and realization" agency which was to have the task under the bill of securing the return of the companies to private ownership.

After this, the industry was to be supervised by a new Iron and Steel board appointed by the minister of supply with terms of reference widely drawn, but stopping short of wages and conditions of service. In capital development the board would have power to restrain a company from any major development of which it disapproved, subject to appeal to the minister. Schemes desirable in the national interest, but which no company would undertake, could be undertaken by the minister of supply, after consulting the board. Despite this, the opposition claimed that the board's powers were merely negative, and stated that any future Labour government would renationalize the industry. However, the bill was expected to be enacted early in 1953.

Political dispute did not noticeably affect the industry's production effort, and the final figure of 16·4 million tons was an improvement on the 15·6 million of 1951, and comparable with the 16·3 million of 1950, achieved in the heyday of cheap and plentiful scrap from the battlefields of Germany. Six new blast furnaces, the fruit of the industry's first postwar development plan, made the 1952 effort possible by increasing pig iron production from 9·7 million tons in 1951 to 10·6 million in 1952. Thus the bottle-neck that resulted from the diminution in scrap supplies with the drying-up of battlefield sources and the re-entry of German demand, was in a fair

way to being opened up again by extra supplies of pig iron.

Even so, the year had opened on a note of anxiety and the prime minister's statement on Jan. 4 that the United States had agreed to make available to the United Kingdom 1 million tons of steel, scrap and pig iron, in return for the United Kingdom's making available 55 1 million lb. of aluminium and 20,000 tons of tin, was greeted with relief. In February the steel allocation scheme announced in the

TABLE I WORLD PRODUCTION OF IRON ORE
('000 metric tons)

	1947	1948	1949	1950	1951
Algeria	1,560	1,836	2,532	2,580	2,820
Australia	2,156	2,054	1,473	---	---
Austria	888	1,200	1,488	1,860	2,376
Brazil	197	599	676	890	1,320
Canada*	1,740	1,452	3,468	3,312	4,296
Chile	1,740	2,712	2,748	2,952	3,180
France	18,696	23,016	31,428	29,988	35,208
German Fed Rep	4,440	7,272	9,108	10,884	12,924
Great Britain	11,268	13,296	13,620	13,152	14,880
Japan	497	556	756	822	912
Luxembourg	1,992	3,396	4,152	3,828	5,628
Morocco, French	156	301	372	318	533
Morocco, Spanish	866	868	943	859	928
Philippines	—	18	370	607	888
Sierra Leone	—	924	984	1,164	1,200
South Africa	1,164	1,164	1,248	1,188	1,416
Spain	1,512	1,632	1,812	2,076	2,328
Sweden	8,892	13,332	13,728	13,608	15,396
United States	94,584	102,972	86,340	101,064	118,296

* From 1949 including Newfoundland

previous November came into force. The government had found it wise to make a statement on the subject early in January, because of vociferous complaints from several industries (particularly the bicycle industry) that they were about to be starved of steel. The statement recapitulated the reasons for steel shortage and the necessity of ensuring its employment in the best national interest.

In the event, the allocation scheme appeared to operate without undue hardship, and good production and the U.S. imports enabled it to be relaxed in the last quarter of the year. The minister of supply announced on July 31 that the total allocation of steel for civilian purposes in the fourth quarter would be "not less than" 5% above the allocation during the previous quarter. The increase was itself increased to 8% for shipbuilding. For the first quarter of 1953 it was later announced that 15% more steel would be available for factory building.

The modification of the armament programme towards the end of the year obviously meant that there would be more steel available in civil industry, and provided grounds for argument both for those advocating the abandonment of allocations altogether and for those who desired their retention.

The pattern of steel production reflected the gradual improvement in the raw materials position. The record-breaking levels of 1950 were gradually approached and passed after a bad beginning. Weekly averages ran below those of 1950 and 1951 until May, when the 1951 average was passed and the level of 1950 reached and maintained. In October 1952 the weekly averages drew ahead, and remained in the lead until the year's end.

The productivity team, which had toured the U.S. industry in 1951 under the leadership of Sir Charles Goodeve, published its report in June. The British Iron and Steel federation simultaneously issued some details of a new five-year plan, designed to increase British steel output to at least 20 million tons a year and pig iron output to 15 million tons. The annual cost would be £60 million, of which the industry itself could provide half.

The productivity report's principal recommendations related to the size of integrated works (outputs of not less than 750,000 to 1 million tons a year); to the various technical means of overcoming Great Britain's inherent disadvantages in having to operate with low grade and inconsistent ores, and to the possibility of decreasing furnace "down time" by higher mechanization of repairs, and by alterations in design The report refreshingly lacked "alibis" and excuses. Instead it scientifically assessed comparative productivities and analysed the differences. The industry's reaction was correspondingly robust, taking the initial form of a series of technical conferences to consider how the various recommendations should and could be put into effect. An early result was the compilation by the British Iron and Steel Research association of a report giving productivity and driving-rate figures of all melting shops in the United Kingdom for 1950 and 1951, firms being "coded" so that any firm would know its own position on this anonymous league table, but not the names of firms in other positions. It was stated that this report would henceforth be issued annually. It was incidentally interesting to see that some of the highest driving rates came from the oldest plants.

It was not disputed in the productivity report or in the conferences that the best British practice was at least equal to the best in the United States, and that in many respects (*e.g.*, in design, instrumentation and control of furnaces, and in labour relations) the United Kingdom probably had more to teach than to learn This was hammered home by the Appleby-Frodingham works at Scunthorpe, which set a world's record in October by relining a 25-ft.-hearth blast furnace in 24 days against the normal 40

Western Europe. In western Europe as a whole 1952 set yet another production record with 63 million tons, as compared with 57½ million in 1951. Considerable imports of U.S. coking coal were necessary to make this possible, though they decreased from the high level of 1951 as European coke production increased.

The long drawn-out administrative reorganization of the steel industry in the German Federal Republic was sufficiently near completion for it at last to put forward plans for replacement of old or damaged plant and for development. The

TABLE II WORLD PRODUCTION OF PIG IRON AND FERRO-ALLOYS
('000 metric tons)

	1947	1948	1949	1950	1951
Australia	1,161	1,255	1,062	1,116	1,344
Austria	278	613	838	883	1,050
Belgium	2,818	3,929	3,749	3,696	4,848
Canada	1,987	2,140	2,146	2,268	2,544
Czechoslovakia	1,423	1,660	1,875	1,800	-
France	4,886	6,559	8,345	7,764	8,748
Saar	653	1,132	1,582	1,680	2,364
Germany	2,265	4,669	7,140	9,468	10,692
Great Britain	7,910	9,425	9,651	9,792	9,828
India	1,458	1,487	1,636	1,704	1,848
Japan	367	836	1,602	2,304	3,228
Luxembourg	1,818	2,626	2,372	2,496	3,156
Poland	867	1,133	-	—	—
U S S R.	-	15,000	15,000	19,200	21,900
United States	54,559	56,214	49,775	59,400	63,948

planned future production of the industry was put forward in March as 18 5 million tons, and the most important projects included a wide strip mill at August Thyssen Hutte and a plate mill and billet mill at Reichswerke Watenstedt. A major development completed in 1952 was Horde's 3-metre plate mill at Dortmund, which, with a capacity of 240,000 tons per annum, was expected to reduce the German plate shortage considerably.

In France a production of about 10 5 million tons fell short by 16% of the 1952-53 target set by the Monnet plan, but a new seven-year expansion plan to raise the combined output of France and Saar to 21 million tons was understood to be in preparation. It was not unreasonably suspected that an element of overbidding the Germans entered into this announcement. During 1952 capacity was expanded by

3 × 100/120 open-hearth furnaces, 2 blooming mills and a 3-high mill, while Sollac's (Société Lorraine de Laminage Continu) continuous wide strip mill was undergoing production trials as the year ended

During the last two or three months of the year demand for steel showed a definite slackening It was difficult to determine to what degree this was caused by buyers holding off in expectation of a levelling of prices under the single market arrangement due to start in April 1953 for steel and in February for coal and scrap Actually, European steel export prices declined throughout the year, apart from a temporary rise following the U.S. steel strike, and would probably have declined further had not western Germany abolished import duties on steel from Aug 1 and then imported considerable quantities of steel from Belgo-Luxembourg and France in order to alleviate an internal steel shortage

Commonwealth. Throughout the Commonwealth countries steel production in 1952 maintained the high level of 1951. In South Africa the first full year's operation of the ISCOR plant at Vanderbijl Park brought total production of ingots

TABLE III WORLD PRODUCTION OF STEEL
('000 metric tons)

	1947	1948	1949	1950	1951
Australia	1,363	1,402	1,229	1,212	1,440
Austria	357	648	835	947	1,028
Belgium	2,895	3,920	3,849	3,768	5,004
Canada	2,672	2,903	2,891	3,072	3,240
Czechoslovakia	2,286	2,650	2,745	2,900	—
France	5,733	7,236	9,154	8,652	9,828
Saar	708	1,228	1,757	1,896	2,604
Germany	3,060	5,561	9,156	12,120	13,500
Great Britain	12,929	15,116	15,003	16,560	15,888
Hungary	597	762	849	1,023	—
India	277	1,277	1,374	1,464	1,524
Italy	1,691	2,125	2,055	2,364	3,050
Japan	941	1,714	3,111	4,836	6,504
Luxembourg	1,715	2,453	2,272	2,448	3,072
Poland	1,579	1,955	2,305	2,520	2,796
Sweden	1,191	1,257	1,370	1,440	1,500
U S S R	—	18,300	20,100	19,200	21,900
United States	77,015	80,413	70,740	87,852	95,376

to 1 2 million tons, a remarkable achievement for an industry only 25 years old. Although ISCOR could now undersell imported steel by £16 to £76 a ton delivered at Witwatersrand, high capital and maintenance costs, with uncertainty (to put it mildly) in the labour market, introduced doubt as to the probability of further expansion

Elsewhere in the Commonwealth the emphasis was on development to make the various countries self-sufficient in steel, though a cold wind of doubt seemed to blow in this direction, too, about the time of the Commonwealth prime ministers' conference in November-December It was widely felt that the Commonwealth in general had placed too much emphasis on industrial investment at the expense of investment in agriculture and basic raw materials.

However, the year ended with Australia still committed to plans for an increase of steel capacity by 900,000 tons by 1955, Canada an increase of 1 4 million tons in about the same period and India an increase of 400,000 tons of finished steel in 5 years Even in Ceylon plans were well advanced for iron and steel production from local ore and hydro-electric power. Detailed tenders were called for for a plant at Lnderamulla, to produce 25,000 tons of iron and 20,000 tons of steel ingots a year. (M. Ds)

United States. Production of iron ore in the United States during 1952 was reduced by the steel strike. Until May, however, production was practically the same as in the corresponding period of 1951. Production of pig iron, which had advanced about 9% in 1951, was cut back sharply by the steel strike, to a total of 42,494,940 tons up to Sept. 1952, or 19% less than in the same period of 1951.

Steel output, after an advance of 9% over 1951, was sharply reduced by the strike which cut the normal June and July figures by more than 80%, and gave a total of 64,192,392 tons in the first three quarters of 1952, a decline of 18% from the same period of 1951.

It was estimated that the strike caused a loss of almost 20 million tons in the 1952 production, only a fraction of which could be made up by pushing the operation rate during the last quarter of the year (*See* also EUROPEAN COAL AND STEEL COMMUNITY, METALLURGY)

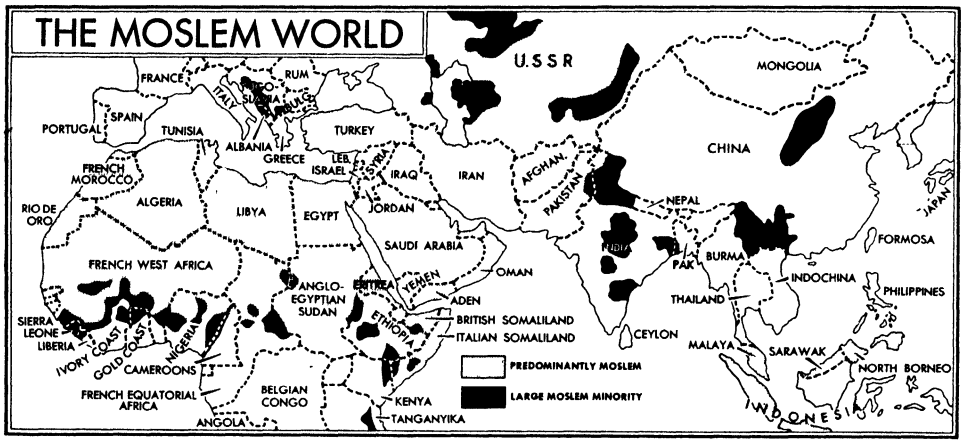
(G A Ro.)

ISLAM. During 1952 the Moslem countries, producers of primary commodities, suffered from the fall in raw-material prices. Political trouble in the major Islamic countries retarded the development of cultural institutions; yet all of them made great efforts to fight illiteracy. Out of a total development expenditure of more than 155 million dinars Iraq budgeted 5 4 million dinars to be spent during the period 1951-56 for the construction of schools. The Iraq Petroleum company contracted to educate 50 Iraqi oil technicians in England each year. It was estimated that, at the current cost of eight dinars per child per annum, 6 million dinars a year would be needed to provide for all children of primary school age, in addition to the cost of building and re-equipping schools and training teachers. It was noticed that many students from Iraq and other Moslem countries studying abroad concentrated on chemical engineering and other branches of science In the sheikhdom of Kuwait a new secondary boarding school was added to the existing 23 boys' schools and 8 girls' schools. Thirty-three Kuwaiti students were taking courses in Great Britain, mostly in engineering

In Egypt education was greatly affected by political strikes connected with the conflict with the British in the Suez canal zone, in which students took part and lost their lives. Events of cultural importance were the opening of the two new universities and the appointment of a new rector of the el-Azhar university In the Anglo-Egyptian Sudan, the nationalists, who supported union with Egypt and who had opened 19 primary schools and 38 schools for adult education between 1940 and 1945, continued to press for better facilities for both elementary and higher education. They complained that whereas the Egyptian government had provided free education for 2,000 to 3,000 university students from the Sudan each year, the Sudanese government itself was doing nothing

Jordan devoted 5 3% of its budget, *i.e.* 302,574 dinars, to education. A proportionately large number of Jordanian students were educated abroad, chiefly in Egypt and Lebanon; also 179 were taking courses in the United States. The Syrian and Lebanese governments made determined efforts to remove illiteracy. In Lebanon literacy was said to be as high as 85% (nearly 50% of the population are Moslem). In Yemen, where a modern education had been introduced only in 1946, a Lebanese mission arrived, and Yemenis who had achieved a higher educational standard were sent to gain experience with other Arab governments; students went mostly to Egypt.

According to the 1951 Pakistan census 10,374,000 (13 8% of the population) were literate. A six-year education plan was worked out, and it was envisaged that illiteracy would be wiped out within 20 years. In East Pakistan the foundation of two more universities was discussed. The Pakistan government decided to establish during the next 5 years 11 technical high schools similar to that opened in Karachi in July 1951. In that city the foundation-stone was laid of the Women's College of Domestic Science, founded under the auspices of the All-Pakistan Women's association. The Ford foundation granted Rs. 1,660,000 towards the cost of the building.



At Lahore from March 29 to April 2 the association itself held its annual conference, which was attended by 500 delegates including those from Persia, Iraq, Egypt, Turkey, Indonesia, Lebanon and England. Another conference of far-reaching cultural importance was the Congress of the Divines of Islam (Intifal Ulama al-Islam) which met in Karachi from Feb. 16 to Feb. 18, 1952, and whose aim was to draw up a practical programme for the dissemination of Islamic ideals The congress was attended by 43 eminent divines from Pakistan, Afghanistan, Egypt, Indonesia, Syria, Saudi Arabia, Kashmir, India, Algeria and Ceylon. The Iraqi government commemorated the ninth centenary (reckoned in Moslem hejiric years) of the death of the great Moslem natural philosopher and physician, Avicenna (d. A.D 1037). The celebrations were attended by Moslem and non-Moslem scholars from all over the world.

A Pakistan goodwill mission consisting of young scholars, journalists and politicians under the leadership of the vice-chancellor of the Federal university of Karachi visited Turkey towards the end of the year.

The Arab league at its session of Sept. 16, decided to establish an Institute of Higher Arab Studies under the direction of Abd al-Razzak Ahmad al-Sanhuri. Exhibitions of modern Indonesian and Pakistani painting were held in various European capitals. Demonstrations of Indonesian music were given in Europe and the United States. (*See* also ARAB LEAGUE and articles on the Moslem countries.)

(A. MJD.)

ISLE OF MAN: *see* MAN, ISLE OF

ISMAY, HASTINGS LIONEL ISMAY, 1st Baron, of Wormington, Gloucestershire, British soldier (b. India, June 21, 1887), was educated at Charterhouse and Sandhurst and was commissioned in 1905. He served on the northwest frontier, India, and, during World War I, in Somaliland. He attended the Staff college, Quetta, in 1922, and during 1926-30 was assistant secretary to the Committee of Imperial Defence. Later, 1935-46, he again served on this committee. he was deputy secretary, 1936-38, and secretary from 1938. He was knighted in 1940 and from then until 1946 (when he resigned) he was chief of staff to the minister of defence and deputy secretary (military) to the war cabinet. He accompanied Winston Churchill on many missions abroad in World War II. He returned to India as chief of staff to Viscount (later Earl) Mountbatten of Burma, the last viceroy of India, in 1947, and in the same year he was raised to the peerage. Lord Ismay was chairman of the Council of the Festival of Britain, 1951. When the Conservatives were returned to power in Oct 1951 he received his first political appointment: secretary of state for commonwealth relations in Churchill's cabinet He took part in the Washington discussions in Jan 1952 between Winston Churchill and President Harry S Truman and also visited Ottawa He attended the North Atlantic council in Lisbon in February and on March 12 it was announced that Lord Ismay had accepted the post of secretary-general of the North Atlantic Treaty organization and would also be vice-chairman of the North Atlantic Treaty council. He resigned from his position as secretary of state for commonwealth relations, and took up his new post on April 4 Later in April he set-up his headquarters in Paris During the year he visited many of the North Atlantic treaty countries He was in Oslo in July and again in September In October he went to Lisbon, Rome, where he was received by the pope (Oct. 18), and The Hague.

ISRAEL. A republic, proclaimed on May 14, 1948, at Tel Aviv, bounded N. by Lebanon, E. by Syria and Jordan, S. by Egypt and W. by the Mediterranean. Area: 8,048 sq.mi Pop.: (Nov. 1948 census) 782,000, incl 713,000 Jews, (Oct 1952 est) 1,614,000, incl. 1,437,000 Jews. Religion: mainly Jewish but by 1952 there were 120,000 Moslems, 16,000 Druzes and 40,000 Christians. Chief towns (pop., 1951 est) Jerusalem (*q.v.*) (cap , Israeli part only 150,000); Jaffa-Tel Aviv (370,000); Haifa (190,000). Presidents of the republic in 1952: Chaim Weizmann (*see* OBITUARIES) and (from Dec. 10) Isaac Ben-Zvi (*q v*); prime minister, David Ben-Gurion.

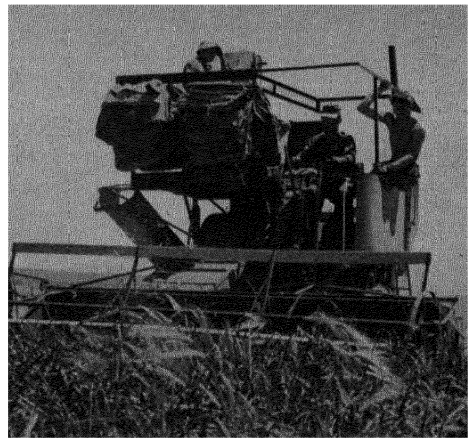
History. The year 1952 was one of consolidation, in which Israel was able to achieve progress in a number of spheres and was less troubled either by internal discords or external threats than it had been during any similar period since it proclaimed its independence. The enormous adverse trade balance, which was the primary cause of the country's economic *malaise*, showed signs of falling at the beginning of the year but the trend was later reversed Nevertheless, the high rate of immigration, which was largely responsible for the adverse trade balance, was reduced from the record figure of 174,000 in 1951 (an average of 14,600 a month) to 17,500 for the first eight months of 1952 (an average of 2,180 a month). At the same time, great strides were made in

increasing both agricultural and industrial production. Although Israel's relations with the countries of the Arab league showed no improvement and it was unable to make headway in its approaches to the U.S.S.R., its ties with the western powers became stronger and the signing of a reparations agreement with the German Federal Republic at Luxembourg on Sept. 10 was a notable achievement which was bound to have an important effect on the country's economy provided it was fully implemented.

Negotiations with the German Federal authorities were begun unofficially during 1951 but the subject did not come up for debate in the Knesset (parliament) until Jan. 7 when the right-wing Cherut (Freedom) party seized the occasion to organize demonstrations against the government on the grounds that it was dishonourable for Jews to negotiate with the Germans and to accept monetary reparations as a token of repentance for the wrongs inflicted by the Nazis. There was rioting outside the Knesset and some casualties, but the government, supported by the overwhelming majority of the people, stood firm and the negotiations were finally brought to a satisfactory conclusion. The Germans agreed to pay Israel DM.3,000 million (about £250 million) and, in addition, DM.450 million for the specific use of Jewish organizations outside Israel. The payments were to be made in the form of goods to be delivered over a period of 12 to 14 years. It was expected that this agreement, which came into effect on signature, would tend to reduce the inflationary pressure and help to create higher agricultural and industrial productivity.

Despite various encouraging symptoms the economic state of the country continued to be serious and the government was obliged to introduce drastic measures. On Feb. 13 Ben-Gurion, the prime minister, announced devaluation of the Israeli pound to be introduced with three different rates of exchange (viz., $2·80, $1·40, $1·00=1£ 1) applicable to different categories of imported goods and services. Steps were also taken to curb inflation, encourage foreign investment and stimulate exports. On June 8, Eliezer Kaplan (*see* OBITUARIES), the finance minister, announced further strong anti-black-market and anti-inflationary measures which consisted of the withdrawal of high denomination banknotes and the establishment of a compulsory loan raised from bank accounts. The cost of living index in July was 157, as compared with 100 in Sept. 1951, and in August the black-market rate of exchange stood around 1£1 = 33 U.S. cents. Apart from the continuous flow of financial assistance received from Jewish communities abroad, Israel secured, on Feb. 27, a grant-in-aid from the United States of $50 million. A request for a loan of £5 million from the United Kingdom for the purchase of oil was, however, refused in an announcement in the House of Commons made on May 20 by Winston Churchill. Two significant industrial developments were, on May 4, the signature of an agreement between the government and a Belgian company for the exploitation of copper ore deposits in the Negev area and, on July 24, the conversion of Palestine Potash, Ltd., into Dead Sea Works, Ltd., an enterprise in which the Israeli government secured 51% of the voting rights.

The passage by the Knesset on April 1 of the Nationality Bill, which automatically conferred citizenship on Jewish residents, was the signal for strong protests by the Arab minority which considered that it was being subjected to discrimination. A more serious threat to the stability of Ben-Gurion's coalition was provided by the resignation, on Sept. 18, of two Agudist (Jewish Orthodox) members of the government owing to differences of opinion about the conscription of women into the armed forces and the unification of education. For three months the government continued precariously until Dec. 20 when Ben-Gurion resigned and promptly formed a new government for which he enlisted the support of the General Zionists, the second largest party.



A first harvest of barley in the Negev, Israel, being gathered by a combine harvester.

Israel watched with close attention the developments in the neighbouring Arab states but there was no relaxation in the "cold war" or the economic boycott imposed against it. On June 8 it was admitted that negotiations concerning frontier amendments had been held with Jordan, and, soon after Major-General Mohammed Neguib achieved power in Egypt, Ben-Gurion, in a speech on Aug. 18, made friendly overtures in the hope of establishing peace between the two countries. Israel's sense of insecurity remained such, however, that the period of compulsory military service was extended, on Aug. 19, from 24 to 30 months.

The decision of the government, announced on May 4, to move the Ministry of Foreign Affairs from Tel Aviv to the capital, Jerusalem, met with the disapproval of a number of countries. Nevertheless, both the British and French governments decided in August to raise the status of their respective legations to that of embassies, a compliment which was reciprocated by Israel. Another sign of British friendship was the three-day official visit that was paid by Admiral Earl Mountbatten, the British naval commander-in-chief in the Mediterranean, at the end of July. The anti-Semitic and anti-Israeli tenor of the proceeding at the Prague treason trial in November led to strained relations between Israel and Czechoslovakia and other people's democracies. President Weizmann died on Nov. 9 and on Dec. 8 the Knesset (parliament) elected Isaac Ben-Zvi as his successor.

(D. F. K.)

Education. Government schools (1951-52): kindergarten 1,547, pupils 59,625, teachers (1950-51) 1,415; elementary 825, pupils 178,174, teachers (1950-51) 6,201; secondary 68, pupils 12,751, teachers (1950-51) 859; agricultural schools 28, pupils 4,925, teachers (1950-51) 346; Arab 192, pupils 27,151, teachers 708. Non-government (Jewish religious) schools: primary 20, pupils 2,475; secondary 115, pupils 4,862. Government teachers' training colleges: 17. Other institutions of higher education 3, students 4,054, professors and lecturers 175. Hebrew Univ. of Jerusalem (1952-53): students *c.* 3,000; professors and lecturers *c.* 300.

Agriculture and Fisheries. Main crops ('000 tons, 1949-50; 1950-51 in brackets): wheat 27 (13·5); barley 36·9 (27·5); maize and durra 19·9; maize and sorghum (4); oats 1·4 (1·2); potatoes 35·3 (37); oilseeds 3·4 (7); grapes 125·5 (13·4); olives 17·2 (2·7); deciduous fruit 2·0 (3·5); bananas 3·8 (5·7); other fruit ('000 metric tons, 1950; 1951 in brackets): oranges and tangerines 173 (258), grapefruit 36 (54),

lemons 4 (8). Wine production ('000 litres, 1949-50; 1950-51 in brackets): 6 5 (7 4). Livestock ('000 head, 1951) cattle 61, sheep 55, chickens 2,643. Fisheries, total catch (1951) 1,397,502 kgs ; value I£3,165,935

Industry. Electricity sales ('000 kwh , 1951, 1952, first three months, in brackets). 558 1 (92 3) Manufactured goods (1951) cement 439,000 metric tons; margarine 6,000 tons, flour 157,000 tons, soap 6,968 tons, beer 14,528 litres, cigarettes 2,026,638 kg.

Finance and Banking. Budget (I£ million) (1951-52) balanced at 198 6; (1952-53) balanced at 283 4 (incl development 115, defence 45) Currency circulation (July 1951, June 1952 in brackets) 86 3 (115 5). Bank deposits (March 1952) I£262,544,048. Monetary unit Israeli pound, divided into 1,000 *pruloth* There are three legal rates of exchange in operation. I£1 = £1 sterling, I£2 = £1 sterling, I£2 800 = £1 sterling

Foreign Trade (I£ million, 1951, 1952, six months, in brackets) Imports 122 5 (66 6), exports 16 7 (10 4) Main sources of imports (1951). U S 31 8%; U K 10%, France 5%. Main destinations of exports: U K. 32 6%, U S 22 9%, Finland 11%, Denmark 6%. Main imports machinery, grain and flour, vehicles, iron and steel manufactures, fuel Main exports food, drink and manufactured goods

Transport and Communications. Roads (1952) 2,199 km Licensed motor vehicles (March 1952) cars 10,753, commercial vehicles 15,206 Railways (1951-52) 535 km , goods, ton-km 251,523, goods carried 947,809 metric tons Shipping (1952) merchant vessels 30, total tonnage 150,000 Air transport (1951) passenger-km 183,525,758 Telephones (1951) 28,956 Wireless licences (1951) 149,582

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ITALIAN LITERATURE. During 1952 Italian literature failed to produce any work of really outstanding merit The two novels by Fortunato Seminara, *Il Vento nell'Uliveto* and *La Masseria*, showed a deep knowledge and understanding of peasant life and problems in a not always convincing realistic atmosphere. There was no doubt that Seminara was an exceptionally able writer and it was hoped that future works would be more representative of his ability. Italo Calvino revealed himself as a story-teller of unusual promise in *Il Visconte Dimezzato*. On the other hand *Fausto e Anna* by Carlo Cassola tended to be rather a chronicle and did not always succeed in representing, as it aimed to, the varied moods of the soul. The misogynist tradition was clearly behind *La Brutta Bestia* by R M. De Angelis, while the drama of recent Italian history inspired Arnaldo Fratelli's *Controvento. Viaggio nella Luna* by Bruno Cicognani showed the pernicious influence of D'Annunzio at work, as well as a conscious stylistic preoccupation definitely out of place in a novel. Among collections of short stories one should note the fables in Carlo Emilio Gadda's *Il Primo Libro delle Favole* and the entertainingly journalistic short stories forming Paolo Monelli's *Morte del Diplomatico*.

The poetic harvest did not produce anything of exceptional quality, this being reflected by the fact that there was no award of the important Feltrinelli prize for poetry for this year. Giorgio Bassani's book of poems *Un'altra libertà* showed an attempt to go beyond personal experience in order to express the common suffering of mankind, but unfortunately it was the intellectual element that prevailed here, and this led to an atmosphere not wholly poetic. In a different way, this seems also to have been the main weakness of the poems in Corrado Pavolini's *Natura Morta*. With Aldo Borlenghi's *Poesie* the boundaries of rhetoric were dangerously close. It is with pleasure that one records a reissue of Giovanni Pascoli's *Carmina*, which had been unobtainable for a very long time.

The edition of letters by members of the Italian resistance movement condemned to death, prepared by Piero Malvezzi and Giovanni Pirelli, was a work of piety definitely well worth doing. Another tragic document was provided in Cesare Pavese's *Il Mestiere di vivere*. Here the author, who killed himself in 1950, stressed the play of will against fate in an atmosphere conditioned by a negative pessimism. This was, however, tempered by a sincere humility, which made the author's acceptance of defeat ring singularly true and sincere.

Literature and the world of thought—and not only that of Italy—suffered its most serious loss for some years in the death on Nov. 20 of Benedetto Croce, his country's senior philosopher and critic. Attilio Momigliano, who doubtless ranked next to Croce in the hierarchy of Italian literary criticism, also died (For brief outlines of the careers of Croce and Momigliano, *see* OBITUARIES.) Italian poetry was made poorer by the death of Augusto Iandolo, while belles lettres mourned the passing of Renato Simoni and Bruno Barilli Other distinguished figures who died during the year included Giorgio Pasquali, the great Greek scholar who also left the imprint of his engaging personality on contemporary literature, and Carlo Calcaterra, who left some lasting studies on Petrarch and on the Romantic movement in Italy

Belfagor, *Botteghe oscure*, *Convivium*, *La Fiera Letteraria*, *L'Italia che scrive*, *Paragone*, and *Il Ponte*, continued to play an important role in the literary life of the country The *Giornale Storico della Letteratura Italiana* remained the leading learned journal dedicated to Italian literature

(R. Ws.)

ITALIAN SOMALILAND. Italian trust territory (former colony) in east Africa, bounded S.E. by the Indian ocean, W. by Kenya and N.W. by British Somaliland and Ethiopia. Area: 216,310 sq.mi. Pop. (1951 est): 1,100,000. Religion: Moslem. Capital, Mogadishu (pop *c* 74,000) Administrator, Giovanni Fornari.

History. During 1952, the second full year of Italian trusteeship designed to turn Somaliland into an independent sovereign state by 1960, the political and administrative structure continued to take shape. The territory's administration was debated at length during the session of the United Nations Trusteeship council in June. Reports by Italy, the U.N. advisory council and a special U.N. visiting commission, as well as petitions from the inhabitants, provided the material. A lack of harmony in the advisory council itself was revealed and criticism was levelled at the administering authority by "anti-colonial" delegations There was a general realization of the complexity and difficulty of the task facing the authorities and in general their activities were endorsed.

The Somaliland Territorial council considered several proposals for administrative reform, but its deliberations were hampered by political differences among the members. The Somali Youth league remained generally antagonistic to the régime but showed some degree of co-operation with it in non-controversial matters. There were outbreaks of inter-tribal fighting and minor political disturbances, but not on a scale (for Somaliland) to excite particular comment.

The long-standing dispute over the undemarcated Ethiopian-Somaliland boundary, which had been a potent factor in the outbreak of the Italo-Ethiopian war and still provoked border incidents, remained untouched The urgency of a settlement was emphasized by the Trusteeship council

(F. E. S.)

Education. Schools (1952) 113 elementary (10,938 pupils), 14 secondary (708 pupils) School of administration, 64 students

Finance and Trade. Budget 1950-51 (in Somali) revenue 55,907,454 (incl grant-in-aid from Italy, 30,527,324), expenditure 55,907,454 Foreign trade (Somali, April 1-Dec 31, 1950) imports 43,632,289, exports 18,816,107. Principal exports (value in Somali, April 1-Dec 31, 1950). bananas 5,504,447; cotton 2,139,351, hides 4,928,583 Monetary unit *somalo* (one somalo = 1*s* sterling)

ITALY. A republic of southern Europe, bounded on land N.W. by France, N. by Switzerland and Austria and N.E. by Yugoslavia. The country includes not only the whole

of the Apennine peninsula, but also the large Mediterranean islands of Sicily and Sardinia and a number of smaller islands. Area: 116,226 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 (273 sq.mi.) and the Free Territory of Trieste (*q v*). Pop : (1936 census in post-1947 territory) 42,024,584, (1951 census, prelim) 47,020,536. 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., first figure, 1936 census; second figure, 1951 census): Rome (cap , 1,562,580; 1,695,477), Milan (921,515; 1,292,934), Naples (739,349, 1,027,800), Turin (608,211; 720,032), Genoa (512,313; 683,023); Palermo (339,497; 501,005); Florence (271,975; 390,832), Bologna (232,980, 349,326), Venice (170,830; 323,216), Catania (241,462; 300,298), Bari (197,918; 273,143), Messina (192,051, 220,790). President, Luigi Einaudi; prime minister, Alcide De Gasperi (*q v*)

History. The political history of Italy during the first half of 1952 was dominated by the third round of local elections which took place on May 25 The anti-Communist Socialists held a congress which opened at Bologna on Jan 3 at which frantic efforts were made to consolidate their position at long last; after tempestuous meetings, they re-named themselves the Social Democratic Party of Italy (P.S.D I) Many of their members hoped before everything for a Socialist reunion with the pro-Communist Socialist party, and there was little doubt that Pietro Nenni himself would have been willing to move a little away from the Communists in order to achieve this. Later, in July, he went to Moscow to receive a Stalin peace prize, and on his return insisted as ever upon the mediation between west and east which he regarded as his task

In April the elderly Don Luigi Sturzo, who had once led a leftist Catholic party called the Popolari, came out with an appeal for a united front against the Communists. Sturzo was backed, indeed to some extent instigated, by Professor Luigi Gedda, the right-wing leader of Catholic Action For this reason, perhaps, Sturzo drew back at the last moment, the Vatican, also, seemed to change its attitude from one of support of Gedda (who wished to co-operate with Monarchists and neo-Fascists) back to support of the more moderate policy of De Gasperi. In Rome the fellow-travelling alignment of the veteran radical, Francesco Saverio Nitti, with the Communists and Nenni Socialists caused some consternation, but when it came to polling-day the Christian Democrats with their allies retained control of the capital. In Naples there was a 43% vote for the Monarchists whose new president, the millionaire shipowner, Achille Lauro, had led a conspicuous campaign; he was subsequently elected mayor of Naples The Monarchists and neo-Fascists had formed a series of alliances and together they won control of other southern towns such as Bari and Foggia, while the Communists remained masters of Ferrara and Aosta in the north

The combined results of the provincial elections held in 1951 and 1952 in all Italy (except for the autonomous regions of Sicily, the Alto Adige and the Val d'Aosta) were announced to be the following:

Parties	*Votes*	%	
Christian Democrats	8,021,933	36	
Social Democrats	1 699,571	7 6	Combined Centre 11,173,547
Liberals	880,286	3 9	or 50%
Republicans	571,697	2 5	
Communists	4,594,489	20 5	Combined Left 7,482,748
Nenni Socialists	2,888,259	13	or 33·5%
Neo-Fascists	1,419,741	6 3	Combined Right 2,224,547
Monarchists .	804,806	3 6	or 9 9%

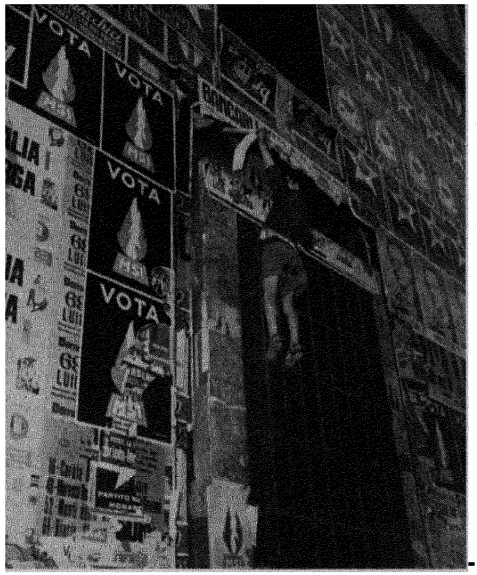
About 7% of the electorate voted for other very small parties. As compared with the parliamentary elections of April 18, 1948, the centre parties, Christian Democrats in particular but not the Liberals, had lost, while the extremists on the left and more emphatically on the right had gained; the combined centre had nevertheless managed to poll exactly half the total number of votes On the right Monarchists and neo-Fascists had each won over 160,000 fresh votes; while the former had triumphed in Naples, the latter had made their biggest gains in Rome Finally the local elections had accentuated the difference between the leftist north and rightist south of Italy.

The second half of the year, broadly speaking, was devoted to manoeuvring for position in preparation for the parliamentary elections due in the spring of 1953. Everything depended upon the electoral law which would prevail at the time and which must now be determined. The centre parties wished to apply the same regulations as those which had governed the local elections, that was to sanction the linking of party lists and in the future parliament to give an additional premium of seats to the most successful party or group of parties in order that it should be able to govern with a working majority

On June 18, after lengthy debates, a law against the reconstitution of Fascism was passed This helped to restrain the ardour of the national congress of the neo-Fascist *Movimento Sociale Italiano* (M S I), which was this year allowed to meet on June 26 at Aquila in the Abruzzi Here the party's secretary-general, Count Alberto De Marsanich, succeeded in imposing the adoption of a relatively moderate policy to be based upon a corporative economy at home and halfway acceptance of N A T.O., but with an avowed preference for Spain over Great Britain in the company of Italy's allies Anti-Fascists, however, continued to regard future developments with apprehension since the ban upon the political activities of former Fascist leaders was due to expire at the end of the year. Rodolfo Graziani and Filippo Anfuso were already members of the M S I, while Dino Grandi and Giuseppe Bottai seemed to be holding back

Against Anfuso, De Gasperi launched a telling attack in a speech at Predazzo on Aug. 31 with which he was considered to have launched his political campaign leading up to the elections in the spring. His general line was to appeal to all moderate opinion against the two extremes. After the losses on May 25 his own party pressed for ministerial change; it was known that the prime minister wished to re-include representatives of the Liberals and Social Democrats. At the beginning of October the Social Democrats continued their party congress in Genoa; this time the moderates in the party, headed by Giuseppe Saragat, obtained the most support This led to an agreement on Nov 15 between the four parties of the centre, the Christian Democrats, the Liberals, the Republicans and the Social Democrats, in favour of co-operation throughout the country during the electoral campaign, more specifically they agreed to work for an electoral law which should give the group of parties which gained 51% of all the votes a premium of 65% of the seats in the future Chamber of Deputies Extremist obstruction, however, prevented legislation to this effect until after the end of the year. At the Christian Democrat party congress held in Rome late in November, the more progressive elements seemed to prevail

Before the end of 1951, 11 of the 21 signatories of the Italian peace treaty had expressed their willingness for its revision and early in 1952 all but the Communist countries fell into line over this. The practical results were that from the beginning of 1952 the restrictions upon Italy's armaments were a dead letter and Italy became an active member of the various western European organizations. De Gasperi himself



A boy removing posters after the municipal elections in Naples. Those on the left were for the M.S.I.—the neo-fascist party.

attended the meeting of the Council of Europe at Strasbourg in September; later in the month he visited Konrad Adenauer at Bonn before receiving the Charlemagne prize for service to peace (third award) at Aachen. Meanwhile the difficulty between Italy and Yugoslavia over Trieste remained insoluble (*see* TRIESTE.)

There was considerable argument during the year between Italy and the United States, the Italians pressing for larger U.S. orders with Italian industry and for what they regarded as adequate aid towards the rearmament of Italy; on Nov. 10 it was announced that Italy's M.S.A. allocation for 1952-53 would be about $170 million. The increase in U.S. duties on cheese, almonds, olive oil and hats was something of a blow to Italy and provided fuel for the leftist "anti-Atlantic" campaign. As for rearmament, the Italians reported to N.A.T.O. on Sept. 16 that of the 12 divisions that Italy was to have had ready, three infantry divisions, one armoured brigade and one Alpine division were fully trained and equipped; by the end of 1952 one more in each category was ready while the air force had reached well over 350 first-line aircraft.

During 1952 Italian industrial production increased very slightly. The fact was that, what with the slump in textiles, the manufacturing industries actually produced less, yet there were important developments of a different kind which promised great things for the future. Boring for oil and methane or wet gas continued with considerable success and the distribution of the latter was extended. The production of methane rose to some 4·5 million cu. m. a day, being about three times the amount of methane produced in Italy in 1950. On June 1 a 500 million kwh. power plant burning natural gas was inaugurated by the premier at Tavazzano near Milan with a pipe-line to serve Turin so that the Fiat works could be supplied before the end of August. On Sept. 4 Enrico Mattei, the president of the A.G.I.P. (the state company for oil-boring) and of S.N.A.M. (the state company for gas development), signed an agreement guaranteeing the inclusion of Genoa in the gas network, and construction of a pipe-line to Genoa began before the end of the year. Already sober judges expected within the foreseeable future the reduction of Italy's coal imports by four-fifths, involving a tremendous economy in foreign exchange. Just when the possibilities of the further extension of water power were coming to an end it began to be replaced not only by gas but also by natural steam of volcanic origin, and during 1952 plans for an additional power plant based upon newly found steam jets were worked out. Meanwhile the methane was a direct contribution to the Italian chemical industry in addition to its value as fuel.

The year saw a good deal of fresh capital invested in industry especially in southern Italy where, for instance, a cement factory was founded at Avigliano near Potenza, a mechanical and chemical factory near Cosenza and a glass factory at Cagliari in Sardinia. This was, of course, part of the fruition of the national effort to grapple with the appallingly backward state of the south, an effort towards which U.S. aid had contributed.

Industrialization in southern Italy was complementary to agrarian reform in which considerable progress was made during the year. In particular the Sila plateau in Calabria, which a few years previously had been a dangerous wilderness whence torrential floods descended in the winter, was by the end of 1952 converted into a prosperous peasant colony with new villages and improved farming. By the end of July detailed plans had been worked out for the allocation of 712,000 ha. (or 20% of all large and medium-sized estates) to landless peasants all over the country; in addition to the Sila, where allocations were a year ahead, a good deal of land was redistributed in Apulia and the poor Maremma district of Tuscany. At the end of October, Amintore Fanfani, minister of agriculture, announced that altogether 107,000 ha. had been distributed to 23,000 peasant families.

In the middle of September President Einaudi appointed two greatly respected men to be senators, Don Sturzo and Umberto Zanotti Bianco, president of the Italian Red Cross and a distinguished scholar.

Two dominant figures vanished from the Italian political scene in 1952: Count Carlo Sforza, foreign minister both before and after the Fascist period, died on Sept. 4, and Vittorio Emmanuele Orlando, who represented Italy at the Paris Peace conference, died on Dec. 1. On Nov. 20 the great philosopher, Benedetto Croce, died at his home in Naples. (*See* OBITUARIES.) (E. WI.)

Education. Schools (1949-50): elementary 39,188, pupils 4,815,239, teachers 167,743; secondary 2,358, pupils 369,574 (boys 233,036, girls 136,538), teachers 40,891; technical secondary 954, pupils 144,130 (boys 115,253, girls 28,877), teachers 16,102; schools of art and academies of music 103, pupils 12,080 (boys 8,554, girls 3,526), teachers 1,727; universities and institutions of higher education 27, students (1948-49) 167,978, lecturers 3,890.

Agriculture. Main crops: ('000 metric tons, 1951; 1952 in brackets) wheat 6,904; maize 2,750; barley 270 (258); oats 509 (496); rye 122; potatoes 218; (1950; 1951 in brackets): rice 690; sugar, raw value 610 (669); dry beans 118 (171); cotton, lint 4 (5); cottonseed 7 (9); flax fibre 4·4 (4·3); linseed 12 (12); hemp fibre 64·4 (65·1); rapeseed 11; groundnuts 7 (7); tobacco 67; olives 969 (1,911); olive oil 42 (160); oranges and tangerines 583; lemons, limes and other citrus fruits 300; grapes 5,990. Wine production ('000 hectolitres, 1950; 1951 in brackets): 39,811 (45,538). Livestock ('000 head, 1950-51): cattle 8,325; sheep 10,386; pigs 4,052; horses 800; mules 390; goats 2,489; buffaloes (1949-50) 12. Livestock products ('000 metric tons, 1949; 1950 in brackets): wool, greasy basis 16 (16); meat 612; including beef and veal 302 and pork 262; eggs (million) 4,550 (5,000); butter 56 (54); cheese 237 (261). Fisheries, total catch (1950): 190,201 metric tons.

Industry. Index numbers of employment in manufacturing, 1948 = 100 (1950; 1951 in brackets): 129 (147). Fuel and power (1951; 1952, six months, in brackets): coal ('000 metric tons) 1,166 (516); lignite 853 (422·5); gas (million cu.m.) natural 956 (664·7); manufactured 1,872 (1,011); electricity (million kwh.) 30,315 (14,667); crude oil ('000 metric tons) 17·6 (22·1). Raw materials ('000 metric tons, 1951; 1952, six months, in brackets): iron ore 514 (352); pig iron 1,048 (574·7); steel

ingots and castings 3,050, lead, smelter 36 (14 9), zinc, smelter 46, aluminium, smelter 49 8 (24) Manufactured goods ('000 metric tons, 1951, 1952, six months, in brackets) cement 5,580 (3,010), cotton yarn 190 (87 7), rayon filament yarn 65 1 (23 8), rayon staple fibre 65 5 (23 9), motor cars ('000) 131, commercial 16 Index numbers of industrial production (1948 = 100, 1951) general index 144, mining 124, manufacturing 147

Finance and Banking (million lire) Budget (1951-52 actual) revenue 1,624,000, expenditure 2,048,000, (1952-53 est) revenue 1,704,000, expenditure 2,132,000 Internal national debt (Aug 1950, Aug 1951 in brackets) 2,491,000 (2,820,000) Currency circulation (July 1951, July 1952 in brackets) 1,091,000 (1,220,000) Bank deposits (July 1951, July 1952 in brackets) 1,422,000 (1,773,000) Gold and foreign exchange (million U S dollars, May 1951, May 1952 in brackets) 759 (960) Monetary unit *lira* (pl *lire*) with an exchange rate of 1,750 lire to the pound and 625 lire to the U S dollar

Foreign Trade. (Million lire, 1951, 1952, six months, in brackets) Imports 1,353 6 (738 6), exports 1,027 4 (438 3) Main sources of imports (1951) U S 21%, Germany 7%, U K 4%, Argentina 5%, France 5% Main destinations of exports U K 13%, Germany 8%, France 9%, U S 7%, Switzerland 6% Main imports (July-Dec 1951) raw cotton 11%, coal and coke 10%, petroleum and products 9%, wool 8%, grains and products 8% Main exports machinery and vehicles 16%, cotton yarn and fabrics 14%, fruits and vegetables 12%, artificial fibres and fabrics 12%, other textile fibres and manufactures 11%

Transport and Communications. Roads (1951) 170,563 km Licensed motor vehicles (Dec. 1950) cars 342,021, commercial 229,277 Railways (1951) 21,651 km , of which state railways 16,354 km Traffic on state railways (1951) passenger-km 20,982 million, goods, ton-km 12,311 million. Shipping merchant vessels, 100 gross tons and over (July 1951) 1,076, total tonnage 2,918,137 Air transport (1950) passenger-mi 94 3 million, cargo, ton-mi 1 9 million, mail, ton-mi 0 6 million Telephones (1951) 1,244,152 Wireless licences (1950) 3,135,000.

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IVORY COAST: *see* FRENCH WEST AFRICA.

JAMAICA. British colony and dependencies in the Caribbean. Dependencies: Cayman islands (100 sq.mi.; pop. 1950, 6,600) and Turks and Caicos islands (166 sq.mi.; 6,600), with local legislatures. Area (colony): 4,411 sq.mi. Pop.: (1943 census) 1,237,063; (1951 est) 1,430,000, mainly of African descent. Language: English. Religion: Christian, incl. (1943) Anglican 350,311, Presbyterian 92,975, Roman Catholic *c.* 70,000. Chief towns (pop. 1943 census): Kingston (cap. 201,911); Spanish Town (12,007), Montego Bay (11,547) Administration governor; privy council, 4 *ex-officio* and 2 nominated unofficial members, executive council, 3 *ex-officio*, 2 nominated and 5 elected members; legislative council, 3 *ex-officio*, 2 official, not less than 10 nominated unofficial members, House of Representatives, 32 elected members. Governor, Sir Hugh Foot.

History. Proposals for constitutional advances were outlined by the governor in his speech at the opening of the legislature in April 1952. His subsequent message to the House of Representatives contained recommendations for the establishment of six separate ministries allotting executive functions to ministers. Two additional ministers would be without portfolio giving the elected side a majority of three in executive council. In accepting these proposals, members of the opposition demanded in an amendment that immediate steps should be taken to secure full self-government for the island in its internal affairs; and a unanimous vote of the house was given in favour of setting up a committee to draft proposals for full self-government with dominion status within the Commonwealth.

Shipments of bauxite-bearing ore were made during the first half of the year. It was estimated that a minimum of £22,000,000 would ultimately be invested in this industry. A factory capable of supplying all the cement needed by the colony was erected on the outskirts of Kingston and began operations in January. The Agricultural Development corporation and the Industrial Development corporation were set up.

The amount expended on the banana rehabilitation scheme which was started after the hurricane of 1951 rose far above the £500,000 originally allocated and was expected to reach £1,046,000 by the end of 1952, by which time the industry was expected to have recovered from the effects of the hurricane. The acreage under bananas was increased from about 50,000 before the hurricane to 80,000.

A team of specialists from the International Bank for Reconstruction and Development made a survey to determine the amount of additional employment, national income and investment needed for Jamaica's economic development programme; to examine the government's potential financial resources for this development; and to discover ways of attracting foreign capital to the colony.

The fifth session of the West Indian conference was held at Montego Bay in November and December.

Education. *Colony* schools (1951) 396 denominational, 292 government primary (185,569 pupils), 27 secondary (7,100 pupils) *Cayman islands* 12 primary schools (859 pupils) *Turks and Caicos islands* 12 primary schools (964 pupils), 1 government senior school University College of the West Indies (1952-53) students 254, professors 13, all other staff (incl extra-mural) 66

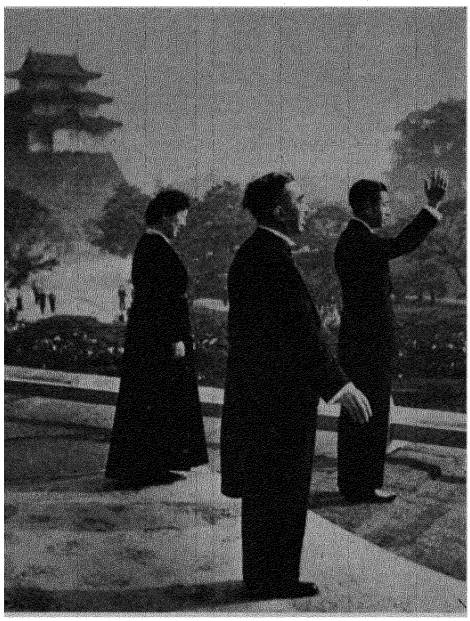
Finance and Trade. Budgets (1952-53 est) *Colony* revenue £14,712,033, expenditure £15,035,420 *Dependencies* revenue £131,354, expenditure £131,855 Foreign trade (colony 1951) imports £29,000,000, exports £18,390,000 Principal exports sugar, bananas, rum, cigars, pimento, ginger, coffee, citrus, cocoa and (from Turks and Caicos islands) salt. Sugar crop (1952) 265,871 tons, bananas 4,000,000 stems for export, rum (1951) 1,580,000 gal Monetary unit pound sterling (with local notes) (P. H -M.)

JAPAN. Island nation in the western Pacific consisting of the following four main groups of islands:

Honshu (with 382 adjacent small islands)	88,919 sq mi.
Shikoku (with 167 islands)	7,248 sq mi.
Kyushu (with 373 small islands)	16,247 sq mi
Hokkaido (with 68 small islands)	34,276 sq mi
Total	146,690 sq mi

Pop · (1940 census) 73,114,308, (1950 census) 83,199,637. Language: Japanese Religion: Buddhist, Shintoist and Christian (in 1933 there were 191,000 Roman Catholics and 249,000 members of other denominations). Chief towns (first figure, 1940 census, second figure, 1950 census): Tokyo (cap., 6,778,804, 6,277,500; [April 1952 est] 7,054,729), Osaka (3,252,340, 1,956,136), Kyoto (1,089,726; 1,101,854); Nagoya (1,328,084, 1,030,635); Yokohama (968,091; 951,189), Kobe (967,234, 765,435). Emperor, Hirohito; prime minister, Shigeru Yoshida

History. *Foreign Affairs.* On April 28, 1952, the Japanese peace treaty came into effect, bringing to an end the Allied occupation, which had lasted since 1945. Japan thus resumed its place as a fully sovereign member of the society of nations. In proclaiming the treaty, President Harry S. Truman noted that six years of joint effort to restore Japan as a prosperous and progressive nation had strengthened the bonds of friendship between the Japanese and U.S. peoples, and expressed confidence that Japan was ready to play its full part in meeting the common menace of Communism. Since Japan possessed no regular armed forces, U.S. troops remained in the country for its own protection under the terms of the U.S.-Japanese security treaty of 1951, which became effective along with the peace treaty. Some fears that this arrangement might compromise Japan's sovereignty were expressed in Japan, but the Diet eventually passed the necessary implementing legislation. An administrative agreement signed on Feb. 27, 1952, defined the conditions under which U.S. troops would be stationed in Japan, including a sharing of costs between the Japanese



Prince Akihito (b. Dec. 23, 1933) after his formal installation as crown prince, Nov. 10, with Emperor Hirohito and Empress Nagako.

and U.S. governments and provision for a form of extra-territoriality.

China had not been invited to sign the multilateral peace treaty, because of disagreement among the treaty's sponsors as to whether it should be represented by the Nationalist or the Communist government. In Dec. 1951 Yoshida had expressed the hope of concluding a treaty with the Nationalist government, while denying any intention of making a treaty with the Communist régime. This statement smoothed the way for ratification of the peace treaty by the U.S. Senate. Negotiations were subsequently opened in Taipei, Formosa, and a treaty of peace between Japan and Nationalist China was signed on April 28. Separate agreements restoring peace and diplomatic relations were also concluded by Japan with India and Yugoslavia. Philippine ratification of the general treaty was delayed by the unsettled question of reparations, on which negotiations were suspended as Japan felt unable to meet the full Philippine claims. In January, however, Japan concluded a preliminary reparations agreement with Indonesia. Japan still had to regularize its relations with its former colony, Korea. Negotiations with the Republic of Korea were opened on Feb. 15, but by October it had been impossible to reach agreement on the numerous outstanding questions, including Japanese fishing rights in waters adjacent to Korea, and the large Korean community in Japan.

The U.S.S.R., Poland and Czechoslovakia had not signed the general peace treaty. The U.S.S.R., in fact, denounced it as illegal and as part of U.S. preparations for a new war in the far east, and these sentiments were echoed by Communist China. On Jan. 1, however, Marshal Stalin addressed a friendly message to " the Japanese people ", wishing them " success in their gallant struggle for the independence of their homeland." Soviet offers of a trade treaty were rebuffed by the prime minister, who on Jan. 30 told the Diet that there was no possibility of friendly relations with the U.S.S.R. while the latter still held Japanese prisoners of war and was a party to an alliance with Communist China directed against Japan.

In June Japan formally applied for membership in the United Nations, but although its admission was generally favoured, it was prevented by a Soviet veto in September. In 1952, however, Japan became a member of the International Bank for Reconstruction and Development and the International Monetary fund, and was provisionally admitted as an associate member of the U.N. Economic Commission for Asia and the Far East.

Domestic Affairs. The most noticeable feature of Japanese affairs in 1952 was the revival of a spirit of independence and nationalism, probably an inevitable reaction after more than six years of foreign occupation. This was minifested in many ways. Hundreds of additional political and business figures who had been purged under the occupation were " depurged " and actively re-entered political and economic life. Among them was Mamoru Shigemitsu, who became leader of the Progressive (formerly Democratic) party. Nearly 200 " depurgees " were elected to the Diet in October. In August Japan requested permission from the Allies to release 821 war criminals convicted by Allied military courts. Prewar military elements were beginning to reorganize on a small scale. Although the government's policy of maintaining close ties with the United States commanded widespread support, anti-U.S. sentiment was fostered by Communists and was reflected in a number of disturbances, of which the largest was the May Day riot in Tokyo, in which several hundred persons were injured.

Such outbreaks were cited by the government to justify its action in proposing an Anti-Subversive Activities bill giving the authorities broad powers to discipline or dissolve organizations deemed subversive. The bill was strongly opposed by organized Labour (under non-Communist leadership) as well as by the press, universities and other liberal elements, which saw in it a revival of the old Peace Preservation law, the chief instrument of the prewar police state. The General Federation of Japanese Trade Unions led a series of strikes and demonstrations against the bill. As passed in July, the law contained clauses stating that its object was not to suppress freedom of speech, legitimate trade union activity or other rights guaranteed by the constitution.

The question of rearmament was widely debated in 1952. Although the United States clearly wished Japan to undertake greater efforts to provide for its own defence, Japanese opinion appeared hesitant to do so. This reluctance stemmed partly from a widely held belief that rearmament, although desirable, was a luxury which Japan could not afford until its economy had been re-established on a sounder basis. Thus during the debates on the budget, it was argued that the tax burden was already too high, and also that any available funds should be devoted to expanding the nation's productive capacity. Some sections of the public feared that rearmament would lead to restoration of military influence over government as before the war. Others were apprehensive lest a Japanese military force should prove to be a provocation to aggression rather than a defence against it. In this situation the government moved slowly. In January, following discussions between the Japanese government and General Mark W. Clark, the supreme commander of the U.S. forces in Japan, it was announced that the National Police reserve, now organized as a military force though still lacking heavy armament, would be increased from 75,000 to 110,000 in 1952, with a further increase in 1953. In August a Security Board—in effect a Ministry of Defence—was established to administer the National Police reserve and the coast guard, and a few days later Yoshida for the first time publicly described the police reserve as " the cornerstone of a new army."

In August the government decided to dissolve the House of Representatives or the lower house of the Diet, and on Oct. 1 a general election was held. The result was an overwhelming victory for conservative forces, represented chiefly by the Liberal and Progressive parties. The Communists elected no candidates, and their share of the popular vote decreased sharply while that of the Socialists increased despite a split in the party. During the campaign the Liberal party was sharply divided by a personal struggle for leadership between Yoshida and the recently depurged Ichiro Hatoyama, but when the Diet met, Yoshida was re-elected prime minister. The principal election issues were rearmament and economic policy. Hatoyama argued for rearmament, while Yoshida was more cautious; the Progressive position resembled that of Hatoyama. Both Right and Left Socialists opposed rearmament, the latter more vigorously, in keeping with their neutral foreign policy. In their economic recommendations both Liberals and Progressives appealed primarily to business groups. (*See* also ELECTIONS.)

As Japan regained independence with U.S. aid withdrawn, the country faced serious economic problems, including a rising population, inadequate domestic supplies of food and raw materials, an export volume still less than half of prewar, a damaged and obsolescent industrial plant, an inadequate power supply and an acute shortage of capital. Temporary relief was provided by "special procurement" orders of supplies for U.N. forces in Korea and by expenditures of U.S. troops stationed in Japan. In 1951 such payments (together with final instalments of U.S. aid) more than offset the heavily passive balance of Japan's merchandise trade. Hence Japan was able to increase its holdings of foreign exchange from the equivalent of $536·8 million in Dec. 1950 to $1,106 million in April 1952, of which $659·9 million was in dollars. Yet this apparently strong position was the result of artificial and temporary factors. In the long run Japan would have to expand its exports greatly in order to support itself. Hence there was considerable demand from Japanese businessmen for relaxation of the restrictions on trade with Communist China. Nevertheless the Japanese government turned a deaf ear to Chinese overtures.



Liberal party candidates for the general election for the House of Representatives on Oct. 1 vow to conduct fair election campaigns.



Two British sailors in the Osaka High Court which confirmed their guilt in robbing but suspended their sentences so that they could be tried by a British court martial.

The business boom in Japan produced by the Korean war levelled off in the middle of 1951, largely as a result of international market factors, and the first half of 1952 saw only a slight improvement, accompanied by inflationary pressures. Rising living costs brought numerous demands for wage increases and several major strikes. Japan announced its intention of repaying in full its prewar foreign debt, amounting to more than $450 million in principal and accrued interest, and negotiations with British and U.S. bondholders were opened in July 1952. (M. S. F.)

Education. Schools (April 1951): elementary 21,313, teachers 315,216, pupils 11,419,267; secondary 14,301, teachers 302,191, pupils 7,319,978. Universities 6, other institutions of higher education 416, professors and lecturers 44,570, students 420,634.

Agriculture. Main crops (1950; 1951, prelim. fig., in brackets, metric tons): rice 9,652 (9,435); wheat 1,338 (1,487); barley 1,053 (896); naked barley 1,062 (1,111); sweet potatoes 6,292 (5,020); potatoes 2,363 (2,536). In 1951, production of staple foods was nearly 10% above the 1931-41 average, but the population had increased by about 15% since 1940, and even before World War II Japan produced only about 80% of its own food requirements.

Industry. Index of industrial activity (1934-36 = 100, June 1952; June 1951 in brackets): 141·4 (137·3); utilities 197·2 (185·7); mining 124·7 (119·8); all manufacturing 135·5 (132·4); metals 177·17 (169·2); machinery 174·8 (185·0); textiles 69·5 (63·4); chemicals 133·7 (132·9); food and tobacco 122·2 (100·1). Non-agricultural employment in June 1952 stood at 20,410,000, a gain of 1,060,000 over June 1951. Number of totally unemployed, June 1952; June 1951 in brackets: 420,000 (340,000). Production ('000 metric tons, 1951; 1952, six months, in brackets): coal 41,448 (27,480); lignite 1,404 (786); electricity (million kwh.) 41,112 (21,685); gas (million cu.m.) 1,479·6 (876); crude petroleum 339·6 (154·2). Raw materials ('000 metric tons, 1951; 1952, six months, in brackets): pig iron 3,228 (1,857); steel ingots and castings 6,504 (3,535); refined copper 90·9 (48·9); ammonium sulphate 1,674 (981). Manufactured goods ('000 metric tons, 1951; 1952, six months, in brackets): cement 6,552 (3,417); machine tools (units) 9,132 (5,214); motor vehicles and cycles (units) 106,332 (69,888); ships (gross tons) 449,988 (283,074); cotton yarn 336·8 (173·5); synthetic fibres and yarns 171·8 (85·0); rayon fabrics ('000 sq.m.) 677,544 (391,956); raw silk (kg.) 10,874,316 (5,168,502); wheat flour 1,425 (668·8).

Finance. National government expenditures (general account) were budgeted for 1952-53 at 852,800 million yen, an increase of 59,100 million over the previous year. This represented 17% of estimated national income. Major items were: defence 182,400 million yen, public works 123,700 million, grants to local governments 125,000 million. Bank of Japan's outstanding note issue, May 1952, May 1951 in brackets: 444,003 million yen (399,332 million yen). Bank holdings of national government securities, 1952, 1951 in brackets: 192,040 million yen (170,381 million). Commercial bank deposits, 1952, 1951 in brackets: 1,576,323 million yen (1,132,886 million). Price and wage index numbers, 1951; 1952, Jan.-July, in brackets: wholesale prices (1934-36 = 100) 34,250 (35,190); consumer prices (1948 = 100) 151·4 (Jan.-June, 165·1); wages in manufacturing (1934-36 = 100) 23,000 (24,880). Monetary unit: *yen*, with an official exchange rate of 360 to the U.S. dollar and of 1,008 to the pound.

Foreign Trade. Japan's per capita exports in 1951, adjusted for price changes and including "special procurement", were only 56% of the 1934-38 level, imports were 65% of 1934-38 In the first six months of 1952, Japanese imports declined by about 12% from the same period in 1951, during which they had spurted ahead as a result of the Korean war Exports were about 20% above the level of Jan -June 1951 Total imports ('000 U S dollars, 1950, 1951 in brackets) 974,338 (1,995,039), exports 820,055 (1,354,519) Main sources of imports (1951) North America 46 2%, Asia 28 8%, Europe 7 7%, Australia and Oceania 7 5%, South America 5 5%, Africa 4 3% Main destinations of exports Asia 51 5%, North America 15 7%, Europe 19 7%, Africa 8 3%, Australia and Oceania 7 9%, South America 5 9% Foodstuffs accounted for 25% of Japanese imports in 1951 and raw materials for 58%, manufactured products made up 81% of the exports Textiles were the leading export and textile fibres (cotton and wool) the leading import

Transport and Communications. Government railways (1951, monthly averages) passenger-km 6,420 million, revenue freight ton-km 3,073 million Corresponding monthly averages for Jan -April 1952 6,083 million, 3,001 million Private railways (1951, monthly averages) freight ton-km 48,851,000, (Jan -April, 1952) 47,352,000 Shipping (steel vessels of 100 tons or over, May 1951, May 1952 in brackets) 1,877,742 (2,640,573)

JAVA: *see* INDONESIA

JERUSALEM. The capital of former Palestine, revered as a Holy City by Christians, Moslems and Jews alike, was divided by a demarcation line established in the Israel-Jordan armistice agreement of April 3, 1949 Pop (1951 est.): Israel-held new city and capital of Israel, 150,000, Arab-held old city 30,000

The international position of Jerusalem was still indefinite in the absence of any clear pronouncement of the U.N. assembly. The resolution of the general assembly in 1949 calling for an international trust régime for the city of Jerusalem had not been rescinded. The Israeli government announced in the spring that they intended to move to Jerusalem the Foreign Office of Israel, which had hitherto been in Hakirya, the suburb of Tel Aviv that was the original seat of all the government offices. In Jan. 1950 most of the ministries were transferred to Jerusalem, but the Foreign Office and Ministry of Defence remained in Hakirya. Israel's proposal of transfer provoked a warning from the U.S. State Department that the United States supported the establishment of a special international régime in Jerusalem, and that its embassy would remain in Tel Aviv. A similar warning was made by the government of Australia

The celebration of the 3000th year of Jerusalem, since it became the capital of King David's kingdom, had been fixed for 1952. It was to be marked by the opening of the new Convention centre with an international exhibition illustrating man's struggle against the desert. But the building was not completed in time, and the celebration was postponed till 1953. On the other hand, an international scientific conference on desert research, which was to have been a part of the celebration, was held in Jerusalem in May 1952, as originally proposed. It was the first conference of the kind organized in Israel since the establishment of the state. Representatives of U.N.E.S.C.O. and of learned institutions from all parts of the world attended it. The president of the conference was W. C. Lowdermilk (U.S.), adviser of the U.N. Food and Agricultural organization to Israel.

Another important cultural event of the year was the laying of the foundation stone of the new hospital of the Hebrew university of Jerusalem and the Hadassah Organization of America, on a site near the formerly Christian village of Ein Karim, about 6 mi. from the centre of the Jewish city. The University hospital on Mount Scopus had been inaccessible since 1948, when a convoy taking members of the university staff and doctors and nurses was ambushed with great loss of life. It was hoped that negotiations between Israel and Jordan in 1952 would relieve the position: but that hope was disappointed.

In August a conference of Jewish doctors from all parts of the world, except the countries of eastern Europe, was held in Jerusalem to consider medical problems arising out of the mass immigration to Israel.

The board of governors of the Hebrew university met at Jerusalem in January and received with regret the resignation of the president of the university, Professor Selig Brodetsky, formerly of Leeds (N. BH.)

JET PROPULSION AND GAS TURBINES. The outstanding events in gas-turbine progress in 1952 were the first flights of Great Britain's most powerful turbo-jet, the Bristol Olympus, and the setting to work by the British Electricity authority of their first gas-turbine-driven generating plant, the Metro-Vick set at Trafford power station, near Manchester.

Great Britain. *Turbo-Jets.* Preliminary details of the Olympus were released. Designed primarily for long-range aircraft requiring high thrust and good fuel economy, the maximum sea level static thrust was 9,750 lb. and corresponding consumption 0·766 lb /lb. thrust/hr. This consumption, markedly lower than any other turbo-jet, resulted from a high overall pressure ratio obtained from two mechanically independent axial compressors arranged in tandem and driven at different speeds by separate turbines through co-axial shafts. Ease of starting and rapid response to control were additional advantages. Test flights were made in a converted Canberra. The United States received a licence to manufacture this engine as the Wright J-67.

The Armstrong Siddeley Sapphire was produced in Great Britain for the Gloster Javelin delta-wing fighter and in the U S as the J-65 Official rating of the AS.Sa 6 version was 8,300 lb. m s.l.s.t. with 0·91 lb./lb. thrust/hr. fuel consumption. The Viper, a small "expendable" turbo-jet, was produced for the Australian Jindivik radio-controlled pilotless target. Designed for short life at full throttle, it had an axial compressor and annular combustion chamber, delivered 1,575 lb. m s.l.s t. with a fuel consumption of 1 15 lb./lb. thrust/hr., weighed 365 lb and was 23 25 in. in diameter and 65 5 in. long

Rolls-Royce disclosed that their gas turbines, of which more than 11,500 had been made, had accumulated more than a million flying hours Their Avon (6,500 lb. m.s l s.t), required for four of the six British super-priority military aircraft and for the Comet II airliner, was in large-scale production. It was forecast that civil Avons giving 9,000 lb. thrust would be used in Comet IIIs Two point-to-point records were made by a twin Avon-engined Canberra which flew from Belfast to Gander and back in 8 hr. at 412 m.p.h. average speed. The return, at 605 52 m.p h , was the first direct west-east Atlantic crossing by jet propulsion. Avons with exhaust reheat demonstrated their ability to start from cold (with cartridge starters), open up to full power, light up the reheat automatically and begin take-off run all within 20 sec. It was revealed that Rolls-Royce had run a by-pass turbo-jet designated Conway. The Ghost 50 (5,000 lb. m.s l.s.t.) contributed to the success of the Comet I. Water-methanol injection was developed to restore take-off thrust of this engine during tropical operation. A Ghost turbo-jet propelled the speed-boat "Crusader" in which John Cobb exceeded 200 m.p.h.

Turbo-Props. Napier announced initial tests of the Eland intended for civil passenger and military transport aircraft. Low weight, small bulk and good fuel economy were the primary design features. Take-off power was 3,000 max. equivalent h.p. and designed cruising consumption 0·49 lb./e.h.p./hr. at 350 m.p.h. at 30,000 ft. Of single shaft layout, it had an axial compressor, six combustion chambers, weighed 1,575 lb. and was 36·25 in. in diameter.

Four coupled Proteus engines (7,020 m.e.h.p.), Britain's most powerful turbo-props, were installed, together with two single Proteus, in the world's largest flying-boat, the 140-ton Princess. Designed to cruise at 380 m.p.h. at heights above 30,000 ft., it made its maiden flight. Initial flight tests were made by the Britannia 100-seat long-range airliner, powered by four single Proteus. The double Mamba, Python and Dart continued in production.

Jet Propulsion Rocket Motors and Ram-Jets. A Comet with two Sprite (5,000-lb. thrust) rocket motors demonstrated enhanced take-off. Absence of smoke indicated the use of an improved catalyst. The RAE/Fairey Beta II rocket motor gave 2,500 lb. for 40 sec. with a propellant consumption of 0·565 lb./lb. thrust/sec. Bristol exhibited a ram-jet developed for supersonic tests in free flight.

Power-Generating Marine and Locomotive Gas Turbines. Intended for peak-load use, the Metro-Vick 15,000-kw. gas-turbine generator set at Trafford power station employed an open-compound cycle comprising, in sequence, a low-pressure compressor, heat exchanger, main combustion chamber, high-pressure turbine, reheat combustion chamber and low-pressure turbine. The exhaust passed back through the heat exchanger on its way to the stack. The low-pressure turbine was directly coupled to the low-pressure compressor and to the 17,650-kva. 3,000-r.p.m., A.C. generator. The overall length of the set was 96 ft., pressure ratio 10:1, air flow 230 lb./sec. and turbine inlet temperature 1,200°F. Gas oil was used initially but, after development, it was intended to burn heavier grade fuels.

The two 20,000-kw. plants, Great Britain's largest gas turbines, were in manufacture at English Electric where the world's highest-powered marine gas turbine, the 6,000-s.h.p. set for the Admiralty, completed shore tests. Work continued on their 2,200-kw. alternator set and on two 2,000-kw. sets intended for firedamp and coal burning respectively. A full-scale cyclone slagging combustion chamber, based on results of research by the British Coal Users' Research association, operated on low-grade coal. As an alternative to the non-intercooled compressors designed for these 2,000-kw. sets, a two-stage intercooled centrifugal compressor of 40 lb/sec. air flow and 5:1 pressure ratio was designed by Napier for the Ministry of Fuel and Power. Similarly sponsored, a pilot-size cyclone-vortex type gasification chamber, to burn pulverized coal under slagging conditions, was being developed by Incandescent Heat in co-operation with Joseph Lucas. To use the producer-gas thus generated, Metro-Vick had in hand a 2,000-kw. gas turbine and the supercharging turbo-compressor for the gas producer.

Total running of the John Brown 500-b.h.p. experimental unit reached over 4,300 hr. During the latter 850 hr., Scottish peat was used as fuel for the air heater. Their 700-kw. closed-cycle waste-heat plant was erected in the shops and installation of their 12,500-kw. oil-burning closed-cycle plant neared completion at Dundee.

Ruston and Hornsby's 750-kw. open-cycle gas turbine exceeded 3,000 hr. total running before the end of 1952; a non-stop run of 700 hr. was included. Feeding into the national grid throughout the winter of 1951-52, it showed a high degree of reliability. This design became the first British industrial gas turbine to be put into production. One machine ran successfully on pulverized peat and was believed to be the first internal combustion engine to use peat fuel.

After about 1,000 hr. satisfactory testing, the Allen 1,000-kw. auxiliary gas turbo-alternator set was delivered to the naval marine wing of the National Gas Turbine establishment for extensive running to determine maintenance requirements and to prove reliability. For the Admiralty, Allens constructed a 200-h.p. gas-turbine generating set for shipboard emergency use. Design started at Harland and Wolff of a 1,000-b.h.p. gas turbine required to burn oil in any proportions with the methane gas available at a sewage works. The estimated cost of this engine was about £40 per h.p.

The first of two 2,500-kw. open-cycle gas turbines constructed by British Thomson-Houston for Nairobi was tested at the makers' works. Their 1,200-s.h.p. open-cycle marine propulsion gas turbo-alternator was operated throughout the year in the tanker "Auris", the first merchant vessel in the world to include gas-turbine main propulsion machinery. The set ran fully loaded for over 5,000 hr., mostly in conjunction with the three diesel-alternators. Throughout one Atlantic crossing of 3,897 mi. the gas turbine alone propelled the ship at 7·35 knots average speed, thereby demonstrating the high standard of reliability of this historic set.

The Pametrada marine gas turbine completed 100 hr. continuous full-power bench test at 3,532 b.h.p. Distillate fuel consumption was 0·505 lb./b.h.p./hr. and thermal efficiency 27·9%. After detailed inspection Lloyd's issued a very satisfactory report. Modifications were then introduced to improve fuel economy and tests on residual oil fuels were run. Research into means of inhibiting ash in such fuels, design of a novel type of heat exchanger and design of a single-stage liquid-cooled turbine in which stator blades of various materials and constructions could be tested for the Admiralty, were in hand.

The first British-built gas-turbine locomotive, the Metro-Vick 3,000-h.p. oil-burning turbo-electric engine no. 18100, ran trial passenger services on Western region long-distance routes. Designed to handle 650-ton trains at speeds up to 90 m.p.h., it was the most powerful express locomotive yet constructed in Great Britain. Giving a tractive effort of 60,000 lb. max. and 30,000 lb. continuous, its weight was 130 tons. Several gas-turbine plants ranging from 2,000 kw. to 15,000 kw. were under construction by Parsons. Having burnt pulverized coal successfully in their renowned 500-h.p. experimental set, they put in hand an 1,800-h.p. open-cycle external-combustion coal-fired gas turbine for a mechanically driven North British locomotive.

The world's first gas-turbine automobile, the Rover with 185-200-h.p. T.8. engine, ran official speed trials: 151 196 m.p.h. was recorded for flying mile and 95 568 for standing mile. The engine had a separate power-turbine which rotated at 30,000 r.p.m. and drove the output shaft through a single-step helical reduction gear. Freewheel and reverse gear were fitted but no change-speed gear or clutch. The complete engine weighed under 500 lb. and was nearly 4 ft. long. Austin and Centrax both disclosed development of vehicle-type gas turbines.

Materials. A new nickel chromium alloy, Nimonic 95, was introduced for turbine blades. Without sacrifice of hot working and machining properties this alloy had the same strength as Nimonic 90 but at about 50°C. higher operating temperatures. Studies of the use of titanium alloys in place of steels of equal strength in aero gas turbines showed appreciable weight savings. However, high cost of materials and fabrication difficulties were considered likely to delay its general introduction.

Commonwealth. For CF-100 and Canadian-built Sabre fighters the Canadian government placed a $66 million order with A. V. Roe, Canada, for Orenda (7,000 lb. m.s.l.s.t.) turbo-jets to be manufactured in a newly opened factory near Toronto. Rolls-Royce, Montreal, Ltd., put the Nene (5,000 lb. m.s.l.s.t.) into production for Canadian-built Lockheed T-33 trainers for the R.C.A.F. The fuels division of the Canadian Department of Mines obtained good results from comparative combustion tests of pulverized coal of various qualities in an all-metal combustion chamber suitable for gas turbines. (R. H. SL.)

Europe. While aircraft engines continued in development in France and Sweden the main activity was in the manufacture of British engines under licence in Sweden, Belgium, France, Switzerland and Italy.

Two projects using reciprocating internal combustion engines as the gas generator, with the gas turbine providing useful work, continued favourably. Efficiencies as high as 34% were obtained with one of these types and the ability to burn heavy oil on this (the free piston) type was claimed. In Sweden Götaverken were building a diesel-type gas generator to drive a de Laval gas turbine of 1,000 h.p. for a locomotive ordered by the Swedish State railways, and in France Renault built a locomotive of similar power with a S.I.G.M.A. free-piston generator driving a Rateau gas turbine. At Reims power station Electricité de France completed 1,500-hr. running with a 1,400-kw. Alsthom turbine driven by two S.I.G.M.A. free-piston gas generators. Further running on heavy oil was begun. Sixty similar sets were in course of construction for marine and industrial use. Alsthom were also building a 5,000-kw. turbine to General Electric design using a high inlet temperature of 800°C. S.E.M.E. produced a 12-ton lorry using two gasifiers. The 12,500-kw. Escher Wyss closed-cycle turbine at St. Denis, Paris, was out of action for part of the year because of a compressor failure. A gas turbine car was shown at the Paris salon by Société de Constructions et d'Equipments Mécaniques pour l'Aviation (S.C.E.M.A.) and excited considerable interest. Gas turbines were being developed to burn the natural gas being exploited and piped to industrial centres in Northern Italy.

In Switzerland, Brown Boveri built or had under construction 17 sets totalling 100,000 kw., and in 1952 they began to reap some of the fruits of this experience. This firm published an account of the running and the economics of the two sets at the Beynau station. Brown Boveri also built a new combustion and flow laboratory to fortify their gas turbine work. The 5,400-kw. set, fired with blast-furnace gas, at the iron works of Arbed, Luxembourg, completed a total of over 5,000 hr. at between 5,000 and 6,000-kw. load and generated 21 million kwh. In addition compressed air was supplied to the blast furnace and the converters. The 10,000-kw. set on natural gas at Bucharest supplied energy at peak hours.

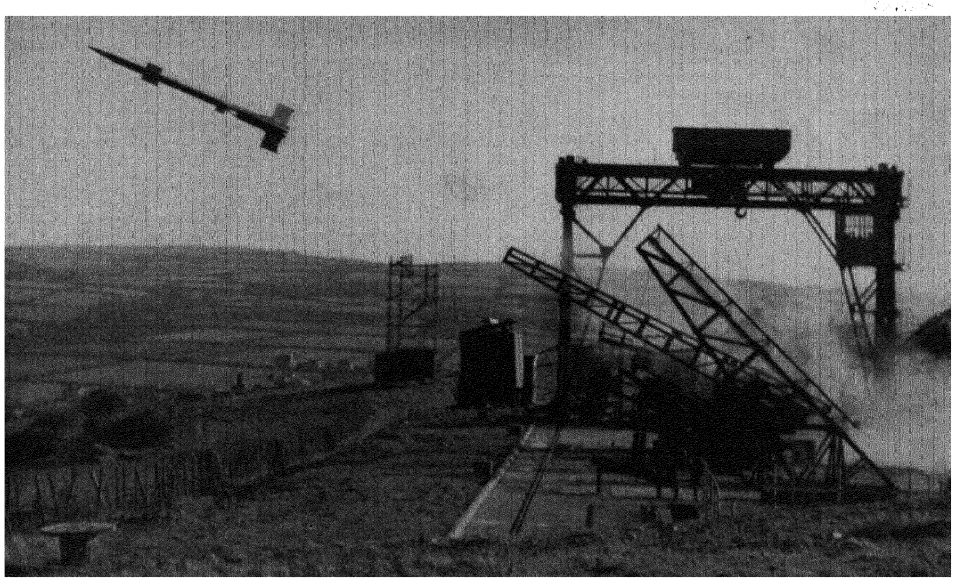
A novel gas turbine with a rotating diffuser was reported from Saurer, Switzerland.

Middle East. Four 5,000-kw. sets to burn natural gas were contracted for the Arabian American Oil company.

U.S.S.R. News of a gas-turbine locomotive came from the U.S.S.R. The chassis was reported to be under construction in the Berlin Schwarzkopf works. Production continued of centrifugal-type turbo-jet engines for MIG fighter planes, and two axial types of 6,600 and 7,700 lb. thrust.

United States. Interest in small sets for auxiliary purposes continued. Solar Aircraft developed their 250-kw. set for auxiliary aircraft electric power generation, and announced a 400-b.h.p. unit with axial flow compressor. Boeing published an account of their gas-turbine-powered truck.

In connection with the work on the coal-fired gas turbine locomotive, sponsored by the Bituminous Coal Research, Inc., a 1,000-hr. full-scale run was made burning coal on a Houdry open-cycle turbine at Dunkirk, New York. The experimental coal-fired gas turbine for the locomotive project completed a scheduled run of 750 hr. on coal. Because of a fault in the dust extractor the majority of the run was with dirty gas. The results of another experiment in coal burning (using coke and bituminous coal), in a gas producer, were published by General Electric. Connecticut Electric Light and Power company ordered four sets totalling 20,000 kw. from General Electric for delivery in 1953. The specification of the ten locomotives ordered from this company by the Union Pacific railroad was altered after 105,000 mi. running on the prototype. Increased weight enabled the wheel diameter to be reduced. New-type combustion chambers, nozzles, fuel nozzles, and turbine blades were specified.



A British guided missile a moment after launching. The initial boost motors are attached to the rear and fall off after the missile has reached its cruising speed. In July the speed of British guided missiles was given as over 2,000 m.p.h.

There was a diligent search for new materials such as ceramics, cermets and sintered carbides for use in high-temperature components. Methods of blade-cooling and protection were sought. A ceramic blade-coating designated A417 was successfully developed by the National Bureau of Standards. The use of after-burning for aircraft jet engines was developed. Allison continued mass production of J-35 turbo-jets, and of a more powerful 9,700-lb thrust turbo-jet. Two turbo-props of 3,000 equivalent shaft horsepower were also produced. Many firms contracted to build Pratt and Whitney engines under licence. Fairchild produced an expendable turbo-jet of 1,000 lb. thrust for guided missiles, and Boeing a small 224-e s.h p. turbo-prop. General Electric developed a 9,000-lb. and 12,000-lb thrust turbo-jet as well as a 10,000-e.s.h.p. turbo-prop. Wright continued the manufacture of Armstrong Siddeley and Bristol engines under licence, and Pratt and Whitney of Rolls-Royce engines.

South America. The 10,000-kw plant at Lima, Peru, totalled nearly 10,000 hr. with a mean efficiency of 23 6% at 7,000-kw load A 5,000-kw. set was added to the two 1,650-kw. sets at a cement works in Peru. These ran on a mixture of diesel and heavy boiler oil (*See* also AIRCRAFT MANUFACTURE; AIR FORCES OF THE WORLD, AVIATION, CIVIL, ULTRASONICS) (C. G. C.)

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JEWELS: *see* GEMS

JEWRY, WORLD. The total number of Jews in the world in 1952 was estimated to be 11,557,580, comprising 5,828,180 in America, 3,312,000 in Europe, 1,675,500 in Asia, 684,900 in Africa and 57,000 in Australasia. The four largest Jewish communities were in the United States (5 million), the U.S.S.R. (2 million), Israel (1,437,000) and Great Britain (450,000).

Religious Life. During 1952 the chief rabbi of the British Empire, Israel Brodie, carried out a pastoral tour to the Jewish communities in Australia and New Zealand. In Australia he addressed the first Conference of Jewish ministers and formed the first Association of Jewish ministers. The head office of the World Sephardi federation, which furthers the spiritual, moral and social welfare of needy Sephardi communities, was transferred from Paris to London. An agreement was concluded between the Spanish and Portuguese congregation in London and the Jewish Agency Department for Education and Culture in the Diaspora for the establishment at Ramsgate of a rabbinical college and teachers' training seminary for Sephardi communities. In Israel 2,200 new synagogues, permanent and temporary, were established in 1952. The chief rabbi of France, Isaie Schwartz, died on July 21, 1952 at the age of 76. In Salonika, owing to the tragic diminution of the Jewish community, a famous synagogue was sold for about £105,000.

Political. The most important political event of the year was the signing of an agreement at Luxembourg on Sept. 10, 1952, by the German federal chancellor, Konrad Adenauer, and the foreign minister of Israel, Moshe Sharett, whereby the German federal government undertook to pay to Israel, as reparations for the colossal losses inflicted upon the Jewish people by the Nazi regime, the sum of DM. 3,000 million (about £250 million) over a period of 12 to 14 years. The agreement was preceded by months of negotiations at The Hague between representatives of the German Federal Republic, of Israel and of Jewish world organizations. It provided that payment be made in the form of German goods and that German credits in countries belonging to the European Payments union be utilized for the purchase of certain commodities (*e.g.*, oil). Appended protocols were signed by Adenauer and Nahum Goldmann (for the Jewish Claims conference) under which Germany agreed to make a "global" payment of DM. 450 million (about £37 million) to world Jewry.

Anti-Semitism. Manifestations of Jew-hatred and anti-Jewish discrimination, in various forms and degrees, took place in many parts of the world. In Iraq two Jews were hanged in Baghdad (Jan. 21) for an alleged crime that involved no loss of life and practically no damage to property, after extorted confessions that were repudiated at the trial. In Tunis there were attacks upon the Jewish quarter, involving the loss of lives In the riots in Cairo (Feb. 1952) the damage to property amounted to over £5 million. In Germany there was sporadic evidence of the resurgence of Nazism in the form of demonstrations, posters, the revival of *Der Sturmer*, and cries of "*Heil, Hitler!*" In Austria pro-Nazi laws were passed and the swastika reappeared. In Melbourne, Toronto and Slovakia, Jewish cemeteries were desecrated. On the alleged ground of security large numbers of Jews were deported within the U S S R. to Siberia, and there were similar deportations in Rumania, Hungary and Czechoslovakia. Jews were singled out as victims of political purges in Rumania (*e.g.*, the foreign minister, Ana Pauker) and other Soviet satellite states. In Prague, after a trial of 14 former Communist leaders, accused of treason and Zionism, 11, of whom 8 were Jews, were executed on Dec 3, and the others, of whom 3 were Jews, were sentenced to life imprisonment.

Migration. U S Jewish organizations protested to President Harry S Truman and the secretary of state, Dean Acheson, against a clause in the McCarran act requiring Jewish immigrants to state their ethnic origin when applying for a visa. There was a marked decline in emigration from eastern Europe to Israel owing to obstruction by Communist governments.

See *Germany's New Nazis* (London, 1952), Walter Kolarz, *Russia and her Colonies* (London, 1952), *Zionist Year-Book, 1952-3* (London, 1952) (I. C.)

JORDAN. Independent Arab kingdom bounded W. by Israel, N. by Syria, E. by Iraq and S.E. and S. by Saudi Arabia. Area (incl. Arab Palestine): *c.* 37,100 sq.mi. Pop. (1951 est): 1,267,000. Capital: Amman (pop., 1951 est., 170,000). Language: mainly Arabic. Religion: Moslem (chiefly Sunni); Christian *c.* 8% (chiefly Arab-speaking Greek Orthodox). Kings in 1952: Talal I and (from Aug. 11) Hussein I; prime minister, Tewfik Abulhuda.

History. King Talal and Queen Zeine left Amman on a visit to Europe on Jan. 10, 1952. They returned on Feb. 5; but on May 18 they again left for France and a council of regency consisting of the prime minister, the president of the Senate and the president of the Chamber of Deputies, assumed constitutional powers. On June 1, the regency council and the cabinet heard a report from the prime minister and the defence minister (Suleiman Tukan) who had had discussions in France with the king. After a secret session of parliament, the government announced that a new regency council consisting of Ibrahim Hashem, Suleiman Tukan (who had resigned from the government) and Abdurrahman Rusheidat would act for the king on account of his deteriorating health. Before reaching this decision, the government had rejected a suggestion from the Emir Abdulilah, the regent of Iraq, that a senior representative of the Hashemite royal house should preside over the regency council. Meanwhile, King Talal had informed the cabinet that he approved the government's



Arab and British locust-control workers watching a U.S. plane spraying part of the South Jordan desert with a new insecticide—Aldrin—during the anti-locust campaign arranged by the Food and Agriculture Organization in 1952.

actions and that he was on his way back to Amman. He arrived on July 3 and placed himself unreservedly at the disposal of his government. On Aug. 11 the government declared the termination of King Talal's reign owing to his mental state and the accession, in his place, of Crown Prince Hussein as king. The council of regency was reappointed to act until the new king's coming-of-age on May 2, 1953. On Aug. 25 King Hussein arrived in Jordan. On Sept. 8, he left it again for Great Britain to enter the Royal Military college on a four months' course of training. Talal had in the meantime retired to Egypt for treatment. In December King Hussein underwent an operation for sinus trouble in London. Ex-Queen Zeine went to London to be with him.

On Feb. 16 the Jordan government signed the Arab league Security and Economic Aid pact which came into force on Aug. 23, having also been ratified by Egypt, Syria, Iraq and Saudi Arabia. On April 13 an official Spanish mission visited Amman.

Throughout the year further sporadic frontier affrays persisted along the Jordan-Israeli border and on May 29 the prime minister denied reports that Jordan would reach a settlement with Israel involving the cession of any Jordanian territory. In November the government invited its fellow members of the Arab league—Egypt, Syria, the Lebanon—to a conference in Amman where Israeli violations of the armistice and how they could be met effectively, were discussed.

During the summer plans were announced for the Yarmuk river scheme, to be financed by the U.N. Relief and Works agency. The upper waters of the river would be canalized over an 800-ft. waterfall through a power station and would continue in an irrigation canal the whole length of the Jordan valley down to the Dead sea where another power station would be built. The Syrian government's consent to the scheme had been secured. The scheme, which would take three years to complete, would bring 180,000 ac. under cultivation in the Jordan valley and thus provide useful settlement facilities for Arab refugee families from Palestine, while the construction work was expected to provide work for some thousands of unemployed refugees. On Nov. 24 the government protested to the British, French and U.S. governments against a new Israeli project to pump large quantities of water from the Jordan river six miles south of the Yarmuk-Jordan junction. This, it declared, would prejudice Jordanian agriculture and hamper irrigation plans for Arab refugee settlement in the Jordan valley.

On Aug. 4 the government abolished the titles "bey" and "pasha", hitherto conferred as a token of favour by the royal house. Jordan became the 54th member of the International Monetary fund on Aug. 29. (O. Tw.)

Education. Government schools (1950) 328, pupils 56,425, teachers 1,462.

Agriculture. Main crops ('000 metric tons, 1949; 1950 in brackets): wheat 139 (106); barley 56 (41); millet 15 (14); lentils 8·0 (8·1); kersennah 8·6 (8·2); tobacco 0·19 (0·20); dry beans 2. Livestock ('000 head, 1949): goats 332; sheep 113; horses 3; asses 26; cattle 64; mules 2; camels 4.

Finance and Banking. Budget ('000 dinars): (1949-50) balanced at 3,400; (1950-51 est.) revenue 3,300, expenditure 3,800. Monetary unit: Jordan *dinar* at par with the pound sterling and with an exchange rate of ·357 dinars to the U.S. dollar.

Foreign Trade. ('000 dinars, 1949; 1950 in brackets.) Imports 12,757 (10,767); exports, incl. re-exports, 3,478 (1,982). Export figures include bullion (silver coins exported to the U.K. amounting to D.409,605 in 1950). Main sources of imports (1950): U.K. 26·1%; Syria and Lebanon 12·3%; Italy 8·7%; Persia 8·0%. Main destinations of exports (excl. bullion): Syria 95·3%; Egypt 2·1%. Main imports: textiles 11·3%; sugar 6·9%; building materials 5·9%; motor vehicles and spares 3·5%. Main exports (excl. bullion): cereals 29·3%; raw wool 14·1%; vegetables 13·6%; olive oil 9·9%; fruits 7·8%.

Transport and Communications. All-weather roads, 1950 (east of Jordan river only): 395 mi. Licensed motor vehicles (Dec. 1950): cars 2,150, commercial vehicles 1,800. Railways (1950): 280 mi. There were two air transport companies, Arab Airways association and Air Jordan. Miles scheduled per week by Arab Airways association (1950): 5,268.

JUDICIARY, BRITISH. There were no judicial changes during the year in the House of Lords and the composition of the Court of Appeal also remained unaltered.

In England, in September, one of the additional judicial appointments which had been authorized by the High Court and County Court Judges act, 1950, was filled by the elevation to the bench of Mr. William Arthian Davies. He had previously practised on the Welsh circuit, taking silk in 1947, and was recorder of Chester from 1949. Mr. Justice Davies took his seat in the Probate, Divorce and Admiralty division at the beginning of the Michaelmas term, replacing as the junior divorce court judge Mr. Justive Havers, who was transferred to the Queen's Bench division.

In Scotland, the death of Lord Jamieson in May at the age of 71 after 17 years on the bench left a vacancy in the Inner House of the Court of Session. This was filled in the usual way by the transfer of the senior judge from the Outer House, Lord Mackintosh. The resulting deficiency there was met by promoting Mr. Laurence Hill Watson, a leading Glasgow advocate specializing in commercial cases, who had taken silk in 1937. Lord Hill Watson, as he became, had been sheriff of Perth and Angus since 1948 and was the only Scottish member of the committee which investigated company law prior to the passing of the Companies acts of 1947 and 1948. (W. T. Ws.)

JUGOSLAVIA: *see* YUGOSLAVIA.

JUTE. The decline in international trading conditions and the curtailment of imports by some countries had their repercussions in the jute industry throughout the world in the early months of 1952. Prices of raw jute and jute manufactures had been kept high by heavy export duties. The Indian government was the first to see the necessity for a reduction in these taxes and, though its action was somewhat dilatory, it played its part by drastically reducing the taxes on exports of jute goods from India on Feb. 19 and May 6, 1952, by £56 5*s.* and £36 5*s.* per ton on the respective dates. The tax on hessian was reduced to £20 a ton, as compared with £112 10*s.* a ton, before Feb. 19, whilst the tax on sackings was cut on May 6 from £25 a ton to £12 10*s.* Before Sept. 1949 the tax on hessians exported from Calcutta was only £6 a ton, whilst for sacking it was only £3 15*s.* a ton. On July 1, 1952, the Pakistan government also reduced the export taxes on raw jute from £21 5*s* per ton, to £9 2*s.* per ton on long jute and from £6 to £3 per ton on cuttings. Thus for the first time for many years the price of raw jute was brought down to less than £100 a ton.

The future course of prices was still uncertain and on July 29 in Calcutta they touched their lowest values for many months when 10 oz. 40 in. hessian was quoted at 74*s.* 9*d.* and "B" twills at 171*s.* per 100 bags. It was during this period that some further reduction in raw jute prices was expected, but, except for a short spell when shippers were willing to sell at £1 or £2 per ton under the minimum, the Pakistan Jute board dealt with the situation by announcing that export licences for such sales would not be granted. The lower offers were then quickly withdrawn.

During July the United States, whose consumption of jute cloth had been rapidly declining, again took a large interest in the material and during that month consumed 72 million yd., as against only 33 million yd. in the same month of 1951. The monthly average for the nine months ending Sept. 1952 had risen to 71 5 million yd. and consumption in Oct. 1952 reached the high level of 88 million yd.

The raw material situation throughout the year was very favourable indeed. Pakistan had a surplus carryover of 1 5 million bales and the new crop was estimated to yield 6 million bales.

By Dec. 1952 Pakistan had sold 1·2 million bales of the new season's crop, with an additional 700,000 bales to India. Among the 33 countries who purchased Pakistan's jute the German Federal Republic was the heaviest buyer during the season and bought some 55,000 bales (1 bale=400 lb.), South Africa 52,000 bales and the United Kingdom 34,400 bales.

India's jute crop was estimated to yield about 4·5 million bales of which up to Oct 31 1,280,000 bales had already been delivered to the Indian mills. The Pakistan Jute board announced that sowing of jute for the season 1953-54 would be confined to an area sufficient to yield 5 million bales, of which 4 million bales would be required by countries outside India, and the balance taken up by Indian jute mills and internal needs.

As far as the United Kingdom and continental countries were concerned, the year started badly with depressed markets. Trade gradually improved, however, and by Dec. 1952 the industry had improved to such an extent that orders for yarns and cloth were being placed for as far ahead as June 1953.

During the year Dundee adopted a new wage structure based on the Jute Mills Working party report. Under the new structure all processes in the industry were evaluated on a merit basis and from this a scale of basic rates of pay was derived. In addition, the opportunity to earn a bonus was included and the extent of the bonus was made dependent on the work-loading and on individual effort. (*See* also HEMP.) (G. Hs.)

JUVENILE DELINQUENCY. There was a further increase in juvenile crime in England and Wales during 1951 as the following figures of indictable offences show:

	Under 14	14-17	Total
1949	24,881	15,549	40,430
1950	26,232	16,183	42,415
1951	28,578	18,895	47,473

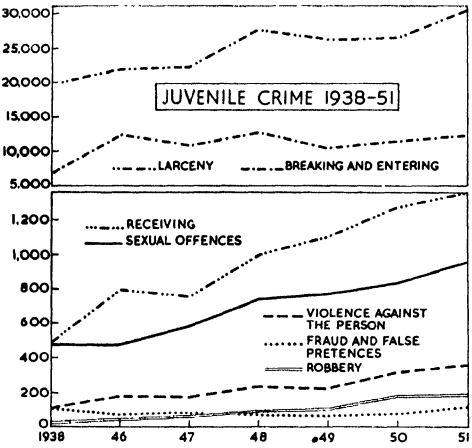
The total of offenders under 17 years of age represented 36% of the number of persons found guilty of indictable offences in 1951. Again the increase was mainly of offences against property, there was an increase of 15% above the previous year of young offenders found guilty of larceny and 6% found guilty of breaking and entering Sexual offences showed an increase of 15% above 1950 and the total was more than double that for 1938.

The prevalence of juvenile crime in England so long after the abnormal conditions of the war years had passed was disquieting and produced general criticism by the public of the methods employed by the juvenile courts, as well as a demand for new deterrents. To some extent this demand was met by the provision of attendance centres and detention centres To the former, offenders between the ages of 12 and 21 years could be sent outside their school or working hours on specified days for a period not exceeding 12 hr. in the aggregate.

The first detention centre, Campsfield house, Kidlington, Oxfordshire, was opened in Aug. 1952 as a place to which boys aged 14 and under 17 years might be sent for a short sharp period of punishment.

The University of Oxford, with the active support of the Home Office, and using the annual statistical returns of juvenile crime in the 134 police districts of England and Wales, discovered some interesting divergencies both in delinquency rates and in treatment. A preliminary report appeared in the *Magistrate.*

Unlike many other European countries, Norway had experienced a decrease in crime since before World War II. Under the German occupation there was more criminality, but afterwards there had been a progressive decline. Even in Norway, however, the proportion of offences among young people under 21 remained higher than among other age groups. Figures supplied by the Norwegian Ministry of



Social Affairs showed that in 1950 there were 1,187 offenders under 21 convicted of crime, as against 1,900 in 1946 and 1,799 in 1939.

In Finland, which adopted in 1943 the Scandinavian system of substituting for punishment the re-educating of young offenders, there was also a decrease in juvenile crime. The Finnish Ministry of Social Affairs gave the total of offenders of 15 and under 17 years sentenced to imprisonment as 475 in 1950, as against 1,222 in 1946.

In Sweden there was no official statistical information available later than 1948 but the total convictions for juveniles that year was less than half of the average number for the years 1941-45. The Swedish Penal Code commission considered in 1952 the methods of treating juvenile delinquents and promoted a bill to abolish prison sentences in the case of young persons under the age of 18 years.

In Austria there had been a steady reduction in juvenile crime since 1948. In 1951 5,603 young persons were convicted, as compared with 5,695 in 1950, 6,161 in 1949 and 7,645 in 1948

During the German occupation of the Netherlands there was a high incidence of crime by young people, but an improvement was noticeable afterwards, although not to the prewar figures. The numbers of young persons in the Netherlands under the age of 17 convicted was 3,058 in 1949, 6,740 in 1943 and 2,809 in 1939.

Revision of the Greek penal code provided the opportunity in 1951 to fix the age of criminal responsibility at 12 years and children up to that age were deemed incapable of committing a crime Minors, aged between 12 and 17 years, might at the direction of the court be sent to the Male Correction establishment at Kifissia or at Ptychia in Corfu The period of training was limited so that no youth should remain at the establishment beyond his 21st birthday, but he could be released on parole earlier if he made satisfactory progress.

Probation, either as practised in Great Britain and the United States or on the principle of the suspended sentence as in France, had become an important method of treatment especially suitable for young offenders. A Seminar on Probation in Europe, sponsored by the United Nations with the co-operation of the United Kingdom government, was held in London in Oct. 1952 and provided a valuable opportunity for an exchange of knowledge about methods and results.

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JUVENILE EMPLOYMENT: *see* YOUTH EMPLOYMENT.

KASHANI, ABUL-KASIM HOSSAINI, Persian politician (b Persia, *c* 1890), was educated at Kerbela, the sacred shrine of the Shi'ite Moslems in modern Iraq, where he lived for some years as a *mujtahid* (theologian) After being expelled from Iraq by the government for his political activities in 1922, he returned to Persia to continue his religious career In 1943 he came to prominence during the Allied occupation of Persia, as a leading supporter of the pro-German fifth column, in collusion with the grand mufti of Jerusalem and Rashid Ali of Iraq He was interned by the British occupation forces from June 1944 to Aug 1945 In 1946 he was again arrested by the Persian authorities for his political activities, and detained from July to November. When an attempt to assassinate the shah failed in Feb 1949, he was once more arrested, but allowed to go into exile in Syria, whence he returned to Tehran in June 1950. In December he published a manifesto demanding the nationalization of Persian oil, and thereafter he was closely associated with Mohammad Mossadegh in the campaign for evicting the Anglo-Iranian Oil company Their relations became less intimate after this was achieved in Oct. 1951 Kashani was elected a deputy for the National Front to the Majlis in Jan 1952, and president of the Majlis in the following August His influence still seemed not to have reached a climax, though how he would use it was always an enigma His fiery nationalism brought him into many personal conflicts, as well as into strange alliances, for instance with Nazi Germany and with the Soviet-inspired Tudeh party, but only in his hatred of the British was he consistent He was commonly known by the high religious title *Ayatollah* (Sign of God) (X)

KASHMIR. State in Indian subcontinent, bounded W, N and E. by Afghanistan, the Sinkiang province of China and Tibet respectively. Area (incl. Jammu and frontier districts)· 82,258 sq.mi. Pop. (1941 census) 4,021,616; (1950 est.) 4,370,000 From Jan 1, 1949, the territory was partitioned *de facto* into two states; an Indian-controlled Kashmir east and south of the truce line with Srinagar as capital and Sheikh Abdullah as premier, a Pakistan-controlled Azad (Free) Kashmir with Muzaffarabad as capital and Colonel Sher Ahmed Khan as premier.

History. An attempt on new lines to end the five-year-old Kashmir dispute began at Geneva on Aug 25: a conference met there under the chairmanship of Frank P. Graham, the U.N. mediator, with Gopalaswamy Ayyangar, Indian minister of defence, and Mohammad Zafrullah Khan, Pakistan minister of foreign affairs, leading delegations from their two countries. The talks ended on Sept 10, no progress having been made.

Graham's essential task was to secure agreement on the withdrawal of both Indian and Pakistan troops from the disputed area preliminary to a plebiscite. It was estimated that by mid-1952 there were 130,000 Indian troops and 81,000 Pakistan on either side of the truce line. Graham proposed that India should retain 18,000 men, while the Azad Kashmir local contingents should amount to 6,000.

Gopalaswamy Ayyangar insisted that during the plebiscite India must retain a minimum of 21,000 troops and 8,000 local militia on its side of the truce line and that on the other

side the Azad government should not have more than 4,000 local militia, all Pakistan regular forces withdrawing. Zafrullah Khan would not hear of such an " unfair " distribution of forces and contended that neither side should be given the chance to steal a march on the other, to intimidate the population or to influence their votes in the plebiscite: there should remain only the minimum forces required for law and order, but the type of force must be the same on both sides of the truce line.

On Nov. 6, at a meeting of the Security council in New York, Sir Gladwyn Jebb presented a joint U.K.-U.S. proposal urging India and Pakistan to negotiate immediately an agreement on demilitarization by finally determining the number of forces to remain on each side of the cease-fire line. It suggested that the number on the Pakistan side should be from 3,000 to 6,000 and on the Indian side from 12,000 to 18,000. By mid-December Zafrullah Khan suggested that Pakistan would entirely withdraw its forces from the disputed area and India could retain 28,000 troops there. On Dec. 23, India's delegate, Mrs. Vijayalakshmi Pandit, rejected both the Anglo-American proposal and Zafrullah Khan's offer. She argued that the latter excluded the Azad Kashmiri forces, *i.e.*, between 30 and 32 battalions, and its acceptance would result in a preponderence of Pakistani forces over Indians.

In the meantime an agreement was reached between the Indian and Kashmir governments on the constitutional status of Kashmir. Jawaharlal Nehru announced the details of the agreement to the House of the People on July 24, and Sheikh Abdullah said in the Constituent Assembly at Srinagar on Aug. 11 that the Indian government's attitude was most helpful. The Hindu ruling dynasty should be deposed and a republican system introduced; the Indian Union flag should fly together with the state flag of Kashmir; the fundamental rights laid down in the Indian constitution should apply to Kashmir, with the reservation that the expropriation of landlords (*i.e.*, Hindu aristocracy) without compensation was not to be retarded in any way. Sheikh Abdullah stated that the non-Moslem minorities in Jammu and Ladakh should enjoy a measure of regional autonomy, but that if they wished to break away the Kashmir government would not attempt to retain them by force.

On Nov. 12 the Kashmir Constituent Assembly passed an act amending the state constitution: an elected president was substituted for the hereditary maharaja. Two days later Karan Singh, 22-year-old son of Hari Singh, the last maharaja, was elected president. On Nov. 20 Sheikh Abdullah formed a new cabinet composed of the same ministers.

In Azad Kashmir a new five-man cabinet headed by Colonel Sher Ahmed Khan was formed on June 21 at Muzaffarabad. Public meetings were held on Oct. 24 throughout Pakistan to renew the nation's pledge to liberate Kashmir.

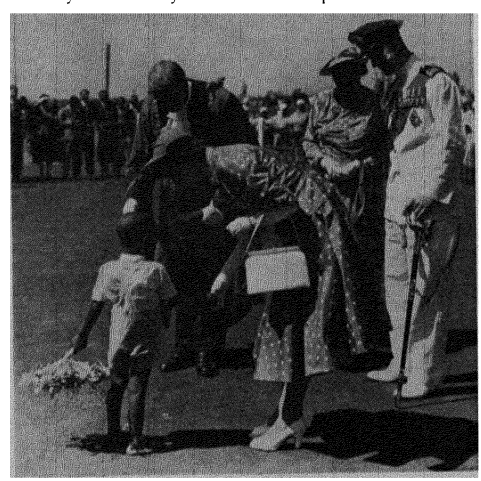
Finance. Budget of the Srinagar government (1952-53 est.): revenue Rs. 46,608 million; expenditure Rs. 47,314 million.

KENYA. British colony and protectorate in east Africa, bounded N. by the Sudan and Ethiopia, E. by British Somaliland and the Indian ocean, S. by Tanganyika and W. by Uganda. The protectorate—the leased mainland dominions of the sultan of Zanzibar—is a 10-mi.-wide coastal strip between the Tanganyika border and Kipini, together with Witu and the Lamu archipelago. Total area: 224,960 sq.mi. *De facto* total pop. (1948), 5,406,000 incl. (Feb. census) 39,660 Europeans, 97,687 Indians and Goans, 24,174 Arabs and (Aug. census) 5,231,120 Africans. Total pop. (1951 est.): 5,680,000. Languages: Bantu and Nilotic; Swahili as *lingua franca*. Religion: Africans mainly pagan; *c.* 800,000 Christian; Mohammedanism flourishes in coastal, urban and some northern communities. Principal towns (pop., 1948 censuses): Nairobi (cap., Non-African 55,092, African 64,397); Mombasa (port, Non-African 41,893, African 42,853). Administration: governor; executive council, 7 *ex-officio* and additional appointed members (5, incl. 1 official, in 1952); legislative council, 8 *ex-officio*, 18 (incl. 1 Arab) nominated official, 14 European, 1 Arab and 6 Indian (incl. 2 Moslem) elected and 1 Arab and 6 African nominated members. Governors in 1952, Sir Philip Mitchell, and (from Sept. 30) Sir Evelyn Baring.

History. Early in Feb. 1952 Princess Elizabeth and the Duke of Edinburgh arrived by air at Nairobi en route to Ceylon and Australia, and received an enthusiastic welcome from all communities. After a few days of crowded engagements they went to their hunting lodge at Nyeri. There they received, on Feb. 6, the tragic news of the king's death. The queen and the duke left immediately by air for the United Kingdom. The governor flew to London to attend the late king's funeral and took with him six African warrant officers of the King's African Rifles to march in the procession.

A. T. Lennox Boyd, then minister of state for the colonies, had visited Kenya in January and held discussions with the leaders of the various communities. At about the same time Gelubba tribesmen from Ethiopia raided across the border near Lake Rudolph, as they had done a year earlier, in search of cattle. Elections for the new legislative council were held in May; the council met in June, with an interim composition of 26 official and 28 unofficial members. E. Mathu, leader of the African unofficial members, was appointed to the executive council.

During the year the incidence of crime in the towns, particularly Nairobi, and the lawless conduct of the Kikuyu in the Nyeri and Nanyuki areas under the influence of the anti-European, anti-government, anti-Christian Mau Mau secret society led to firm government action. In April five Kikuyu villages were collectively fined £2,500 for suppressing evidence in cases of hut-burning instigated by this society. In August the Kenya regiment " showed the flag " by marching through the Nairobi area; a decision was taken to increase the police force by nearly 1,000; and two areas in the Nyeri and Nanyuki districts were placed under curfew.



Princess Elizabeth at Nairobi, Feb. 1, coaxing a bouquet from Prince Salim (named Prince because he was born on the same day as Prince Charles).



A group of Kikuyu tribesmen seated under guard after arrest for screening in Nairobi following Mau Mau disturbances.

During September murders of anti-Mau Mau Africans and other crimes increased and when Sir Evelyn Baring arrived he declared a state of emergency. Reinforcements of K.A.R. and the Lancashire Fusiliers were brought in, the Kenya regiment and police reserve were mobilized and Home Guards formed. Special legislation was passed to meet the emergency and extensive operations were started to comb the Kikuyu reserves for Mau Mau adherents. A few isolated European settlers and several of the Kikuyu chiefs and other loyal Africans were attacked or murdered. Three-thousand-five-hundred Kikuyu squatters were moved off European farms into the reserves and by the end of November 13,000 Kikuyu had been detained of whom 2,000 had been released and 5,000 had been charged. By December there were signs of returning confidence, with thousands of Kikuyu coming forward to be " cleansed " of their Mau Mau oaths and the Christian community taking a firm stand against the society, but it was clear that the movement would take a long time to eradicate. There were, however, no signs of it spreading to other tribes. Jomo Kenyatta and other alleged organizers of the society had been arrested at an early stage and their trial began at the end of November. The appointment of a royal commission under the chairmanship of Sir Hugh Dow was announced and it was expected to start work early in 1953. (K. G. B.)

Education. Schools, 1950 (attendances in brackets): European, 24 primary (3,841), 8 secondary (1,945); Asian, 88 primary (22,176), 18 secondary (3,484); African, 2,928 primary (337,115), 167 secondary and post-primary (11,524); Arab and other races, 10 primary (1,538), 1 secondary (163); trade and agricultural 3.

Finance and Trade. Monetary unit: East African shilling (20s. = £1 sterling). Budget (1952 est.): revenue £16,219,906; expenditure £12,737,447. Foreign trade (1951): imports £53,328,000; exports £24,068,000. Production (1951): wheat 1,427,706 bags (1 bag = 200 lb.), maize 1,092,158 bags, sisal 41,357 tons, pyrethrum 1,892 tons, tea 6,842 tons, sugar 20,000 tons, cotton lint 13,508 bales (1 bale = 400 lb.), wattle bark 55,400 tons, gold 19,765·44 oz., silver 2,150 oz., kyanite 10,639 tons. Livestock (European-owned, 1951): cattle 621,219, sheep 292,861, horses 6,435, pigs 60,484, poultry 270,972.

See R. O. Hennings, *African Morning* (London, 1951);. L. S. B. Leakey, *Mau Mau and the Kikuyu* (London, 1952).

KOREA. 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 China (Manchuria). Total area: 85,225 sq.mi. Total pop.: (1944 census) 25,120,174; (1951 est.) *c.* 30 million. The 38th parallel N., chosen in 1945 to separate Soviet and U.S. forces accepting the surrender of Japanese troops, remained—until the Communist aggression on June 25, 1950—as the artificial division between Korean governments organized in each zone. The southern zone had 44% of the area, but its population of about 21 million in 1951 was more than twice that of the northern zone. Religion: Buddhist, Confucian and a unique eclectic religion Tonghak (Chuntokyo); in 1939 there were about 500,000 Korean Christians. Chief towns in the south (pop., May 1949 est.): 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).

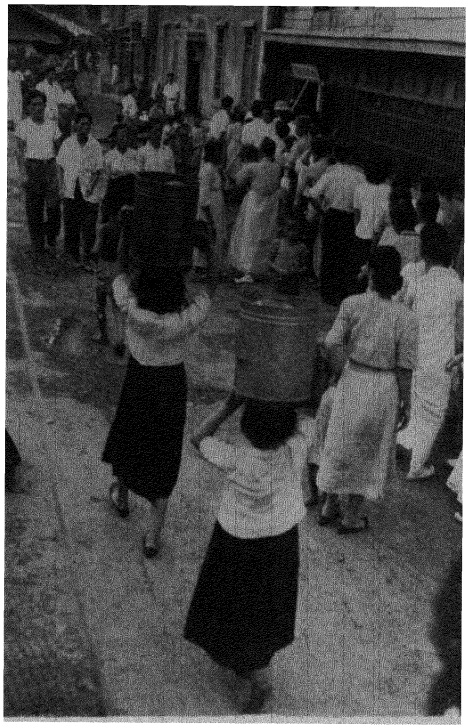
REPUBLIC OF KOREA (south): president of the republic, Syngman Rhee; prime ministers in 1952, John Myun Chang and (from April) Chang Taik Sang.

PEOPLE'S DEMOCRATIC REPUBLIC OF KOREA (north): chairman of the presidium of the Supreme People's Assembly, Kim Du Bon; prime minister and commander-in-chief, General Kim Ir-Sung.

History. Truce talks, which began in mid-1951 between the U.N. command and the Communist forces, continued into 1952. Although agreement had been reached on 61 out of 62 points in the armistice agreement by mid-1952, the issue of the repatriation of prisoners of war remained unresolved.

Syngman Rhee (*q.v.*), president of the Republic of Korea since it was founded, was re-elected on Aug. 5, 1952, for a new term beginning Aug. 15. Prior to the election there was a dispute between Rhee and the National Assembly, which had the power to elect the president, over whether the constitution should be amended, as suggested by Rhee, to provide for the popular election of the president. Elections that were legally required on or before June 23, 1952, were postponed as martial law was declared and 13 deputies were arrested by the government. The assembly unanimously voted not to adjourn until government officials explained to it the seizures and arrests. They voted to rescind martial law, such action under the constitution being mandatory upon the government. News reports indicated that on June 3, President Harry S. Truman sent a personal note to Rhee expressing " shock " over the internal feud. On the following day the United Kingdom protested to the Republic of Korea. On July 4, the National Assembly unanimously adopted four amendments to the constitution. These provided that (1) the president should be elected by popular vote; (2) the National Assembly should be reorganized into a bicameral body; (3) cabinet members should be appointed by the president upon the recommendation of the prime minister instead of by the president on his own initiative; and (4) the cabinet might be dissolved by a vote of no confidence by the assembly. John Myun Chang, former Korean ambassador to the United States, who was appointed premier in Nov. 1950, resigned in April 1952 and was succeeded by Chang Taik Sang, vice-speaker of the National Assembly and former foreign minister.

An agreement on economic co-ordination between the Republic of Korea and the unified command, representing the United Nations, was signed on May 24, 1952, in Pusan. The agreement, which was negotiated by a special mission headed by Clarence E. Meyer, appointed by President Truman, provided the framework for a joint effort on the part of the two signatories to create economic conditions which would assist the military effort by reducing inflation. A Combined Economic board was to be established which



Voters outside a polling station in Pusan during the presidential election, at which Syngman Rhee was re-elected.

would develop joint measures for economic stabilization. The U.S. would continue to provide basic relief supplies for Korea while the Republic of Korea would take the internal measures necessary for stabilization.

Between July 1, 1950, and Sept. 30, 1951, the U.S. government delivered to the Republic of Korea $150,073,581 worth of supplies for relief and rehabilitation. In addition, the U.S. government provided services valued at about $200 million, such as providing power from power barges and transporting refugees. United Nations member nations, U.N. agencies and U.S. voluntary agencies contributed $14,853,442 worth of goods in the same period, for a grand total of $364,927,023. (*See* also KOREAN WAR; UNITED NATIONS.) (S. NR.)

Education. *Republic of Korea.* Schools (1951-52): elementary 3,921, pupils 2,525,369; middle 563, pupils 298,980; high 321, pupils 140,550; colleges 49, pupils 27,500; teachers' colleges 17, pupils 20,420; technical 7, pupils 1,350; higher technical 14, pupils 3,500; adult education 1,609, pupils 496,250.

Agriculture. *Republic of Korea.* Main crops (1951, million bu.): rice 56·3; wheat, barley and rye 15·1; soyabeans 4·3; other pulses 0·5. Livestock (end 1951, '000 head): draught cattle 393; dairy cattle 780; horses 17; sheep 1; goats 20; poultry 719.

Industry. *Republic of Korea* (1952, five months). Cotton 6,759,109 lb., cotton cloth 13,300,000 yd.; rubber shoes 2,459,710 pairs; bicycle tyres 8,255; bicycle tubes 8,068; cement 7,546 metric tons; salt (1951) 81,542; cigarettes 6,411 tons; cut tobacco 4,131 tons. Electric power production: (1951) 314,431,000 kwh.; (1952, five months) 229,569,570 kwh. Mineral production (1952, five months, metric tons): copper 701; tungsten 1,203; molybdenum 3·9; amorphous graphite 3,234; kaolin 270; anthracite coal 180,078; manganese 5,162; iron ore 5,424; monazite 30; columbite 500; beryl 150.

Finance. *Republic of Korea.* Budget (1951-52 est.): balanced at 1,546,043 million won; (1952-53 est.): balanced at 2,748,760 million won. Currency in circulation: (Oct. 31,1951; June 30, 1952, in brackets) 496,000 million (669,000 million). The retail price index in Pusan (1947 100) rose from 2,997 to 6,373 between Nov. 1951 and June 1952. The official foreign exchange rate of the U.S. dollar was increased on Nov. 12, 1951, from 2,500 to 6,000 won; the free rate at the end of March 1952 was *c.* 13,500 won to the dollar.

Foreign Trade. *Republic of Korea.* (1951) Total imports 121,800 million won (excl. U.N. financed imports), exports 49,700 million won; (1952, three months) imports 51,400 million won, exports 29,200 million won. Japan provided almost three-quarters of the imports and was the destination of more than three-quarters of the exports.

Transport and Communications. In 1952 most of the railway lines, bridges and tunnels of the Republic of Korea that had been damaged during the hostilities were repaired. Korean National Airways opened services between Pusan, Kwangju, Kunsan and Seoul in Jan. 1951 and between Formosa and Korea in March 1952. U.S. Northwest Airlines provided international service to Pusan.

KOREAN WAR. After 30 months of fighting, the Republic of Korea and 17 other members of the United Nations were still at war with the original North Korean aggressors and their Chinese Communist supporters. Throughout the year 1952 the general line of the front remained unchanged. Armistice negotiations (opened on July 10, 1951) went on but were deadlocked from Oct. 8. Meanwhile localized fighting continued, mainly for important observation points.

Front Stabilized. Communist ground action during the second winter campaign (1951-52) of the Korean war was characterized by widely scattered exploratory attacks, usually delivered at night and using small units from squad to battalion in size. During 1952 the Communists continued to increase the amount of artillery directed at U.N. troops. In the latter part of the year on several occasions as many as 50,000 rounds of mortar and artillery fell on U.N. troops in one day. U.N. command ground actions were limited to combat patrolling and probing attacks varying from squad to battalion in size. The Communists were determined to contain U.N. thrusts, and even reconnaissance patrols met immediate resistance accompanied by increasing amounts of mortar and artillery fire.

Ever since the front had been stabilized in Nov. 1951, a constant battle for observation had occurred. In the second period of 1952, the Korean summer-autumn campaign (May 1-Nov. 30), the battle for the peaks became particularly intense. Opposing front lines were as close together as 50 yd. in some places and as far apart as 10 mi. in others. Battle positions ran along ridge lines offering good observation of the enemy territory. It was for possession of these high mountains protruding into the enemy's lines that the fighting was most intense.

Mountains were named by the front-line troops and by newspapermen. Stubborn fighting and seesaw actions, with one side gaining control and then being pushed off, caused these important terrain features to change hands many times. In the battle of the hills, the 1st marine division on Bunker hill, the 3rd infantry division (including the Belgian and Greek battalions) on Big Nori and Kelly hill, the 2nd infantry division (with the French battalion) on Old Baldy and Arrow Head ridge, the 9th R.O.K. division on White Horse mountain, the 7th infantry division on Triangle hill, the 2nd R.O.K. division on Sniper ridge, the R.O.K. capitol division on Finger ridge and Capitol hill, the 25th infantry division (including the Turkish brigade) on Heartbreak ridge and the 8th R.O.K. division in the Punchbowl area were featured in the news accounts.

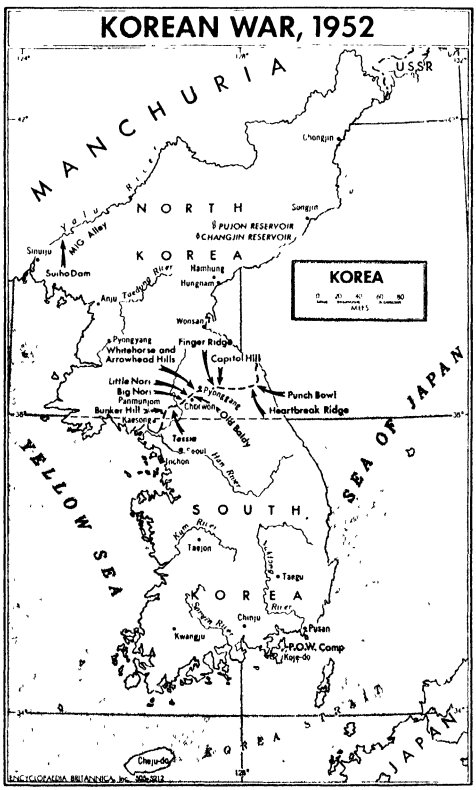
The accuracy of the U.N. artillery and the close air support of U.N. aircraft helped a smaller number of troops to hold off many times larger numbers of Communist infantry in their attempts to win and hold the contested observation points.

South Korean troops, well-led and well-trained, fought in some of the most savage fighting occurring in their areas during 1952.

Air Action. Communist air activity (and aggressiveness) during 1952 varied from month to month. In January, for example, little activity was reported, but in February total MIG-15 sightings were more than 3,500. About 600 of these sightings resulted in air-to-air encounters, and the F-86s accounted for 51 MIGs destroyed or damaged that month. In September 61 MIGs were destroyed, 7 probably destroyed and 57 damaged. The scene of most of the encounters was "MIG alley" in northwest Korea from the Yalu river south to Pyongyang. U.N. F-86 (Sabre jet) aircraft continued to take a high toll of MIG-15 interceptors which rose to challenge low-level attacking fighter bombers and were thus forced to engage the F-86s flying protective cover. Since the first appearance of the Russian-built MIG-15 in aerial combat, U.N. F-86s had destroyed more than 9 MIGs to every F-86 lost in air-to-air engagements (*See* Table III.)

Stabilization of the battle line lessened the need for close air support, and U.N. aircraft concentrated on the systematic destruction of Communist supply and communication facilities behind the front. U.N. fighter bombers, escorted by F-86s, conducted daytime raids against railway lines, rolling stock and lorries, restricting the Communists from transporting men and equipment by day.

Night intruder operations of U.N. command light bombers and night fighters were directed at motor transport and railway traffic along the Communist forces' main supply routes. Attacks by medium bombers were also conducted during the hours of darkness. Their principal sorties were attacks against railway bridges and rail centres, close air support of U.N. ground forces and distribution of leaflets to North Korean towns.



In Oct. 1951 the B-29s in the far east air forces bomber command switched largely to night operations. Targets for the B-29s during 1952 were Communist transport facilities, storage areas and marshalling yards; close-support night sorties for U.N. ground forces were also carried out. The B-29s systematically neutralized the Communist airfields in North Korea, making them useless.

During the latter part of 1952, as ground action by both sides increased, U.N. close-support aircraft which had been shifted to sorties in the rear of the battle line during the lull in ground fighting resumed close support of front-line troops.

Naval Action. Naval action in 1952 was undertaken by carrier-based planes from the fast carrier task force on the east coast and the west coast carrier group; by surface ships and aircraft blockading the east coast of Korea from the bomb line to Chongjin; and by fire-support vessels providing gunfire for front-line units. By the end of Oct. 1952 the 4 battleships, 8 cruisers and approximately 80 destroyers which had at one time or another participated in the Korean war had fired about 4 million rounds of projectiles varying from 16-in. to 3-in. at Communist targets. Throughout 1952 a continuous siege was conducted of Wonsan on the Korean east coast. This bombardment was designed to destroy communication lines and road and railway lines near Wonsan.

Sixteen aircraft carriers had been in operation off the Korean coasts during the war: 13 U.S., 2 British and 1 Australian. Throughout 1952, sustained ground interdiction was maintained and coastal railway and highway routes were cut repeatedly day and night. Land-based marine air squadrons attacked Communist troops, gun positions and transport in the rear areas of North Korea.

Armistice Negotiations. The Korean armistice negotiations first proposed by Yakov Malik, Soviet representative on the Security council, on June 23, 1951, actually got under way at Kaesong, Korea, on July 10, 1951. On July 26, 1951, the agenda had been agreed upon as follows: (1) adoption of agenda, (2) fixing a military demarcation line between both sides to establish a demilitarized zone as a basic condition for a cessation of hostilities in Korea, (3) concrete arrangements for a cease-fire and an armistice, including the composition and authority and functions of a supervisory organization, (4) arrangements relating to prisoners of war, and (5) recommendations to the governments of the countries concerned on both sides.

After agreement on item 1, final agreement on item 2 was achieved on Nov. 27, 1951, when it was agreed that the existing lines of contact between the two sides should be the demarcation line for an armistice agreement if it were signed within 30 days. (Since no agreement was reached, the demarcation line was to be based on the line of contact at the time of the signing of the armistice.) A four-kilometre demilitarized zone between the military forces was also agreed upon to minimize incidents which might arise to cause a resumption of hostilities.

On item 3 (arrangements for carrying out the cease-fire) U.N. command proposals contained the following principles: (a) the cease-fire to be effective within 24 hours after the signing of the armistice; (b) a supervisory organization to be established to carry out the supervision of the terms of the armistice, (c) access to all of Korea by the armistice commission and its observation teams; (d) withdrawal by each side from the territory controlled by the other; and (e) withdrawal of all armed forces from the demilitarized zone. In addition, the U.N. command felt that during an armistice there should be some rotation and replenishment of troops, and that there should be restrictions on the construction of

airfields—no military and a minimum of civilian airfields.

The Communists rejected any restriction by the conference on a build-up in military strength, stating that this proposal constituted interference in the internal affairs of each side. They also demanded the right to build up their air potential during the armistice by constructing military airfields. Disagreement arose when the Communists did not agree with U.N. negotiators who believed that the broadest possible access to all parts of Korea would be necessary for inspection in order to ensure against increases in the military strength. In the compromise agreed upon, inspection teams were to be stationed at five points of entry on each side and there were to be in addition 10 mobile teams to investigate violations. More controversy arose when the Communists opposed a provision for the rotation of troops. The compromise finally agreed to was that 35,000 men could be rotated monthly on each side. Initially, the U.N. command had proposed that inspection be by joint teams from both sides, but the compromise proposal which was finally agreed to was an inspection by observers of neutral countries acceptable to both commands. When the Communists proposed the U.S.S.R. as a neutral nation the U.N. was unable to agree. Thus at the beginning of Nov. 1952, two points remained unsettled in regard to agenda item 3, *i.e.*, airfield construction and the composition of the neutral supervisory organ.

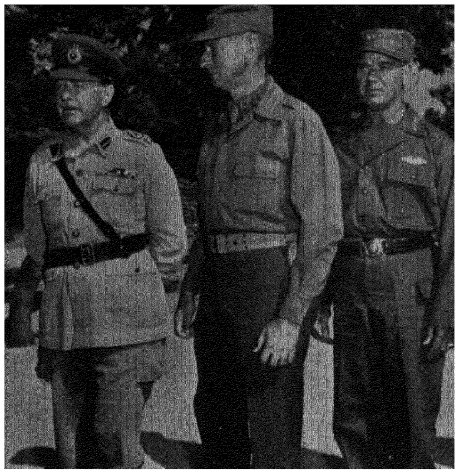
Prisoners of War. Concurrently with discussions on item 3, subcommittees of the armistice delegations began discussions on item 4 pertaining to prisoners of war in Dec. 1951. Prisoner-of-war lists which the U.N. command had from time to time submitted to the International Committee of the Red Cross totalled *c.* 170,000 names. Of this list, 37,500 persons had been erroneously classified as prisoners of war and were subsequently removed from the list, reclassified as civilian internees and released. When the Communists finally agreed to the exchange of the names of prisoners of war, the United Nations submitted a list containing about 132,000 names. With later investigation, an additional 11,000 persons were also reclassified as civilian internees and thus subject to release. The Communists were then informed that about 121,000 persons were under U.N. control in various prisoner-of-war camps in South Korea and on Koje island.

The Communist list included about 11,500 U.N. and R.O.K. prisoners. This number was in conflict with the official announcement of the Communists that they had captured 65,000 prisoners in the first nine months of hostilities. The Communist explanation was that large numbers of these personnel had been re-educated and released at the front where many of them joined North Korean forces, and that they had been unable to obtain the names of these persons.

On Jan. 2, 1952, the United Nations presented its proposal for exchanging prisoners of war, interned civilians and displaced persons which provided for an " all for all " exchange on a basis of individual choice. It provided for the release of all prisoners of war (including soldiers who might have been incorporated into the armies of the detaining power) and permitted freedom of choice on the part of each individual to accept or reject repatriation. The Communists refused to consider the principle of voluntary repatriation and the



General Boatner, centre, motions to the prisoners to clasp their hands over their heads.



Field Marshal Earl Alexander of Tunis during his visit to Korea in June, with General Mark Clark and General James Van Fleet.

nclusion of civilians in exchange. They asserted that the principle of voluntary repatriation was a violation of the Geneva convention. The U.N. command replied that it would consider any plan or proposal for settling the prisoner-of-war question with one exception: that it would not forcibly repatriate prisoners of war.

By Feb. 15 agreement on eight provisions of the draft referring to prisoners of war had been virtually achieved. By March the subcommittee had finally agreed to the following: (a) return of seriously sick and seriously injured prisoners of war; (b) a place of delivery of prisoners when the armistice was agreed upon; (c) a committee for repatriation of prisoners; (d) organization and functions of the joint Red Cross teams; (e) exchange of data on escaped and deceased prisoners of war and displaced civilians; (f) permission for Korean civilians and foreign civilians to return to their homes on either side of the demarcation lines.

At the conclusion on April 2 of executive sessions, which had been suggested by the U.N. negotiators in the hope of expediting a solution, the Communists suggested that the two sides begin at once the work of checking the lists of prisoners of war to be repatriated, and that the discussions be resumed after the check. The closed session of the staff officers of the two sides was resumed on April 19 when the Communists asked the U.N. for the totals of the prisoners of war and learned that the U.N. command expected that some 70,000 prisoners of war in its custody in the Republic of Korea would return of their own choice.

The screening programme designed to determine the number of North Korean and Chinese prisoners of war who could not be returned to Communist control without the use of force was conducted in the following manner: after a complete explanation as to the significance of the programme and the interviews, unarmed U.N. command personnel stationed near the entrance to each compound called individually and interviewed privately each of the prisoners and civilian personnel; each prisoner or civilian was asked first, if he would like to return to China (or North Korea); if the answer was "yes" the prisoner was listed for repatriation without further question; those who replied in the negative were asked additional questions to determine whether their opposition was nominal or whether they would violently oppose repatriation.

As a result of the screening of the prisoners of war and civilian internees, about 70,000 were listed for repatriation. No attempt was made to screen the prisoners of war in Communist-dominated camps which had refused to co-operate. However, since the Communists pressed for an early reply on a round number, U.N. figures of 70,000 included all prisoners of war who were interviewed and indicated that they would not resist repatriation plus an estimate of the unscreened prisoners. When the complete screening job was finished, the results indicated that about 83,000 (76,000 Koreans and 6,400 Chinese) could be repatriated without the use of force.

The Communists refused to recognize the results of the screening of the prisoners by the U.N. command and stated that it was unthinkable that their captured personnel did not wish to be returned. They cited article 118 of the Geneva convention as the reason for their position: "Prisoners of war shall be released and repatriated without delay after cessation of hostilities." The U.N. command, however, pointed out to the Communists that forcible repatriation was not consistent with the humanitarian basis of the Geneva convention and thus the spirit of the convention. In addition the U.N. command quoted article 6, which provided that no special agreement should adversely affect the situation of prisoners of war as defined by the convention or restrict their rights.

After a great deal of negotiation on the subject of forcible or non-forcible repatriation, the U.N. negotiators on April 28 offered the Communists a "package" proposal for solving the three issues still in dispute. They proposed that (1) there should be no forced repatriation of prisoners of war, (2) the U.N. command would not insist on prohibiting reconstruction and rehabilitation of airfields and (3) the U.N. command

TABLE I. FORCES INVOLVED IN THE WAR

A. Communists

Commanders-in-chief: General Kim Ir-sung, the north Korean premier; and General Peng Teh-huai, commander of the Chinese "volunteer" forces in Korea.

Army: More than 1 million men, largely Chinese Communist forces, were deployed in Korea in 1952. These men were organized into well-equipped divisions with supporting artillery, tanks and heavy equipment.

Air: The Chinese air force consisted of more than 2,000 planes, mostly jets, based on Manchurian fields near the Yalu river.

Navy: There was no Communist navy in Korean waters in 1952.

B. U.N. Forces

Commanders-in-chief of the U.N. command in 1952: General Matthew Ridgway (*q.v.*) and (from May 12) General Mark W. Clark (*q.v.*).

Army: Under the leadership of General James Van Fleet, the U.S. 8th army, organized into 18 combat divisions, with supporting units, tanks and artillery. The army of the Republic of Korea consisted of 10 infantry divisions (including South Korean marines), which at full strength were about 10,000 men each, together with supply and labour units and rear area security forces. Total participation by Korean military forces was greater than 400,000 men. The following U.S. divisions had taken part in the Korean war: 1st cavalry, 2nd, 3rd, 7th, 24th, 25th, 40th, 45th and 1st marine division. Seven U.S. divisions were in Korea on Oct. 31, 1952. The 1st Commonwealth division consisted of troops from the United Kingdom, Australia, Canada and New Zealand. This division and smaller units from a number of other U.N. countries (*see* Table II) had made a substantial contribution to the U.N. command army.

Navy: Naval units from the United States and 10 other countries had participated in: (1) complete blockade of both coasts to deny the use of the sea routes to the Communists and (2) coastal bombardment and air strikes to destroy enemy supply lines.

Air Force: U.S. air force, U.S. navy and U.S. marine corps aircraft of all types, as well as aircraft of seven other nations had participated in the Korean war. Bombers, fighter bombers, fighters and reconnaissance aircraft, as well as cargo aircraft, had participated in the war. A figure indicative of the number of aircraft involved could be obtained from one day's operations with all far east aircraft mounting 1,525 sorties. This was the greatest number of sorties flown in one day in the Korean war up to Oct. 31, 1952.

TABLE II NATIONS CONTRIBUTING TO UNITED NATIONS COMMAND
(With Dates of Arrival in Korea and of Commitment into Battle)

REPUBLIC OF KOREA army, navy and air force, June 25, 1950
UNITED STATES air force and navy, June 27, 1950, army, July 1, 1950 (committed July 5, 1950)
AUSTRALIA navy (three destroyers) and air (fighter squadron), July 7, 1950, army, brigade, Sept 28, 1950 (committed Nov 5, 1950)
UNITED KINGDOM navy and air, July 7, 1950, army, brigade and other units, Aug 29, 1950 (committed Sept 5, 1950)
NETHERLANDS navy, one destroyer, July 15, 1950, army, battalion, Nov 24, 1950 (committed Dec 3, 1950)
NEW ZEALAND navy, two frigates, July 19, 1950, army, artillery regiment, Dec 31, 1950 (committed Jan 12, 1951)
CANADA air (transport), July 28, 1950, navy, three destroyers, July 30, 1950, army, brigade, Dec 18, 1950 (committed Feb 15, 1952)
FRANCE navy, gunboat, July 29, 1950, army, battalion, Nov 29, 1950 (committed Dec 10, 1950)
PHILIPPINES army, battalion combat team, Sept 19, 1950 (committed March 6, 1951)
SWEDEN field hospital unit, Sept 23, 1950 (arrived Pusan)
TURKEY army, brigade, Oct 17, 1950 (committed Nov 10, 1950)
THAILAND navy, Nov 10, 1950, army, battalion, Nov 7, 1950 (committed Nov 23, 1950), air (transport), June 23, 1951
UNION OF SOUTH AFRICA air, fighter squadron, Oct 4, 1950
INDIA field ambulance unit, Nov 20, 1950
GREECE air (six transport aircraft with crews) Nov 25, 1950, army, battalion, Dec 9, 1950 (committed Jan 27, 1951)
BELGIUM air (transport), army, battalion, Jan 31, 1951 (committed March 6, 1951)
LUXEMBOURG army, platoon, Jan 31, 1951 (committed March 13, 1951)
DENMARK hospital ship "Jutlandia", March 2, 1951 (arrived Pusan)
COLOMBIA navy, frigate, April 30, 1951, army, battalion, June 15, 1951 (committed Aug 1, 1951)
ETHIOPIA army, contingent of 1,069 officers and men, May 5, 1951 (committed Aug 15, 1951)
NORWAY 100-bed mobile surgical hospital, June 22, 1951
ITALY 100-bed field hospital unit, Nov 16, 1951

agreed to accept Poland and Czechoslovakia as members of the neutral nations supervisory commission if the Communists agreed to Sweden and Switzerland (thus withdrawing their demands for the inclusion of the U.S.S.R.). This proposal had to be accepted in whole and not in part. In the next few months of fruitless negotiations, the U.N indicated to the Communists time and time again that while the issue of non-forcible repatriation was vital, it was prepared to accept any reasonable suggestion for resolving the deadlock

The U N. command negotiators had proposed on April 23 that joint Red Cross teams from both sides be admitted to prisoner of war camps on both sides, to verify the fact that none of the repatriates would forcibly resist return to the side from which they came. The Communists rejected the proposals. On Sept. 28 the U.N put forward three alternative proposals to meet Communist objections to the principle of nonforcible repatriation and the allegations that the previous screening was unfair. In essence these proposals provided for different ways by which impartial screenings could be held by both sides to determine the desires of the various prisoners of war. When the Communists rejected these proposals, the U N. command called a recess to the negotiations on Oct. 8.

As to item 5 of the agenda (recommendations to governments of countries concerned) the original Communist proposal was that within three months after the effective date of armistice the governments concerned would appoint five representatives from each side to hold a conference. The conference was to take up the withdrawal of all foreign forces from Korea, the peaceful settlement of the Korean question, and "other questions relating to the war in Korea." In a counterproposal the U.N. recommended for consideration the withdrawal of non-Korean forces from Korea, a peaceful settlement of the Korean question, and other Korean questions relating to peace. The U.N. believed it was not proper for the armistice negotiators to recommend the size, nature and make-up of the suggested political conference. In an agreement reached on Feb. 19, the U.N. delegation accepted a revised Communist proposal recommending that within three months after the armistice a political conference of a higher level from both sides be held by representatives appointed respectively to settle, through negotiation, the questions of withdrawal of all foreign forces from Korea, the peaceful settlement of the Korean question, etc. In accepting the wording, Adm. C Turner Joy, leader of the U.N. delegation, pointed out that the term "foreign forces" meant non-Korean forces and that the U.N. negotiators did not construe the word "etc." to relate to matters outside Korea. Thus the troublesome matter of the fifth point in the agenda was settled with a minimum of difficulty.

Koje Incident. After the Inchon landing and the breakthrough almost to the Manchurian border in Oct. 1950, a large part of the Korean Communist army had been destroyed or captured together with large numbers of Chinese. The U.N forces had captured more than 100,000 North Koreans and Chinese People's volunteers and had placed them in South Korea and on the islands off the tip of the peninsula, principally Koje island Included among the prisoners was a hard corps of Communists which at once began organizing the various prisoner compounds and making a great deal of trouble for their U.N. captors. The International Committee of the Red Cross, in accordance with the provisions of the Geneva convention of 1949, had been allowed access to, and information about, all the prisoners of war taken by U.N. forces and the conditions under which these prisoners were living.

On Feb 18 a riot of Korean civilian internees occurred in a compound on the island of Koje. About 1,500 of the 5,000 inmates joined in the disturbance; 1 U S. soldier and 69 inmates were killed. Another outbreak occurred on March 13 involving Korean Communist prisoners of war By the time the riot had been quelled, 12 Communist prisoners of war were dead and 26 wounded

A long period of disorders and demonstrations reached a climax on May 7 when prisoners seized Brig.-General Francis T. Dodd, the U.N. commander of Koje. The leaders in the compound then issued a set of demands which specified the conditions under which Dodd would be released. The acting commander of Koje, Brig.-General Charles F. Colson, acquiesced in the prisoner of war demands and issued a ransom note which the Communists construed as admitting the guilt of the U N. command to certain Communist

TABLE III SUMMARY OF AIR ACTION IN KOREAN WAR
(To Oct 25, 1952)

Communist aircraft losses
MIG-15 475 destroyed, 85 probably destroyed, 660 damaged — total 1,220
All types 631 destroyed, 112 probably destroyed, 749 damaged (includmg MIGs)—total 1,492.

U S A F aircraft losses	Air-to-air	Ground fire	Other causes	Total
Jet	72	200	47	319
Prop	17	273	44	334
Total	89	473	91	653
Other U N aircraft	6	49	14	69
Shore-based marine aircraft	0	61	29	90
Grand total	95	583	134	812

Destruction claims (in round figures)

Item	U S.A.F.	Attached units*	Total
Sorties flown	525,200	80,300	605,500
Vehicles destroyed	53,650	6,850	60,500
Railway trucks destroyed	7,850	900	8,750
Bridges destroyed	560	230	790
Tanks destroyed	1,140	130	1,270
Tunnels	770	150	920
Troop casualties inflicted	144,000	34,000	178,000

* Indicates total claims for the Korean war except period Jan. 1 to March 13, 1951, inclusive



President-elect Eisenhower inspecting Australian troops in Korea, during his brief visit to the war zone in December.

allegations of abuse and mistreatment. General Mark W. Clark, who had succeeded General Matthew B. Ridgway on May 12, immediately refuted the contents of the ransom note and pointed out the unprecedented and illegal method used to obtain the note.

Shortly after this incident, a new commander, Brig.-General Haydon Boatner, was appointed on Koje, and a large programme was begun to segregate the prisoners and to place them in compounds considerably smaller than those in which they had originally been held. Other incidents occurred, but order was promptly restored by U.N. troops according to the Geneva convention. (*See* also UNITED NATIONS.)

(C. V. C.; G. S. B.)

TABLE IV. CASUALTY FIGURES FROM BEGINNING OF WAR TO DEC. 31, 1952

	*Dead**	*Wounded*	*Prisoners of War or Missing*	*Total*
A. United Nations				
Republic of Korea†	35,500	124,100	66,600	226,200
United States	22,627	93,129	11,381	127,137
United Kingdom	538	2,141	1,136	3,815
Turkey	536	1,740	404	2,680
Canada	243	1,034	10	1,287
Australia	195	760	27	982
France	150	740	6	896
Thailand	64	547	4	615
Greece	120	387	1	508
Netherlands	88	310	4	402
Philippines	59	219	55	333
Five other countries‡	149	451	27	627
Total	60,269	225,558	79,655	365,482
B. Communists				
China		795,119	21,000	816,119
North Korea†		497,768	102,053	599,821
Total		1,292,887	123,053	1,415,940

* Including killed in action, died of wounds, accidents, disease, etc. † South Korean and North Korean losses exclude civilians. ‡ Colombia, Ethiopia, Belgium and Luxembourg, New Zealand and South Africa.

KUWAIT: *see* ARABIA.

LABOUR PARTY: *see* POLITICAL PARTIES, BRITISH.

LABUAN: *see* BRITISH BORNEO.

LACROSSE. The English lacrosse union suffered a grievous loss by the death, in Sept. 1952, of their president, Lord Robinson of Kielder Forest and Adelaide. A player of repute in the South Australia and Oxford university teams of 1906-9, Lord Robinson had retained an active interest in the game until his death.

The annual England *v.* The Rest game at Lord's cricket ground, London, on March 29, was abandoned on account of a violent snowstorm, and in the re-arranged fixture at Stockport on May 23, the England team won by 8 goals to 7.

In the United States, the annual North *v.* South game, the 11th of the series, was staged for the first time in New York city. Played on the flood-lit Polo grounds on June 6, the game resulted in a decisive victory for the South by 15 goals to 7, thus bringing the record for the series to 6 wins for the North, 4 for the South and 1 tie.

In English women's lacrosse, England again proved their superiority in the annual series of international games against Ireland, Scotland and Wales. (G. H. BA.)

LANE, SIR ALLEN LANE WILLIAMS, British publisher (b. Bristol, Sept. 21, 1902), was educated at Bristol Grammar school and was apprenticed to his uncle, John Lane, at the Bodley Head publishing company in 1919. Believing that publishing had failed to cater adequately either for authors or public, he decided, early in 1935, to issue a series of reprints, and on July 30, 1935, the first nine Penguin books were published at 6*d.* a volume, thus beginning one of the most remarkable publishing enterprises of the century. On Jan. 1, 1936, Penguin Books, Ltd., was formed with Allen Lane as managing director and his brothers Richard and John as co-directors. In May 1937 the first titles appeared in the Pelican series, which, unlike the original Penguins, contained much new material. Under Lane's direction the firm prospered rapidly. In 1935, 17,500 copies of a volume had been calculated as a minimum sales figure; by 1938 nothing less than 50,000 copies was contemplated even as a first printing order. From 1937 onwards several new ventures were launched, notably the Penguin Shakespeare (1937), Penguin Specials (1938), King Penguins (1939), the Penguin Poets (1941), the Penguin Modern Painters (1944) and the Penguin Classics (1946). These last achieved Lane's greatest single success, E. V. Rieu's translation of the *Odyssey* having sold almost 500,000 copies by 1952. In 1951 Lane went to Nigeria to investigate how the needs of Africans could best be met by books written specially for them. He was knighted in the 1952 New Year Honours.

LAOS: *see* INDOCHINA.

LATIN AMERICAN LITERATURE. The first 10 volumes of a projected 100-volume series entitled " Cultura Mexicana ", sponsored by the National University of Mexico, appeared during 1952. The Nacional Financiera began its projected 40-volume series entitled " La Estructura Social y Cultural de Mexico ", with José E. Iturriaga's book bearing the same title as the series, and *La pesca* by Alejandro Quesada. Art and archaeological studies reached full maturity with *Arquitectura prehispánica* by Ignacio Marquina Barredo; *Folklore de San Pedro Piedra Gorda* by Vicente T. Mendoza and Virginia R. de Mendoza; and the third volume of a " History of Mexican Art ", Justino Fernández' *Arte moderno de México*, which was as erudite and definitive as the two preceding volumes. An extraordinary series, " México y lo mexicano ", was edited by the gifted philosopher Leopoldo Zea. From the six titles published by late 1952 the amplitude and earnestness of the plan was evident.

One might expect that creative activity would be imbued with the spirit of the realistic novel of the Mexican Revolution. The most satisfactory work appeared to be, however, a reaction against realism. Juan José Arreola in *Confabulario*, Francisco Tario in *Tapioca Inn*, B. Jiménez Montellano in *El arca del ángel*, to mention a few outstanding examples, were, in contradistinction to the " national " spirit displayed by the essayists, quite " international ".

Brilliant exceptions to this generalization were the outstanding novel of the year, *El Cristo de espaldas*, by the Colombian diplomat and journalist Eduardo Caballero Calderón, and two prize-winning works, the novel *Corrón* by Daniel Belmar and the short story collection *La docena del fraile o trece cuentos de mi abuela* by the journalist Eudocio Carrera Vergara. More pronouncedly tendentious were such powerful novels as *Lluvia y fuego*, a militant exposé of the ruthless tactics of oil companies, by the U S writer Thomas Bledsoe, and *La prisión*, which undertook to expose the existing Peruvian régime and its persecution of the Apra party, of which the author Gustavo Valcárcel was a prominent leader in exile

The year's poetry output was comparatively feeble, with the notable exception of *Signo*, by the Mexican Honorato Ignacio Magaloni, and *Aventura*, by the Chilean Juan Guzman Cruchaga. Two other mature collections, both from Mexico, were José Gorostiza's *Muerte sin fin* and Vicente Magdaleno's *Sueños como obsidiana*. The Spanish translation of Brazil's greatest lyricist, Jorge de Lima, was an event of primary importance However, the really epoch-making achievement was Alfonso Reyes's version of the *Iliad* (part I). Reyes's collected poems were published simultaneously under the title *Obra poética*. Poetical vitality was seen in the newly founded poetry magazine *Poesía de América* (editors, Honorato Ignacio Magaloni and Gustavo Valcárcel), which included the work of poets from the whole of Latin America and devoted a section to Spanish poets in exile. Among the newcomers showing promise were César Rodriguez Chicharro, Alberto Escobar, Fernando Silva and Carlos Izaguirre.

Good criticism and essays abounded. In addition to the Mexican series already mentioned, there were some outstanding critical studies: of the Brazilian Machado de Assís by José Maria Bello, of the Peruvian César Vallejo by Elsa Villanueva Teixeira, and of the Mexicans Manuel José Othón and Ramón López Velarde by Jesús Zavala and Elena Molina Ortega respectively. Two U S scholars filled important gaps in Latin-American studies: E. Neale-Silva with his perceptive analysis of José Eustasio Rivera's poetry, and Sonja Karsen with her detailed and authoritative dissertation on Guillermo Valencia In the field of folklore and ethnography, revealing studies shed light upon many recondite corners of America In addition to Angel María Garibay's *El folklore de México*, there were *Folklore argentino. Cantares, leyendas y tradiciones de tierra adentro* by Fermín Alfredo Anzolaz, *Romancero peruano* by Emilia Romero, *Folklore, folkvise y folkway indígena* (Peru) by Julio Baudouin, *Los descendientes del imperio incáico* (Bolivia) by Fernando Iturralde, and the two-volume *Obras* of the young Argentine poet and scholar Eduardo Jorge Bosco Paraguay was the subject of a most illuminating treatise by Silvio Maldonado. Covering wider ground were the study of the Argentine novel (*La novela argentina*) by Germán García, of the literature of Spain (*La literatura española*) by the Mexican scholar Julio Torri, and of the Venezuelan short story (*Cuentos y cuentistas*) by José Fabbiani Ruiz Still wider in scope were some of the most rewarding books of 1952: *Entre la libertad y el miedo*, simultaneously published in English under the title *The State of Latin America*, by the Colombian diplomat and scholar German Arciniegas; *La filosofía como compromiso* by the Mexican philosopher Leopoldo Zea; and *Dependencia e independencia en la historia hispanoamericana* by Mariano Picón-Salas. For brilliance and sheer stylistic virtuosity, none surpassed *Otras inquisiciones* by the Argentine, Jorge Luis Borges.

Vitriolic diatribes against U.S. culture were *La muerte en Hollywood* by the Venezuelan Carlos Augusto León, an incisive attack upon the film industry, and *Sandino el Libertador*, in which the Nicaraguan journalist Gustavo Alemán Bolaños not only denied that Augusto César Sandino, killed 18 yr. before, was a bandit, but glorified him as one of Latin America's great liberators. (A. FLO.)

LATVIA. A Soviet Socialist republic, bounded N. by Estonia, E by the Russian S F S R., S E. by Byelorussia, S. by Lithuania and W. by the Baltic sea. Area 25,395 sq.mi. Pop.: (1939 est.) 1,994,500, (1950 est) 2,100,000. Language: Latvian and Russian. Religion: Lutheran, Roman Catholic and Greek Orthodox. Chief towns (pop , 1935 census): Riga (cap., 1939 est , 393,211), Liepaja (57,098), Daugavpils (45,160). Chairmen of the Supreme Soviet in 1952: August M. Kirchensteins and (from April 11) Karlis M. Ozolins, chairman of the council of ministers, Vilis T Lacis.

History. At the meeting of the Supreme Soviet of the republic at Riga on April 10-11, Ozolins was elected chairman of the presidium in place of 80-year-old Kirchensteins, who wished to retire. The new chairman, who was born in 1905, joined the Communist party in 1926, twice receiving sentences for subversive activities, before his election he was editor of *Cina*, the principal organ of the party

By a decree of the Supreme Soviet of the U S S R., promulgated on April 8, Latvia's 58 *rayony* or districts were divided among three *oblasti* or provinces with capitals at Riga, Daugavpils and Liepaja The four historic provinces of Vidzeme, Latgale, Zemgale and Kurzeme ceased to exist

A report published in January by Janis Kalnberzins, first secretary of the Latvian Communist party, disclosed that the fourth Five-Year plan, 1946-50, had not been fulfilled with regard to several important industrial products, *i e*, brick production reached only 71 6% of the plan and that of meat only 46 4% The fifth Five-Year plan, 1951-55, provided for the enlargement of the port and of the shipyards of Riga as well as for the erection of a thermo-electric power station near the capital. By 1955 the output of electrical energy in the republic was to be double that of 1950

As a result of the amalgamation of smaller *kolkhozy* into bigger ones, between March 1950 and March 1952 their number was reduced from 4,115 to 1,513, embracing 229,000 or 98 4% of the former farms, 1,092 chairmen of the *kolkhozy* were Communists, but only 915 collective farms had a primary party organization The *kolkhozy* were served by 105 machine and tractor stations

By Sept 1952 the Communist party had 50,000 members; the Union of Communist Youth, according to Elmars Bemanis, its secretary general, comprised 98,800 members Kalnberzins averred that inclinations towards the reservation of private property in the *kolkhozy* were being encouraged through the anti-Soviet activities of "bourgeois nationalists".

Lacis, the premier, who was also a prolific writer of fiction, was criticized in *Cina* in Nov. 1951 for "leftist deviations" discovered in his latest novel *To Distant Shores*, but on Feb. 25, he was vindicated by the Moscow *Pravda*—not he but his critics exhibited "leftist deviations".

G G. Turs, the Soviet-appointed archbishop of the Latvian Lutheran Church, and Mgr Peter Strods, described by the Communist press as Roman Catholic "deputy metropolitan" of Riga, took part in a "Defence of Peace" conference called at Zagorsk, near Moscow, in May

Education. Schools (1950, 1939 in brackets) elementary 1,598 (1,895), pupils 232,000 (229,825), secondary 96 (114), pupils 30,000 (25,225), technical 66 (123), pupils 20,000 (10,958), institutions of higher education 10 (8), students 12,500, including Riga university, students 5,500 (7,281)

Finance. Budget (1952 est) revenue Rb 1,453,257,000, expenditure Rb 1,404,786,000

See Alfred Bilmanis, *A History of Latvia* (Princeton, N J , 1951), Arnold Spekke, *History of Latvia An Outline* (Stockholm, 1951)

(K. M. S.)

LAW AND LEGISLATION. United Kingdom Legislation. Of the legislation undertaken by the parliament of the United Kingdom in 1952 the Defamation act was almost certainly the most significant measure. It made a number of important changes in the law of libel and slander, summarized as follows:

(1) Defamation in a broadcast was to be treated as libel, not slander, the most important consequence of which was that it would be actionable without proof of special damage, (2) slander calculated to disparage a plaintiff in any office, profession, calling, trade or business held or carried on by him at the time of the publication was to be actionable without proof of special damage, (3) slander of title and certain other forms of malicious falsehood were made actionable without proof of special damage in certain circumstances, (4) unintentional defamation was not to be actionable where a proper offer of amends was made, thus parliament in effect overruled the decision of the House of Lords in the leading case of *Hulton* v *Jones* and the intention of the publisher, not the effect of the publication on the plaintiff, was made the crucial test, (5) a defence of justification would not fail by reason only that the truth of every charge was not proved if the words not proved to be true did not materially injure the plaintiff's reputation having regard to the truth of the remaining charges, (6) important extensions were made to the principle that newspapers have a qualified privilege in reporting certain matters of public interest, (7) agreements for indemnity against liability for civil libel were made lawful in certain circumstances, (8) evidence might be given in mitigation of damages where the plaintiff had been awarded or had claimed damages for the publication of words to the same effect as those in respect of which he made his claim

These changes, which followed broadly the recommendations of Lord Porter's committee on the Law of Defamation (Cmd 7536, H M S O., London, 1948), generally tended to help publishers by making the law of libel less strict, though the first three of the changes referred to above clearly did not come within this category

Other measures affecting the administration of the law included the Judicial Officers (Salaries) act, raising the salaries of and making further provision for pensions for county court judges and metropolitan magistrates, and the Magistrates Courts act, an important consolidation measure Of some interest to the general public were the Disposal of Uncollected Goods act (permitting the sale of goods accepted for repair but not collected) and the Hypnotism act, regulating the practice of hypnotism for public entertainment Of some international interest was the Visiting Forces act (see *Canada* below)

Commonwealth Legislation. *South Africa.* During 1952, in the broad field of constitutional development as distinct from private law, all else was overshadowed by the controversies inside the Union of South Africa aroused by, and emanating from, the Nationalist party's policy of *apartheid*, or the segregation of the black from the white citizens of the union, which policy the government under the premiership of D. F. Malan (*q v.*) was putting into effect. The High Court of Parliament act, which threw into the melting-pot the whole relationship between the legislature, the executive and the judiciary of the union, was the principal question involved, but by no means the only one There were, in addition, the Suppression of Communism (Amendment) act and the Natives (Abolition of Passes and Co-ordination of Documents) act The ostensible purpose of the first of these two measures was to amend the Suppression of Communism act, 1950, by removing doubts and taking steps to prevent the use of delaying tactics before the courts; it was opposed by the United party, one of whose spokesmen stigmatized it as an "iniquitous piece of retrospective legislation". The latter measure had the apparently laudable object of substituting a single reference book for the multitudinous passes that the African population had to possess, the official opposition, the United party, co-operated with the government in passing this measure, but Senator Bullinger, an African representative, described the bill as a masquerade and complained of the lack of consultation with Africans or their organizations.

The great issue, the High Court of Parliament act and its consequences, arose from the Separate Representation of Voters act (see *Britannica Book of the Year 1952*), itself, of course, a notable emanation of the policy of *apartheid* The legality and constitutionality of the Separate Representation of Voters act was challenged in the courts, and ultimately the Appellate division of the Supreme court set the act aside as being outside the authority of the government without an amendment to the South Africa act, which would require a two-thirds majority in the Senate and House of Assembly sitting together. The Appellate division thus reversed, or at any rate refused to follow, its own previous decision of a similar issue in 1937.

On March 20, 1952, the prime minister made a statement in the House of Assembly on the Appeal court's decision in which he said:

The judgment of the Appeal Court in the matter of the separate representation of voters, which reverses its previous judgment of 1937, has created a constitutional position which cannot be accepted Neither Parliament nor the people of South Africa will be prepared to acquiesce in a position where the legislative sovereignty of the lawfully and democratically elected representatives of the people is denied, and where an appointed judicial authority assumes the testing right particularly since that judicial authority does not, or is not obliged to, act consistently

Malan emphasized that there were two conflicting judgments of the Appeal court in a constitutional issue of the greatest importance and that there was no guarantee that there would not be future fluctuations of judicial opinion. He declared that, to ensure "order and certainty", it was imperative that the legislative sovereignty of parliament should be placed beyond any doubt

In both the House of Assembly and the Senate the opposition soon showed its intention to resist the evident purpose of the government to overrule the Court of Appeal The issue was perhaps most succinctly stated in the Senate Senator Heaton Nicholls, for the opposition, stated in a debate on March 25 that no minister had any power other than that conferred upon him by act of parliament The Appellate court, he urged, had not in any way questioned the sovereignty of parliament, it had merely said that parliament must conform to its own rules Parliament was created by the South Africa act, if the Nationalist party wanted to change the constitution then the gate was open to get a two-thirds majority of the people To this argument the minister of native affairs, H F Verwoerd, replied in very trenchant terms The will of the people was represented in parliament It was in parliament that the people must reveal its sovereign will If there was not to be chaos and division in the government of a country, then there must be only one final authority That authority was the people, through the franchise which they exercised, through the government which they placed at the helm, through parliament which had to make the laws The courts had nothing more to do than accept and explain the laws In these terms the controversy was joined

The next step was the introduction into the House of Assembly, on April 23, of the High Court of Parliament bill As amended in committee of the whole house the essence was to provide that any judgment or order of the Appellate division of the Supreme Court of South Africa—whether given before or after the bill became law—whereby the Appellate division declared or rendered invalid any provision of any act of parliament or in any manner rendered such a provision inoperative, should be subject to review by the High Court of Parliament. This court was to be composed of every senator and every member of the House of Assembly, with one of its members appointed by the governor-general to be its president, 50 members forming a quorum Applications for review of any judgment or order were to be made by a minister within six months of the Appellate division's ruling (or, in the case of rulings made before the act came into

force, within six months of the passing of the act). The president of the court was within 30 days of the making of such an application to refer it to a committee of the court to be known as the judicial committee, which was to be composed of ten members of the court appointed by the president. The judicial committee was to be empowered to consider written or verbal representations concerning the application; and after it had considered the Appellate division's record of proceedings, the reasons given by the judges and the representations made by the parties, it was to report to the High court, making such recommendations as it thought fit. The High Court of Parliament was empowered to make such order as it thought proper after considering the report and recommendations of the judicial committee, the court's decision was to be final and binding and to be executed as if it were a decision of the Provincial division of the Supreme court in which the matter was originally heard.

The opposition contested the bill by every means within its power. J. G. N Strauss (*q.v.*) raised the question, on the debate on the second reading, whether the bill did not have to be passed by a joint sitting of both houses in that it embodied provisions amending section 152 of the South Africa act and whether the motion that the bill be read a second time should not be disallowed. He argued that the bill was merely an attempt to get parliament as ordinarily constituted to nullify the Appeal court's decision in *Harris* v. *Donges* (setting aside the Separate Representation of Voters act) and to circumvent the guarantees given to individuals under sections 35 and 152 of the South Africa act This submission was overruled.

The minister of the interior, introducing the bill, argued that its object was to restore to the democratically elected representatives of the people the right to decide on the validity of acts of parliament, and that it was a natural development from the High Court of Parliament in the United Kingdom. For the opposition, Strauss, in the course of the debate, stressed that the Appeal court judgment of 1937 arose from an act of parliament passed by both houses sitting together with a two-thirds majority. During May the bill passed through both houses. When enacted, the next stage of the battle, as with the Separate Representation of Voters act, was carried to the courts. The High court overruled the High Court of Parliament act; the matter was taken to appeal, and on Nov. 13, 1952, the Appellate division of the Supreme court unanimously declared the High Court of Parliament act invalid. The government accepted this decision.

Canada. In the dominion parliament one of the most interesting measures, in view of the controversies aroused by the practice of resale price maintenance in the United Kingdom, was the Combines Investigation Amendment act, prohibiting those engaged in manufacturing, supplying or selling commodities from fixing specific or minimum resale prices. The Visiting Forces (North Atlantic Treaty) act was a measure passed similar to measures in the United Kingdom and other parliaments to give effect to the agreement between the North Atlantic treaty powers of June 19, 1951, on the legal status of visiting forces, subjecting them to their own rather than local law. The Old Age Security act provided for pensions without means tests for all persons at the age of 70.

In the Canadian provinces, both Ontario and Saskatchewan introduced legislation broadly on the lines of the Crown Proceedings act, making it possible to sue the crown in tort and in contract.

Australia. The Conciliation and Arbitration bill was the principal measure of general interest submitted to the Commonwealth parliament, its object being to broaden the jurisdiction of the court composed of three Arbitration court judges dealing with industrial disputes. Under the pre-existing law this court could deal only with questions of basic wages, standard hours and paid leave: this jurisdiction was now extended by conferring on the court a limited right to entertain appeals from the conciliation commissioners.

A constitutional question of some importance was raised in the Commonwealth parliament as to the status of parliamentary under secretaries. The speaker held that no minister had power to delegate his authority, that an administrative act by a parliamentary under secretary was unconstitutional and illegal and that a member of the House of Representatives accepting such a position was liable to penalties for wrongfully holding a seat in the house. This view was qualified by Sir Arthur Fadden, acting prime minister, who cited the attorney-general's opinion that the post was not an " office " and still less an " office of profit under the crown ".

In Tasmania a somewhat drastic but rather interesting Sexual Offences act was passed, the most striking feature of which was that it made it possible for an incurable offender to be segregated for the rest of his life; those found guilty would be examined by a board of medical experts, and offenders regarded as curable might be subjected to treatment orders by the Supreme court. In New South Wales a Workers' Compensation (Amendment) act was passed, adding new classifications of persons and of injuries, and increasing the maximum compensation from £1,000 to £2,000. Queensland enacted a Law Reform (Abolition of the Rule of Common Employment) act, following the United Kingdom measure of 1948 and similar measures in other Australian states, whilst the legislatures of South Australia and Western Australia grappled with the thorny problem of rent restriction.

New Zealand. The most interesting statute passed in 1952 appeared to be the Police Offences Amendment act, a controversial measure intended to strengthen the law against sedition and intimidation in order, particularly, to remedy weaknesses disclosed during the strike of waterside workers. It contained a very wide definition of " seditious intention " much criticized by the opposition.

India. A noteworthy measure in 1952 was the Press (Objectionable Matter) act, providing against " the printing and publication of incitements to crime and other objectionable matter ". By empowering the government to declare certain publications forfeited and to seize and destroy unauthorized news sheets and newspapers and presses producing them, it appeared at first to be a severe and repressive enactment In fact, it limited the powers to these ends conferred on the executive under the Emergency Powers act.

United Kingdom Case Law. Although there were no great judicial issues in 1952 there were a number of decisions of general interest. One was *The National Trust* v. *The Midlands Electricity Board* (1952 1 *Times Law Reports* 74), in which covenants made with the National Trust not to injure the natural aspect and condition of land were held void for uncertainty. The decision of the Court of Appeal in *R.* v. *Northumberland Compensation Appeal Tribunal* (1951 2 *Times Law Reports* 161), discussed in *Britannica Book of the Year 1952* when the matter was before the Divisional court whose conclusions the Court of Appeal upheld, was important in illustrating the control that the Supreme court exercised over tribunals of an administrative nature but with judicial duties to perform; here an error of law appeared on the face of the record and the court held that in these circumstances it had authority to quash the statutory tribunal's decision.

More important than either of the above was *R.* v. *Tronoh Mines, Ltd.* (1952 1 *Times Law Reports* 461). The question here was whether the effect of the Representation of the People act, 1949, was to prohibit during the period of a general election expenditure whose real purpose was general political propaganda as distinct from propaganda directed at securing the return of a particular candidate in a particular constituency. The facts were that the defendant company had



The first queen's counsel, after their swearing-in at the House of Lords on April 22. They wear white cuffs and also white neck-bands, or "weepers", in mourning for the death of King George VI.

bought advertising space in a national newspaper and had used it to attack the policies of the Labour government in office before the election, and the prosecution's case was that such expenditure would tend to secure the return of candidates in each constituency opposed to the Labour government and that it would not be included in any of the statutory returns of such expenditure. The court, however, held that propaganda of a general character not designed to secure the return of a particular candidate in a particular constituency was not affected by the act.

An issue of considerable importance to trade unions was decided in their favour by the Court of Appeal in *D. C. Thomson and Co.* v. *Deakin* (1952 2 *Times Law Reports* 105) when it was held that incitement to withdrawal of labour by employees with the natural and probable consequence that the employer might be compelled to break his contract with a third party did not constitute the tort of procuring a breach of contract. The plaintiffs here were a firm that refused to employ union labour and this matter aroused nation-wide interest.

There were a number of judicial decisions of interest from the standpoint of matrimonial relations. In *Bayliss* v. *Blackwell* (1952 1 *All England Reports* 74) it was held that the common law unity of husband and wife had not been so affected by legislation as to give a husband the right to sue the wife for civil wrongs (here motor-car injuries) inflicted by her before marriage. In *Bennett* v. *Bennett* (1952 1 *All England Reports* 413) the Court of Appeal held that an agreement by a wife not to apply to the court for maintenance was contrary to public policy and therefore void as ousting the jurisdiction of the courts. In *Best* v. *Samuel Fox and Co.* (1952 2 *Times Law Reports* 246), where the plaintiff's husband had been injured by the defendants' negligence, it was held that the husband's consequent loss of sexual capacity did not render them liable to the wife in damages. (W. T. Ws.)

United States. Fear and uncertainty were reflected during 1952 both in federal legislation and in Supreme court decisions. The 82nd congress continued the president's emergency war powers, approved a peace treaty with Japan and security treaties with groups of other non-Communist nations, voted appropriations to carry on the Mutual Security programme for military, economic and technical assistance to certain friendly nations, enacted a bill of rights granting G.I. benefits to Korean war veterans and approved a new constitution for Puerto Rico. Congress also revised and codified laws relating to immigration, naturalization and nationality, including new provisions designed to tighten the safeguards against subversive elements.

The Supreme court lacked a confident majority of justices in cases involving questions of administrative and executive powers. This was apparent in an increasing tendency of the justices towards the literal application of statutes involving public policy, such as laws dealing with aliens and civil rights. There had to be a majority, of course, in reaching a definite decision, but sometimes the majority disagreed sharply as to their reasons for concurring. An extreme instance of this was the steel industry seizure case, the report of which covered 133 pages and presented six individual opinions rendered by the majority of the court and one dissenting opinion in which three justices joined.

Aliens and Citizenship. The Supreme court adhered to a strict construction of statutes authorizing the deportation of aliens resident in the United States. Thus three aliens, who had entered the United States in their youth and stayed for more than 30 years without applying for naturalization, were held to be deportable under the anti-Communist provisions of the Alien Registration act of 1940. Congress had the power to authorize the deportation of legally resident aliens because of membership of the Communist party, even though such membership had terminated before the passage of the act. This provision was not an *ex post facto* law prohibited by the constitution, nor did it violate due process, freedom of speech or freedom of assembly. The courts were not responsible for national policy in respect of the deportation of aliens, which is almost exclusively the province of the political branches of government and "largely immune from judicial inquiry or interference" (*Harisiades* v. *Shaughnessy*, 342 U.S. 580).

While the justices of the Supreme court were debating the rights of aliens residing in the United States, the president was struggling with congress over the provisions of a bill revising and codifying all federal laws on immigration, nationality and naturalization A final draft of the measure, known as the Immigration and Nationality act of 1952, was finally passed over the president's veto. The new law retained the quota system under which the number of immigrants to be admitted to the U.S annually from any foreign country was limited to one-sixth of 1% of the number of persons of that national origin already living in the U.S. as shown in the 1920 census The annual immigration ceiling was set at 154,657 and other provisions eliminated race and sex barriers; introduced a system of selective immigration by giving a special preference to skilled aliens urgently needed in the country, provided a more thorough screening of aliens, especially of persons who might be security risks and subversives; broadened the ground for exclusion and deportation of criminal aliens; and allowed for the entry of reformed totalitarians, such as former Communists who had turned anti-Communist

Civil Rights. The Supreme court broadened the free speech and free press guaranties of the 1st and 14th amendments to include freedom of expression by motion pictures A provision of New York's Education law, requiring all motion pictures to be submitted for licensing by a state board, was void as a prior restraint on freedom of speech and of the press because it authorized denial of a licence if the censors found the film to be " obscene, immoral, or sacrilegious ".

The High court also dealt with another section of the controversial New York Education law authorizing its state schools to release pupils from school attendance for one hour a week to attend religious classes, provided the religious instruction is held outside the schools This " released time " programme was distinguished by a majority of six justices from the situation in the McCollum case which the court had found to be a violation of the constitutional guarantee of separation of church and state. In that case the school classrooms were turned over for religious instruction To the charge that the programme was coercive, the majority said " no one is forced to go to the religious classrooms and no religious exercise or instruction is brought to the classrooms of the public schools ".

Criminal Law The decisions of the Supreme court in criminal cases were more notable for their novelty than for their legal importance The forcible use of a stomach pump to get evidence of narcotic law violations from a suspect who was handcuffed and strapped to an operating table profoundly shocked the justices of the Supreme court. The suspect swallowed two capsules containing morphine when three deputy sheriffs broke into the room where he and his wife had been sleeping The officers seized him and rushed him to a hospital where the pills were recovered and later used as evidence in his conviction for the illegal possession of morphine This was a clear violation of due process, the justices ruled (*Rochin* v *California*, 342 U S 165)

On the other hand, the court in a five-to-four decision approved the use of a device by federal officers to record a conversation with a Chinese laundryman, named On Lee, suspected of narcotics law violation. Chin Poy, an undercover agent, who was an old acquaintance and former employee of On Lee, stopped in at the laundry to have a chat with his former employer. He had a radio transmitter concealed in his inside overcoat pocket with a small antenna running along his arm. Unknown to On Lee, another federal agent was stationed outside the building with a receiving set by which the conversation was recorded. The evidence thus obtained was used at the trial (*Lee* v. *U.S.*, 343 U.S. 747).

The Supreme court justices showed a growing scepticism concerning the complaints of convicts that they had been coerced in confessing their guilt. The justices took the view that if a confession was procured by coercion, either physical or psychological, the conviction should be reversed, but the record must show a real denial of due process.

The High court served notice on all spies and potential spies that it would leave them to the mercies of a trial court and jury. The repeated pleas of a husband and wife, convicted of giving to the U S S R. secrets about the atomic bomb, for a review or rehearing of their case, were rejected by the Supreme court. Thus the first death sentence for peacetime spying was in effect affirmed by the High court.

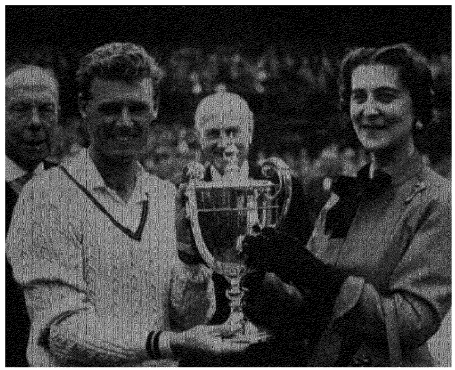
Economic Controls. The Defence Production act amendments of 1952 extended wage and price controls up to April 30, 1953, but contained a policy statement directing the president to decontrol prices as fast as was consistent with the purposes of the act. Authority to regulate retail credit, allocations and priorities and real estate credit was extended to June 30, 1953 Rent control was extended to Sept. 30, 1952, with the proviso that areas which were certified as critical defence housing areas might continue the control until April 30, 1953 (*See* HOUSING)

Labour. A threatened strike by the United Steelworkers of America precipitated a legal battle over the president's seizure powers After many efforts of government agencies to bring about a settlement, President Harry S. Truman ordered the secretary of commerce to seize and operate the nation's steel mills to avert a work stoppage which would endanger the national defence programme The steel companies, however, applied to the district court for an injunction against the seizure, which they obtained The Supreme court by a vote of six to three held that the lower court was correct because seizure of the mills was not authorized by the statutes or laws of the United States There was no specific statute giving the president power to seize property, nor could such power be implied from the powers specified in article II of the constitution, nor could it be justified as an exercise of his military power as commander in chief of the armed forces (*Youngstown Co.* v. *Sawyer*, 343 U S 573)

Taxation A decision of the Supreme court in a tax case was of unusual interest. A composer of music, who had won a prize award of $25,000 for a symphony submitted by him in a contest, included the entire amount in his income tax return as part of his gross income for 1947. He later filed a claim for refund on the ground that the award was a non-taxable gift, but his claim was rejected by the internal revenue office. He then applied for permission to amend his returns and to spread the award over the three-year period when he was working on the composition. The Supreme court ruled that the award was not a gift, but that the composer should report the award as distributed over a 36-month period ending with the close of the year in which the award was paid and not some earlier period of 36 months during which the composition was being written (*Robertson* v. *U.S.*, 343 U S. 711). (M. DN.)

LAWN TENNIS. During 1952 the struggle for world domination continued between the two premier lawn tennis playing nations in the postwar world—Australia and the United States But, whereas in 1951 the top world honours were fairly evenly divided, with Australia gradually gaining the ascendancy and just managing to retain the Davis cup she had won back in 1950, in 1952 Australia went right ahead to an unquestioned superiority.

The British hard court championships, played at the end of April at Bournemouth, attracted a splendid entry, including the men's singles title-holder, Jaroslav Drobny, formerly of Czechoslovakia and now of Egypt, who was reckoned to be the world's finest player on hard courts, and Frank



The Duchess of Kent presenting the men's singles cup to Frank Sedgman (Australia) at the Wimbledon championships.

Sedgman of Australia, ranked, on his 1951 performances, as the world's leading player on grass. Other leading Australians were competing, as were the leading British players, A. J. Mottram, G. L. Paish, John Horn and young R. Becker. The Americans, Doris Hart and Shirley Fry, champion and runner-up at Wimbledon in 1951, were competing in the women's events, in addition to all the leading British players.

As was expected, Drobny and Sedgman came through to the final of the men's singles without difficulty, and Drobny, favoured by the conditions of a slow, rain-soaked court, won with unexpected ease. Miss Hart beat Miss Fry for the women's title in straight sets, both playing tired and mechanical tennis after their long world tour.

The British internationals, A. J. Mottram and G. L. Paish, gave a fine exhibition to beat the strong Australian combination of D. W. Candy and I. G. Ayre in five sets, but they could make little impression on Drobny and Sedgman in the final. In the women's doubles J. S. V. Partridge and Mrs. J. Rinkel-Quertier of Great Britain reached the final, where they were easily beaten by Miss Hart and Miss Fry.

The French championships were held on the courts of the Stade Roland Garros in Paris at the end of May. Australia delivered her strongest possible challenge with her three top players, Frank Sedgman, K. McGregor and Mervyn Rose, and two newcomers to international tennis in the shape of the brilliant 17-year-olds, K. R. Rosewall and L. A. Hoad. The United States was also very strongly represented. Once again Sedgman and Drobny came through and faced one another in a championship final; and once again on a slow damp court Drobny won easily. In the women's singles Miss Hart beat Miss Fry, the holder, 6-4, 6-4, and these two in partnership scored yet another of their easy victories in the women's doubles. In the men's doubles the great Australian pair, Sedgman and McGregor, won their sixth consecutive victory in a world major doubles championship.

On the Wimbledon courts in June the U.S. beat Great Britain in the Wightman cup, 7-0.

In the Wimbledon championships only two British players reached the last 32 of the men's singles. Mottram beat his old enemy, G. Cucelli of Italy, but was then beaten easily by E. W. Sturgess. In the quarter finals Sedgman overwhelmed Sturgess; Mervyn Rose, the young Australian left-hander, beat the holder, R. Savitt (U.S.); H. Flam (U.S.) beat his compatriot, V. Seixas; and Drobny just beat the tall Australian, McGregor. In the final Sedgman, revelling in the speed of Wimbledon grass, easily beat Drobny. In the men's doubles McGregor and Sedgman gained a comfortable victory over Seixas and Sturgess in the final.

The 17-year-old Maureen Connolly, already the holder of the U.S. title, won the Wimbledon singles championship at her first attempt—the holder, Doris Hart, being removed from her path by Mrs. Pat Todd—who then herself went down to Louise Brough. The streamlined combination of Miss Hart and Miss Fry was too strong in the women's doubles for the new combination of Miss Brough and Miss Connolly.

In the U.S. doubles championships in August McGregor and Sedgman were beaten for the first time in two years by a scratch partnership of V. Seixas (U.S.) and Mervyn Rose (Australia). Miss Fry and Miss Hart won the women's doubles for the second year running.

In the U.S. national singles, played at Forest Hills, Frank Sedgman of Australia and "Little Mo" Connolly retained their titles—two outstanding exponents of the men's and women's singles game. Sedgman easily beat the 38-year-old Gardnar Mulloy, who had reached the final round of the championship for the first time after 18 years of striving. Mulloy won a number of U.S. tournaments and the Pan-American singles in Mexico in October as well as scoring victories for the U.S. in Davis cup play against Japan and Cuba, serving as playing captain in the latter match.

The last and most important event of the lawn tennis year—the Challenge round of the Davis cup—was played at Adelaide, Australia, on the last three days of 1952. The challengers, the United States, played a two-man team of Seixas and Tony Trabert. Australia defended with Sedgman and McGregor, who, playing as amateurs for the last time, routed their opponents by 4 matches to 1 to keep Australia once again at the top of the world of lawn tennis.

(J. G. SH.)

LEARNED SOCIETIES: *see* SOCIETIES, LEARNED AND PROFESSIONAL.

LEATHER. Tanners entered on the year 1952 still smarting from their experiences during what one of their most prominent leaders, G. W. Odey, called "one of the most disastrous years that has ever occurred in the history of the industry." They had suffered very heavy losses through fluctuations of hide prices and were in a chastened mood. There were some indications that the long depression in the leather trade of the United States was coming to an end and there were hopes that the British trade also was nearing the end of its troubles. There was, however, no easy optimism. Markets were quiet and the general restriction of credit was forcing sales below replacement prices by weak holders. Towards the end of January there were signs of returning confidence in the sole leather market, but leather was still changing hands below replacement prices.

On Feb. 14 the Argentine government announced its willingness to cut prices for hides by 50% for payment in dollars and 35% in other currencies. Buyers quickly reacted, but not without caution. They welcomed the change as a step towards stability. Other hide markets were expected to follow, however, before stability could be reached. Prices continued downwards without attracting buyers. Towards the end of March prices began to level out and there were signs of awakening interest among buyers; but tanneries began to adjust production to demand and so to work short-time. Even low prices, it was found, did not stimulate buying by shoe manufacturers, who were themselves short of orders. Tanners were inclined to complain that shoe manufacturers were not doing their share to stimulate demand by passing on the advantage of lower leather prices to the consumer, but shoe manufacturers were quick to challenge that assertion.

By May short-time working in tanneries was very general. Even when tanners were prepared to sell at a low price buyers hesitated to pay prices only a fraction of those ruling a few months previously. By the middle of the month, however, there began to be a belief that prices had touched bottom and the outlook improved. Prices became higher and firmer Shoe manufacturers and leather factors were believed to have exhausted their stocks of leather and tanners were in a stronger position than for a long time. Confidence returned and there was a spurt of buying Higher prices were quoted for imported hides and some increases were registered at the domestic hide auctions. Good Whitsuntide trade in footwear strengthened the leather market and firmness of prices continued in June.

In July turnover showed a tendency to decline after a slight easing in the domestic hide market, but there was no weakening of leather prices Reduced input during previous months began to be felt The tanners' confidence that when shoe manufacture began again after the holiday prices would rise was justified by a very firm market when August ended; through September there were advances in the domestic hide market and tanners began to show increasing interest in imported hides. In October orders for leather became more substantial, and prices became firmer but met strong resistance from buyers. The end of the year found demand for leather increasing and prices advanced, with tanners short of hide cover and ready to buy Argentine parcels afloat When the Shoe and Leather fair opened on Nov. 17 there was an expectation of increased prices for leather; but shoe manufacturers, conscious of the price-limits within which they must work, hesitated to pay advances. Tanners themselves were alive to the threatened competition of rival synthetic products and were not anxious to force leather prices higher than necessary. (*See* also SHOE INDUSTRY) (C. A SD)

LEBANON. Arab republic, bounded W by the Mediterranean, N. and E. by Syria and S and S.E. by Israel. Area: 3,475 sq mi Pop. (1951 est): 1,285,000. Language: Arabic (90%), Armenian, Greek, etc., also spoken. Religion: Christian 52 8%; Moslem 45 3%. Chief towns (pop 1949 est.): Beirut (cap. 201,451), Tripoli (65,137); Zahle (24,776). Presidents of the republic in 1952. Beshara Khalil el-Khuri and (from Sept 23) Camille Shamun (*q v*) Prime ministers· Abdullah el-Yafi, Sami es-Solh (from Feb.11), Nazim Akkari (from Sept 9), Saab Salaam (from Sept. 12) and (from Sept. 18) General Fuad Shehab

History. On Jan 9, 1952, the last of the currency restrictions imposed in 1944 were removed, and later in the month the Lebanese government submitted to parliament a proposal to establish a central economic council to study the country's resources and to supervise development projects This was followed in February by an announcement that the following projects would be included in the programme to be carried out with Point Four aid the Litani river irrigation scheme, the enlargement of Beirut port and its free zone; and the improvement of Tripoli port. Other allocations would be devoted to the development of hospital, housing, social insurance and radio services

In March the customs union with Syria was restored; it had been abrogated in 1950 (*see* SYRIA) In June the government signed a new agreement with the Iraq Petroleum company. Under this agreement the right-of-way dues for the passage of I P C. pipe-lines through Lebanese territory were increased and the company undertook to expand its Tripoli refinery to satisfy Lebanese requirements. In July the existing trade agreements with Germany were revised and a trade agreement was signed with Czechoslovakia. In November the government announced that it was negotiating new agreements with the Iraq Petroleum company and the Arab-American oil company for increased royalties.

In August the opposition parties demanded the resignation of the president, Beshara el-Khuri. It was countered by the government's convening an extraordinary meeting of parliament to secure special powers to carry out a series of "urgent" political, economic and social reforms. No decision was reached; and on Sept. 9 the president accepted the cabinet's resignation and appointed in its place a three-man emergency cabinet under Nazim Akkari. It was succeeded on Sept. 12 by a new ministry under Saab Salaam, which at once published decrees forbidding demonstrations. On Sept. 18, after a peaceful three-day strike in Beirut and under pressure from the army, President Khuri resigned and an interim ministry under General Fuad Shehab took office. On Sept. 23 Camille Shamun, a prominent member of the Socialist opposition, was elected president by parliament and on Sept. 29 he consulted with Colonel Adib es-Shishakli, Syrian chief of general staff and head of the ruling Higher Military council, about closer co-operation between Lebanon and Syria. In November the government entered on fresh terms of amity with Syria. (O. Tw.)

Education. Schools (1949) primary 734, pupils 60,019, private 808, pupils 75,475, foreign 279, pupils 53,028, technical and trade 5, pupils 456 Universities 2, students 2,147

Agriculture. Main crops ('000 metric tons, 1948, 1949 in brackets) wheat 50 (50), barley 22 (27), maize 13 (13); oats 2 (2); potatoes 35 (40) Fruit production ('000 metric tons, 1950, 1951 in brackets) grapes (1949) 90, olives 5 (40), olive oil 2 (13), oranges and tangerines 57 (62), lemons 13 (15) Livestock ('000 head, 1949 est) goats 400, sheep 25; cattle 20, horses 10, donkeys 20, mules 5 Wool production (incl Syria, greasy basis, '000 metric tons, 1949, 1950 in brackets) 6 (6)

Industry. Production ('000 metric tons, 1949) cotton yarn 6 8; cotton textiles 6 0, silk and rayon textiles 2 6, leather, hides and skins 2 7, cement (1951, 1952, six months, in brackets) 302 4 (141 5)

Finance and Banking (£L million) Budget (1950 est) balanced at 85 3, (1951 est) balanced at 85 3 Currency circulation (June 1951, June 1952 in brackets) 215 (199) Bank and government deposits (May 1951, May 1952 in brackets) 198 (298) Monetary unit Lebanese pound, with an exchange rate (Nov 1952) of £L 6 16 to the pound sterling and £L 2 21 to the U S dollar

Foreign Trade (£L million, 1951, 1952, six months, in brackets) Imports 298 5 (157 2), exports 89 7 (36 1) Main sources of imports (1951) Syria 20%, U S 16%, France 12%, U K 10% Main destinations of exports Syria 25%, U S 25%, Egypt 11%, Italy 5%

Transport and Communications. Roads (1949) 1,540 mi Licensed motor vehicles (Dec. 1950) cars 10,723, commercial vehicles 3,698 Railways (1949) 475 mi Telephones (1951) 4,245 Wireless receiving sets (1949) 31,000

LEEWARD ISLANDS. British colony composed of four presidencies, a group of islands forming the northern part of the Lesser Antilles in the Caribbean.

	Area (sq mi)	*Population* (1946 Census)	(1951 est.)
Antigua (with Barbuda)	171	41,757	46,937
St Kitts-Nevis-Anguilla	152	46,243	50,062
Montserrat	32	14,333	13,594
Virgin Islands	67	6,505	7,000
	422	108,838	117,593

Population, mainly Negro. Religion: Christian. Principal towns: St. John's, Antigua (cap. *c.* 12,000), Basseterre, St. Christopher (*c.* 13,000). Administration: governor, executive council, 7 official, 1 nominated and 6 elected members; general legislative council, 8 official and 2 nominated members and 13 members elected from the presidency legislatures; (in the presidencies) administrator or commissioner, executive council, legislative council. Governor, Sir Kenneth Blackburne.

History. The general legislative council and the legislative councils of St. Kitts-Nevis-Anguilla and Montserrat were established under the new constitution. There was also introduced a new system of committees of the councils, which dealt with groups of related departmental subjects; the object was to associate unofficial members of the councils

with the government's policies and to familiarize them with the problems of day-to-day administration.

In Antigua, in contrast with the preceding year, industrial peace prevailed. The Antigua development plan was revised and a loan programme prepared, laying particular stress on economic development. A record sugar crop (34,254 tons) was produced and the cotton crop exceeded 500,000 lb. With a generous development and welfare grant, the improvement of the inadequate water supplies was begun. Great progress was made with the post-hurricane re-housing programme, about 600 "self-help" houses being built in addition to those being put up by two "aided-self-help" housing groups. A start was made with the extension to St John's of the surplus A C. power supply at Coolidge field, this supply would eventually be extended throughout the island St. Kitts produced a record sugar crop (50,613 tons) The new electricity scheme for St Kitts was brought into operation, and a start was made with slum clearance in Basseterre. The cotton crop in Montserrat was about 400,000 lb , a scheme for pasture development and livestock improvement was approved. In the Virgin Islands plans for livestock development were implemented by the importation of pedigree livestock, the provision of agricultural credit for pasture improvement and the development of water supplies. In addition a thorough geological survey was undertaken with special reference to water supply and mineral potential.

Education.	Pupils (1951) Primary	Secondary	Government Expenditure
Antigua	9,756	1,022	$217,470
St Kitts-Nevis-Anguilla	10,700	656	$261,120
Montserrat	3,224	163	$110,838
Virgin Islands	1,668	82	$62,458

Finance and Trade Monetary unit British Caribbean dollar, $4 80 = £1 sterling

	Budget (1952 est.) Revenue*	Expenditure*	Foreign trade (1951) Imports	Exports
Antigua	$2,824,073	$3,114,668	$5,117,483	$2,882,375
St Kitts-Nevis	$2,948,214	$2,538,789	$7,150,229	$6,486,692
Montserrat	$587,549	$643,229	$890,474	$631,296
Virgin Islands	$183,948	$247,729	$294,949	$297,829
Federation†	$87,554	$87,554	—	—

* Excl. grants from U K Treasury and Colonial Development and Welfare funds † Federal budget other than contributions from presidencies

Principal exports sugar, cotton (sea island) Production sugar (1952) 84,867 tons, cotton exports (1951) 15,202 cwt (P. H.-M.)

LEGISLATION: *see* LAW AND LEGISLATION.

LEPROSY: *see* TROPICAL DISEASES

LIBERAL PARTIES. Liberals made gains in 1952 in local elections in Germany, Belgium and Italy, and in the Swedish general election they added to their large gains of 1948.

In the United States the Liberal wings of both the Republican and Democratic parties were successful in the pre-election national conventions, Dwight D. Eisenhower being nominated instead of Robert A. Taft, and Adlai Stevenson instead of the left-wing Estes Kefauver. In the subsequent campaign Eisenhower veered steadily to the right and Stevenson to the left, but Eisenhower's victory could be considered a Liberal success.

In South Africa, the constitutional crisis provoked by the government's attempts to impose its *apartheid* policy against the ruling of the Supreme court led to a stiffening of resistance on the part of the (Liberal) United party, and to joint action by it, the Labour party and the ex-servicemen's Torch commando, the fruits of which would not become apparent until the 1953 elections

The outstanding development was the growth of co-operation amongst the European Liberals Liberal groups were established in the consultative assembly of the Council of Europe (*q.v.*), in which there were 26 Liberals out of 123 delegates, in the assembly of the European Coal and Steel community (19 Liberals out of 78 delegates) and in the *ad hoc* political committee (20 Liberals out of 87 delegates). A leading part in the formation of these groups was played by Roger Motz, a Belgian senator, who was elected president of the Liberal International in June and who, in October, resigned from the position of president of the Belgian Liberal party in order to be more free to work in the international field.

The annual congress of the Liberal International was held in Strasbourg in September during the second session of the Council of Europe, and was attended by many of the delegates to the consultative assembly. In a resolution on European affairs, it approved the proposed "small federation" of France, Germany, Italy and the Benelux countries, provided that they worked in close co-operation, not only with the eight other countries represented on the Council of Europe, but also with the other democracies adhering to the North Atlantic treaty. In economic matters, it accepted the proposal for a European preferential system, provided it was based on a reduction of tariffs within Europe rather than on a raising of tariffs against non-European countries and provided that such countries could enter the scheme if willing to observe the same conditions. Resolutions were also passed warning against the dangers of a perverted nationalism, and on the dependence of social security on a sound monetary policy The most acute controversy arose over the final resolution, on immigration, into which the Italian delegation wished to insert a paragraph stressing the need for birth control policies Eventually the congress agreed to study the matter further, and raise it again in 1953. In summing up the congress senator Motz claimed that foundations for an eventual

LIBERAL PARLIAMENTARY REPRESENTATION IN EUROPE*
(Figures in brackets are those of the preceding election)

Country	*Party corresponding to Liberal*	*Date of last election*	*Votes obtained*	*% of total votes*	*Liberals' seats*	*Total no. of seats*
BELGIUM	Liberal party	June 4, 1950	557,019 (767,180)	11 3 (15 3)	20 (29)	212
DENMARK	Radical party†	Sept 5, 1950	167,719 (144,206)	8 2 (7 0)	12 (10)	151
FINLAND	Progressive party	July 2-3, 1951	102,894 —	5 6 (3 9)	10 (5)	200
FRANCE	R G R ‡	June 17, 1951	2,194,213 (2,381,384)	11 5 (12 4)	88 (69)	627
GERMAN FED. REP.	Freie Demokratische Partei	Aug 14, 1949	2,788,653 -	11 5 —	52 —	402
GREAT BRITAIN	Liberal party§	Oct 25, 1951	723,550 (2,621,489)	2 5 (9 1)	6 (9)	625
GREECE	E P E K.-Liberal Union‖	Nov 16, 1952	586,237 (726,769)	37 1 (42 6)	61 (131)	300
ITALY	Partito Liberale Italiano¶	April 18-19, 1948	1,001,156 —	3 8 - -	18	574
NETHERLANDS	Freedom party	June 25, 1952	471,005 (391,925)	8 8 (8 1)	9 (8)	100
NORWAY	Liberal party	Oct 10, 1949	216,581 (189,591)	12 4 (12 8)	21 (20)	150
SWEDEN	Folkpartiet	Sept 21, 1952	924,842 (882,414)	24 5 (22 8)	58 (57)	230
SWITZERLAND	Radical Liberal party	Oct 27-28, 1951	— —	—	51 (52)	196

* Only European countries having a parliamentary system and free elections are included
† There is also the Retsforbundet or Justice party, sometimes described as Right-wing Liberal, which in 1950 polled 168,418 votes (8 2% of the total) and obtained 2 seats.
‡ The Rassemblement des Gauches Républicaines is an electoral alliance including the Parti Republicain Radical et Radical-Socialiste and the Union Démocratique et Socialiste de la Résistance In the National Assembly, the two parties form separate groups that of the U.D S R comprised 16 (26 in 1946)
§ The Liberal party presented in 1951 only 109 candidates compared with 475 in 1950
‖ This includes the votes polled and seats obtained by the E P E K. (Ethniki Proodeftiki Enosis Kentrou) and the Liberal party
¶ At the 1948 election the Liberal party formed an electoral alliance, the Blocco Nazionale, with other small groups

European Liberal party had now been laid. (*See* also ELECTIONS.) (J. H. M. S.)

LIBERIA. Republic on the west coast of Africa, bounded N.W. by the British colony of Sierra Leone, and N. and N.E. by the French colonies of Guinea and the Ivory Coast. Area: *c.* 43,000 sq.mi. Pop. (no census ever taken, 1950 est.): 1,350,000, all Negroes. English is the official language; the tribal languages are divided into some 26 dialects which stem from Arabic, Bantu and Nilotic language roots. Liberia grants religious freedom to all denominations: nearly all Christian churches have had missions in Liberia for many years. Capital, Monrovia (pop., *c.* 12,000). President (inaugurated in Jan. 1944), William V. S. Tubman.

History. In Jan. 1952 William Tubman was inaugurated at Monrovia for his second term as president of Liberia. In his address he noted that Liberia had no domestic or foreign



President Tubman, with the mayor of Corunna (right), when he arrived at Corunna on a state visit to Spain in August.

debts. He proposed a three-year compulsory military training programme for men between the ages of 16 and 45. William R. Tolbert succeeded Clarence Simpson as vice-president, and Simpson was appointed ambassador to the United States.

In July Tubman asked the United States for a revision of the Bomi hills mining contract which would give Liberia one-half of the profits and representation on the board of directors. The U.S. Republic Steel corporation was the majority stockholder and chief importer of the mines which in 1952 were producing iron ore at an annual rate of 1 million tons. Under the terms of the agreement reached in October, Liberia, upon liquidation of its debt of $4 million, or on April 1, 1957, whichever date was earlier, would begin to share net profits. Until then, royalties of $1·50 a ton would be paid.

On Sept. 2 the first part of a $1 million shipment of materials and machinery for the new community of Tournata was unloaded. The Liberian government set aside 500,000 ac. for this development, which was sponsored by Robert G. LeTourneau, of the United States. (X.)

Education. Schools (1951): government 89, mission 71, tribal 29. Institutions of higher education: College of West Africa, Liberia college and the Booker T. Washington institute for native students.

Agriculture and Industry. Exports (1951, short tons): rubber 39,989; palm kernels 23,428; palm oil 4,128; piassava 1,362; cacao 315. Mineral exports: iron ore 166,396 tons; gold 2,999 oz.

Finance. The U.S. dollar is the official monetary unit. Budget (1951 actual) revenue $12,830,685, expenditure $10,444,828; (1952 est.) revenue $8·5 million, expenditure $11 million.

Foreign Trade (1951). Exports $52,549,457, imports $18,135,897. Chief exports: rubber 88%; palm kernels 7%; iron ore 2%. Main destinations of exports: U.S. 92%; Netherlands 5%; Germany 2%. Main sources of supply: U.S. 67%; U.K. 10%; Germany 3%.

LIBRARIES. International. The work of the libraries and documentation division of the United Nations Educational, Scientific and Cultural organization in 1952 fell into three main sections: public library development, bibliography and documentation, and the group of activities carried on by the Clearing House for Publications. The last-named issued the *Handbook on the International Exchange of Publications* (printed 1950, publication delayed), developed an information service on methods of documentary reproduction and continued to publish the *Unesco Bulletin for Libraries*. Work in public library development included the planning of a "pilot" public library in Latin America. The country selected was Colombia, and the library was expected to open in 1954. The report of the conference on public library services in Latin America, held at São Paulo in 1951, was published under the title *Development of Public Libraries in Latin America* as no. 5 of *Public Library Manuals*. Preparations were begun for the third U.N.E.S.C.O. seminar for public librarians, to be held at University college, Ibadan, Nigeria, in 1953, for participants from the whole African continent. In India, Frank Gardner, borough librarian of Luton, was appointed consultant to the Delhi "pilot" public library to develop its extension services in co-operation with the literacy classes and other work of the Delhi Social Education department. Special efforts were made to increase the supply of suitable books in Hindi and Urdu and to provide translations of illustrated books for children.

In bibliography and documentation, the work of the division included the initiation at the Fondação Getulio Vargas, Rio de Janeiro, of a "pilot" project for a national bibliographical centre, to record systematically every Brazilian publication and to provide bibliographical services capable of making foreign publications accessible to scholars in Brazil. This centre would also serve as a model to other countries in the region. Within the technical assistance programme the following projects were in existence or preparation: the development of the library of the Syrian university, Damascus; the development of the university libraries of Iran, starting (in 1951) with the faculty libraries of science and medicine in Tehran; the creation of a Turkish national bibliographical centre in the National library, Ankara, primarily to supply scientific documentation to the institutes of seismology and hydrogeology established in Turkey by the technical assistance programme but later to be extended to cover all subjects; the creation of a similar centre for Uruguay in the National library, Montevideo. To complete the account of technical assistance activities three other bibliographical centres must be mentioned—those set up under the auspices of the natural sciences department of U.N.E.S.C.O. to serve science and technology in India, Mexico and Yugoslavia. The Mexico centre began in January to publish an important *Boletín del Centro de Documentación Científica y Técnica, México*, consisting of a bibliography of articles in the 3,000 periodicals received at the centre. The U.N.E.S.C.O. library acted as the central ordering authority for books and periodicals required for all technical assistance projects and missions.

The Provisional International Committee on Bibliography and Documentation met in Paris in April. It awarded

contracts amounting to about $5,000 to various individuals and library and documentation associations for such tasks as standardizing rules for rendering southeast Asian names in bibliographical and catalogue entries; preparing a directory of periodicals in Asian countries; writing an analytical report on the technique of union cataloguing; publishing a directory of periodicals of non-governmental international organizations; and surveying important lacunae in international bibliography in specialized fields. The documentation committee of the International Standards organization received a contract for furthering work already begun in standardizing bibliographical techniques. The recommendation was made that the director-general should appoint an International Consultative Committee on Bibliography to advise him on U.N.E.S.C.O.'s bibliographical programmes and their co-ordination with those of other competent bodies, national and international. The provisional committee would remain in office until the appointment of this new body in 1953.

Works issued or prepared for publication by the libraries division in 1952 included, in addition to those mentioned above, volumes 1 and 2 of the revived *Index Bibliographicus*, by Theodore Besterman (published jointly by U.N.E S.C.O. Paris, and the Fédération Internationale de Documentation, The Hague). Two supplements to the *Unesco Bulletin for Libraries* (vol 6, nos. 2/3 and 5/6) were issued separately as a pamphlet entitled *Unesco Survey of Microfilm Use 1951*. Knud Larsen wrote a manual on the organization of national bibliographical centres for publication at the end of the year. A roneographed *Bibliographical Newsletter*, intended as a quarterly report to the Provisional International committee, was also distributed to national bibliographical centres.

Although the libraries division was responsible for co-ordinating U.N.E.S.C.O.'s work in librarianship and bibliography and actually did the greater part of it, other units of the organization made their contribution. The department of social sciences organized in March a meeting of the Co-ordinating Committee on Documentation in the Social Sciences, which allocated money granted by U.N.E.S.C.O. as subsidies to various bibliographical publications in this field. The first issue of a new bilingual quarterly, *Current Sociology*, planned to consist of bibliographies and trend reports in alternate issues, comprised an international bibliography of sociology from Jan. 1 to June 30, 1951. A statistical pamphlet, *Basic Facts and Figures*, included useful information on libraries, book production and newspapers. Among other publications were an *International Repertory of Social Science Documentation Centres* and *Theses in the Social Sciences, an international analytical catalogue of unpublished doctorate theses, 1940-1950*. The quarterly *Fundamental Education Abstracts*, issued by the Education Clearing house, dropped the word " fundamental " from its title in January and was extended in scope to cover other aspects of education. *Index Translationum*, vol. 3, an international bibliography of translations covering the year 1950, was generally available at the beginning of the year, though it was dated Dec. 31, 1951. All the publications so far mentioned, unless otherwise stated, bore the U.N.E.S.C.O. imprint and appeared in Paris. The U.N.E.S.C.O. Agreement on the Importation of Educational, Scientific and Cultural Materials, providing for the exemption of books, educational films, etc., from customs and other restrictions, came into force on May 21 after ratification by ten member states.

During a series of international conferences in Copenhagen in September and October, both the International Federation of Library Associations and the Fédération Internationale de Documentation made important changes in their structure and statutes, *inter alia* admitting international organizations to membership. Useful progress in bibliographical standardization was made by the documentation committee of the International Standards organization. At a joint meeting with U.N.E.S.C.O., agreement was reached to establish a " Joint Consultative Committee of the International Non-Governmental Organizations for Librarianship, Documentation and Archives ", to include representatives of the following and to act consultatively on matters of common interest: International Federation of Library Associations, Fédération Internationale de Documentation, International Council of Archives, International Association of Music Libraries and two committees of the International Standards organization.

Great Britain and Ireland. Statistics collected by the Library association showed that in the financial year 1951-52 £2,572,000, or 1*s*. 0¼*d*. per head of population, was spent on books for public libraries. The total cost of the service was £10,372,000, or 4*s*. 1¼*d*. a head—an increase of some £1,200,000. The population served totalled 50,378,000 and the number of books lent for home reading was 340 9 million—an increase of 26 8 million. The number of full-time staff employed was 11,560. In Northern Ireland, the number of people still without library service was reduced to 1,500 by the opening in County Antrim of county library branches at Ballycastle and Lisburn. The building of the National Central library in Malet place, London, the greater part of which had been destroyed in an air raid on April 16, 1941, was reopened on June 20 by the Earl of Elgin, who had in 1933 handed to King George V the key of the same building at the original opening ceremony. Opportunity was taken in rebuilding to improve the original layout and to provide for expansion. The bookstacks were removed to the basement and ground floors and the offices placed in general as high as possible so as to make the best use of available daylight Inter-library loans through the National Central library, the Scottish and Irish Central libraries and the regional library systems totalled 311,500 volumes in 1951-52 (as against 292,000 in the preceding year).

Replies received up to June to a questionnaire circulated by the Library association to 582 public libraries in April gave information about postwar library building. " Permanent " buildings, including prefabricated structures designed as libraries: 4 central libraries and 40 branch libraries completed. Extensions and alterations of existing buildings: 77 schemes completed. Adaptations as permanent libraries, including conversion of shops, etc.: 109 schemes completed. Adaptations as temporary premises: 225 schemes completed. Buildings in hand: 68 schemes, mostly extensions and alterations. Buildings projected: 17 schemes licensed; 49 schemes deferred because of refusal of licence. Incomplete figures of real or estimated cost gave a rough total of £1·1 million. Many libraries had more than one scheme in operation; 209 had not replied when the figures were issued. The Library association celebrated its 75th anniversary at the annual conference at Bournemouth in April and May under the presidency of L. R. McColvin. The annual conference of Aslib at Swanwick, Derbyshire, in September, had as its theme the theory and practice of information service.

The British Museum reading room was reopened on July 1 after a closure of seven months for redecoration. Despite war damage to the dome and part of the iron library, the structure, last examined in 1907, was found to need little repair. Sir Frederic Kenyon, director and principal librarian of the museum from 1909 to 1930, died on Aug. 23.

The Library association published vols. 15 (1948) and 16 (1949) of *The Year's Work in Librarianship*. Butterworth's Scientific Publications published the third edition of the *World List of Scientific Periodicals*. The Oxford University press issued Sir E. Craster's *History of the Bodleian Library, 1845-1945*.

Commonwealth. The bill for the establishment of the National Library of Canada was passed unanimously by the

Canadian parliament on May 20. The site itself was still under consideration, but preliminary work was well advanced at the Canadian Bibliographic centre in Ottawa, where the national union catalogue already contained over 500,000 cards by the end of 1951. Under the auspices of the Commonwealth technical co-operation scheme, a seminar for library training was held in Australia from February to June, attended by librarians from Australia, India, Indonesia and the Philippines. A temporary extension of the overcrowded buildings of Melbourne university library was opened in Dec. 1951, at a cost of about £30,000, the building being ultimately adaptable for other purposes when superseded by the proposed new library. The National Library centre of New Zealand, forming part of that country's National Library service, completed preliminary work on its union list of serials in New Zealand libraries and expected to send the copy to press at the end of 1952. (F. L. K.)

United States. Among the special collections acquired in 1952 by libraries in the United States were the following: the H. L. Goodhart mediaeval library of 1,000 volumes (Bryn Mawr college); the papers of Henry L. Stimson, and the 1,000-volume W. R. Coe library of ornithology (Yale university); a collection of Maxim Gorky's letters, the papers of President William Howard Taft and 10,000 manuscript papers from Mrs. Woodrow Wilson (Library of Congress); the Michael Sadleir collection of Victorian novels (the University of California at Los Angeles); the deposit of the Vilhjalmur Stefansson library on the polar regions (Dartmouth college); the Drylan Shakespearian collection of 7,000 volumes (West Virginia university); a complete set of the first edition of Edgar Allan Poe's works, and manuscripts, letters, etc., from Clifton Barrett (the University of Virginia); the papers of William H. Seward, secretary of state in Lincoln's administration (the University of Rochester); a special Lincoln collection from Alfred W. Stern (Brandeis university, Waltham, Massachusetts); and a large collection of Thomas Wolfe's letters (the University of North Carolina). The Bancroft library of the University of California received the letters of John C. Fremont and his family for the periods 1877-84 and 1873-90 to add to Fremont materials already there.

Yale university issued the first of Gertrude Stein's unpublished manuscripts. The Library of Congress began publishing catalogue cards for films and film strips, five new albums of recorded poetry read by the poets themselves and a monumental catalogue of 50,000 films registered in copyright in the period 1912-39. The Association of College and Reference Libraries established a new monographic series and the University of Illinois began a new quarterly, *Library Trends*. The U.S. State Department provided funds with which the American Library association distributed copies of Henry Steele Commager's *Living Ideas in America* to 700 libraries in other countries. (R. E. EL.)

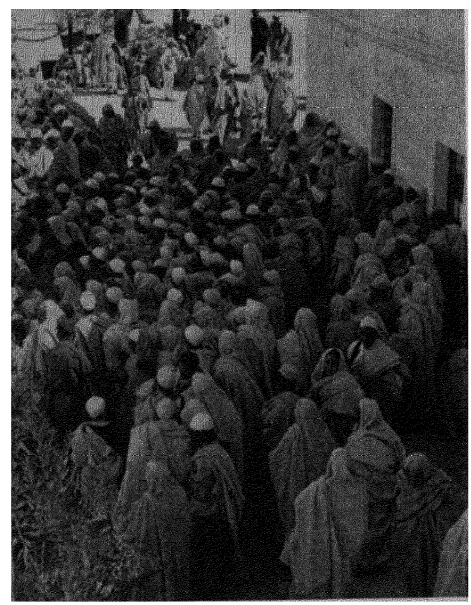
Other Countries. The French Direction des Bibliothèques initiated a scheme for a union catalogue of foreign acquisitions in French libraries, to be established in Paris with regional union catalogues in the provincial university libraries. Leon Carnovsky, professor of library science, University of Chicago, made an extensive study tour of European—particularly French—libraries in 1951-52. A seminar on U.S. libraries and librarianship was held in Rome, Florence and Naples, from March 24 to April 3 by the Fulbright Commission for Italy and certain other bodies in co-operation with the Italian Library association. Italian statistics classified the libraries of Italy at the beginning of 1952 as follows: state, 37, including 2 national central, 5 national and 12 university libraries; provincial and municipal, 193; public, 1,922; total, 2,152. Martin Bodmer, vice-president of the International Red Cross, bought for his private library in Geneva the Rosenblach collection of over 70 Shakespeare folios and quartos. The Stadtbibliothek St. Gallen, Switzerland, celebrated its 400th anniversary. From Vienna appeared the first issue of *Biblos*, an Austrian journal of librarianship, edited by J. Stummvoll. The Deutsche Gesellschaft für Dokumentation arranged a conference in Hamburg and Kiel in September.

Statistics in the Jan. 1952 issue of *Bibliotekar'* gave the holdings of the Lenin State library in Moscow as 14·5 million volumes (1 million in 1914; 9·6 million in 1940). The library receives by law three copies of every book published in the U.S.S.R.; the statistics presumably include duplicate copies.

The Turkish Library association issued the first number of *Türk Kütüphaneciler Derneği Bülteni*, edited by Adnan Ötüken, a well-produced journal covering a wide field of interest. The library of the Greek patriarchate at Alexandria celebrated its millenary. The foundation stone was laid on Jan. 28 of a new Cuban National library building in Havana and preliminary plans were made in Japan for a new National Diet library in Tokyo to house 10 million volumes. (F. L. K.)

LIBYA. An independent kingdom in north Africa, the United Kingdom of Libya is bounded N. by the Mediterranean, W. by Tunisia and Algeria, S. by French West Africa and French Equatorial Africa and E. by Egypt and Sudan. Area: 679,183 sq.mi. Pop. (1950 est.): 1,124,000; Berbers, with Arab admixture. Language: Arabic. Religion: mostly Moslem. Capitals (pop., 1950): Tripoli (140,000); Benghazi (62,300). Ruler, King Idris I; prime minister, Mahmud Bey Muntasser.

History. Libya applied for membership of the United Nations on Jan. 3, 1952, but by the end of the year was still on the " waiting list ". The U.N. commissioner's task ended on the proclamation of sovereignty on Dec. 24, 1951: in his



Voters at Zanzur, near Tripoli, waiting to vote in Libya's first general election in February.

report to the sixth session of the U.N. general assembly he stated his belief that the machinery devised for the achievement of independence had proved adequate, but that it had not stressed the economic, financial and social problems. The general assembly subsequently requested the Economic and Social council to consider the grant of additional assistance to finance Libyan development programmes.

General elections were held in each of the three provinces in February. In each the provisional government was confirmed in power and only in Tripolitania was there any disorder. There 17 people were killed in rioting apparently engineered by the opposition. This led to the dissolution of the Congress party, and the deportation to Egypt of the well-known politician Bashir Sa'adawi and three of his associates, and the trial and conviction of those who had organized the disturbances. The Libyan parliament met in Benghazi in March and the speech from the throne read by the prime minister, Mahmud Muntasser, paid a tribute to the work of the former administering authorities and the United Nations, and made friendly references to foreign interests. The necessity to improve relationships between the three provinces was recognized: they still tended to regard themselves as separate entities. The king added "amir of Cyrenaica" to his title to show his special relationship to that province. The first meeting of the Libyan Council of Governors took place in Cyrenaica in August.

The political events in Egypt had no repercussions in Libya although general approval of them was expressed. Titles were abolished in keeping with the action taken in other Arab states. There was some general discussion about treaties with the British and U.S. governments, particularly concerning the military forces of those powers in Libya, but nothing definite in this direction had happened by the time parliament adjourned in August.

The exodus of Jews from Libya to Israel continued.

(F. E. S.)

Education (1950) Schools (excl. Italian) primary 141, pupils 23,915, teachers 840, elementary (Cyrenaica only) 45, pupils 5,399, teachers 190, secondary (boys only) 3, pupils 650, teachers 47, community (mixed, Cyrenaica only) 3, pupils 156, teachers 14, Koranic 413 (approx.), pupils 1,930, teachers 413, trade school 1, pupils 30, instructors 17, instructional centres in *zawias* (monasteries) 39, pupils 760, instructors 39. Italian schools: primary 97, pupils 7,279, teachers 347, post-primary 8, pupils 1,152, teachers 104. The number of government Jewish decreased rapidly because of emigration. Teachers' training colleges 2, students 120, lecturers 12.

Finance. Budget (1952-53, est.) revenue £4,753,800, expenditure £6,026,000. Monetary unit: Libyan pound, at par with sterling, divided into 100 *piastres*.

Foreign Trade. *Tripolitania* (£'000, 1951, 12 months, 1952, eight months in brackets) imports 7,621 (5,779), exports (incl. re-exports) 2,190 (1,571). *Cyrenaica* (£'000, 1951, 1952 eight months in brackets) imports 2,581 4 (2,245), exports 2,651 7 (1,439). Main imports included metals, British and other European manufactured goods, tea, wine and spirits. Main exports included: esparto grass, hides and skins, goat and camel hair, wool and woollen goods, cattle, sheep and goats, vegetable oils, cigarettes and tobacco, dried and fresh fruit and vegetables, tunny fish, worked aluminium.

See Nina Epton, *Oasis Kingdom: The Libyan Story* (London, 1952).

LIECHTENSTEIN. Small independent principality between Switzerland and Austria. Area: 61 4 sq. mi. Pop. (Dec. 1950 est.): 13,800. Language: German. Religion: Roman Catholic. An elected Landtag of 15 members appoints the government. Capital: Vaduz (pop., Dec. 1950, 2,700). Ruler, Landesfurst (sovereign prince), Franz-Josef II, prime minister (from Sept. 3, 1945), Alexander Frick.

Education. Schools (1950-51) primary 14, pupils 1,658, teachers 50, secondary 2, pupils 156, teachers 8.

Agriculture. Chief products: wheat, fruit, wine. Livestock (April 1950): cattle 5,658, pigs 3,397; sheep 699, goats 694; horses 340, chickens 32,160.

Industry. Cotton weaving and spinning, leather goods, pottery, artificial teeth.

Finance. Budget (1951 actual) revenue Fr. 4,057,031, expenditure Fr. 3,132,616, (1952 est.) revenue Fr. 5,540,500, expenditure Fr. 5,560,600. Public debt (Dec. 31, 1950) Fr. 8,033,800. Included since Jan. 1924 in the Swiss customs union, Liechtenstein uses Swiss currency.

LIGHT ENGINEERING. Emphasis in the field of light engineering in 1952 continued to be on production and development rather than on the introduction of novel designs or revolutionary practice. The necessity to re-equip much of western European industry for rearmament disclosed gaps in the supply of such items as machine tools in some countries, and trade recessions, notably in textiles, indicated that the accumulated demand for certain classes of machinery was nearly satisfied and highly competitive trading conditions were beginning to emerge. This position was evident in the field of vehicle production, especially motor cars. At the same time notable advances were made in newer industries, particularly communications, broadcasting and aviation. The steady increase in the powers available from the jet engine were paralleled by the completion of aircraft specifically designed to take the fullest advantage of this method of propulsion in both civil and military flying.

One important development was the opening, at Wenvoe, south Wales, of a new television transmitting station in the network operated by the British Broadcasting corporation. This was of particular significance because this extension meant that television could now reach 78% of the population of the British Isles, which was claimed to be the biggest national coverage in the world. The transmitter was located on a site 400 ft. above sea level and the aerials were on the top of a 750 ft. mast which brought the total height to over 1,100 ft. The vision transmitter operated on a frequency of 66·75 Mc/sec. (4·495 m.) and the sound on 63·25 Mc/sec. (4·745 m.).

In camera and receiving equipment a most interesting advance was recorded in the successful experiments carried out by a British company, in conjunction with the Admiralty, on underwater television. This was first seriously used for the location of a wrecked submarine and experience proved that a standard camera unit could be modified to work for longer periods and at much greater depths under water than a diver. The principal modifications required were the provision of an adequate pressure casing, facilities for focusing the camera while submerged, remote iris control to vary the lens aperture and some means of measuring the angle of inclination, and a water indicator to show the intrusion of moisture inside the pressure casing. Though underwater television was in itself a comparatively simple and straightforward development its ultimate influence on marine engineering, salvage work, underwater construction of all kinds and other activities such as the investigation of fisheries might be expected to be profound.

Advances in electronic and radio engineering throughout the year extended over a very wide field of industry. In many fields progress was directed towards improving the performance and durability of established types of equipment, and reducing cost of manufacture and increasing output by mass production techniques. Because of the great demand for miniature thermionic valves for use in aircraft, and for electronic computers and military equipment capable of withstanding vibration and shock conditions, methods of mechanized manufacture were inaugurated by several well-known manufacturers and outputs of 1,000 valves an hour were reported to have been attained in some instances.

An important innovation was made in the introduction of electronic telephone equipment into the British telephone service with the installation of a system which promised ultimately to displace entirely existing electro-mechanical methods. This process depended upon an experimental

installation of six electronic directors which would perform the function of steering the call initially to the required exchange. Although there is no fundamental difference between the two methods, it was thought that electronic switching would increase the speed of operation and eliminate the wear and maintenance associated with the older method. There was also the prospect of a substantial reduction of noise. Another interesting item recorded in this field of research was an extension of electronic techniques to the sterilization of food and pharmaceutical products. It was shown that high velocity electrons generated by electron accelerators with effective anode voltages usually of the order of 2 million-3 million volts had great practical and commercial possibilities. Parallel work also showed the potentialities of radiations from radioactive atomic fission products.

Perhaps the most spectacular announcement of progress during the year was in aircraft engineering. The annual display organized by the Society of British Aircraft Constructors epitomized all the most recent achievements in aviation. Both civil and military planes were on view and some outstanding features of modern design of aircraft were to be noted. The first was the rapid advance made in the adoption of the triangular wing for aircraft of all sizes. This trend was signalized by the demonstration of a British four-engined bomber of secret performance, powered by jet engines, which was claimed to be capable of flying faster, higher and farther with a bigger load more economically than any other aircraft in the world. This successful performance of an aircraft of truly triangular wing shape with no tail plane justified the description of the year in flying as the dawn of the "delta wing age". The fact that a transport version of this machine to carry over 100 passengers was already being developed suggested that, as designs of high-speed, heavily loaded aircraft became more advanced, specialized characteristics of construction became less rigidly marked

Another interesting feature of aircraft design which became apparent during the year was the distinction between European, particularly British, ideas of design and those held by engineers in the United States. Whereas in Europe the tendency was to house the modern jet engine in the wings, with the object of reducing air resistance as far as possible, in the United States designers continued to mount the engine in separate nacelles.

Among the military fighter aircraft exhibited at the S.B.A.C. show were several claimed to be capable of exceeding the speed of sound. The latest types included one operational delta type which seemed to confirm the steady trend from swept wing designs to the ultimate logical development of the triangular form. Other aircraft produced for civilian flying services illustrated the manner in which the airscrew gas turbine combination had been perfected to complete the range of types needed for economic services at shorter ranges then the Nene jet types. The introduction of machines of this type drew attention to the changes in the construction of aircraft propellers. The high horse-powers available were necessitating changes in the design and method of construction of airscrews which, it became clear, were far from outmoded by the progress of the straight jet propulsion unit. Design projects which visualized the need for propellers in aircraft cruising at speeds up to 600 m p.h. were on the drawing board and the high speeds at which the blade tips would travel under these conditions made the orthodox solid blade of aluminium alloy unsuitable on account of excessive weight, especially at large diameters. In consequence new hollow steel blades had been introduced which were claimed to be some 12-15% lighter than a solid light alloy blade of the same design. This, combined with the progress which had been made in the eight-blade contra-rotating design, meant that new propulsion systems with great advantages in such inherent features of the airscrew as high take-off thrust were being perfected.

Official statements on researches into the production of guided rockets for military purposes indicated that advances had been made during the year both in the thermodynamics of rocket propulsion and in the design of electronic steering mechanism which were probably ahead of anything available in the commercial world. It was authoritatively announced that rocket motors which would give 200 lb. of thrust a second for every pound of fuel consumed were in process of development. They would operate on fuels such as alcohol and hydrocarbons as well as more familiar standard fuels while the oxidants which were employed would include nitric acid, hydrogen peroxide and liquid oxygen. It was believed that the excellent results obtained in the manufacture of high-strength laminated fabric board bonded with synthetic resins had played an important part in these experiments by enabling light high-strength bodies for the missiles to be produced. This development was in line with the increasing adoption of this form of construction as a substitute for timber or sheet metal in boat-building and similar work.

Steady developments in the straight jet propulsion engine were shown during the year by the disclosure that the figure for thrust output of nearly 10,000 lb. had been attained in a new British design. Claimed to be the most powerful in the world, this turbo-jet represented a successful attempt to attain higher outputs with economy of fuel and restricted frontal area It therefore marked a stage in turbo-jet development of the utmost significance. The engine obtained the desirable high compression ratio which was the basis of its successful performance by compounding two axial compressors, thus providing the first successful example of this principle in an engine of this type. It consisted of a low-pressure and a high-pressure unit, each with an entirely independent axial compressor and turbine. The low-pressure unit acted as a supercharger to the high-pressure compressor and each was driven by concentric shafts by its own turbine. Continuity of progress in the turbo-jet field with its continual search for higher powers was shown by the statement that during 1952 an engine which the previous year had passed test with a figure for static thrust of 7,500 lb. had attained an increased output of 8,300 lb.

Motor vehicle design and the production of industrial engines followed the trends of previous years in many respects European makers were steadily adopting the square engine with stroke and bore of the cylinders approximately equal in dimensions, and the replacement of side valves by overhead types was stated to be general in medium and high powered cars. An interesting trend in U S. design was the obvious preference for the arrangement of eight cylinders in V-form instead of in line, thus conforming to the general European practice, while U.S. developments in hydraulic gear-changing mechanisms were becoming popular among European makers. It was particularly noticeable that attention was devoted during the year to accessories and details of design and no really fundamental changes were introduced. One important detail in motor vehicles was the introduction of disc brakes. Several leading European manufacturers introduced new systems of braking based on this principle as a logical development from racing practice and experience.

Notable changes in technique of construction and operation of machine tools were observed and exhibitions held in Britain and Germany enabled contrasting lines of development to be emphasized. It was particularly evident that in response to demands for mass production of parts for the

armament industries and the manufacture of engines and motor vehicles continental makers during the year extended the principles of copy machining very widely. Practically all the well-known firms making lathes had introduced standard models fitted with copying attachments operating on mechanical, electrical or electronic systems and the principle of copying both internal and external profiles made great progress. The extension of the principle to such operations as grinding and gear cutting was also evident and the use of electronic systems worked by push-button for the repetition of sequences of operation was widely observed

During 1952 development in engineering materials continued along orthodox lines. The properties of a new high-nickel alloy of the series developed for high creep-strength and resistance to scaling, and thus suitable for service as gas-turbine blades, were made known, and much research was reported on the production of metallic titanium which was thought to form the desired intermediate constructional material between light alloys based on aluminium and high-tensile steels. No specific prospect of its manufacture in regular commercial quantities was disclosed. A sidelight was thrown on its technical properties in other directions by the report of a titanium dioxide rectifier developed by the U S. National Bureau of Standards. By the formation of a specially prepared oxide layer on one face of a plate of titanium metal, and the deposition of a counter-electrode of silver, gold, or some other similar metal on the desired rectifying surface of the oxide, rectifying units that can withstand an unusually high reverse voltage can be produced.

(W. As.)

LINEN AND FLAX. Flax fibre production increased in most producing countries of the world during 1951. In western Europe the largest producer, France, increased its output by 31%, while Belgium, the second largest producer, enjoyed an increase of 40%. Although the Netherlands was the third largest producer, it recorded the largest percentage increase, 62%, whereas the United Kingdom, fourth largest producer, had an increase of only 12%. There were no reports on production in U S.S R. which, in the period 1934-38, accounted for four-fifths of total world production of flax fibre.

FLAX FIBRE PRODUCTION IN PRINCIPAL PRODUCING COUNTRIES
('000 metric tons)

Country	1934-38	1948	1949	1950	1951
France	20 7	22 0	25 6	28 6	37 4
Belgium	21 7	19 4	22 1	20 3	28 5
Netherlands	12 0	18 4	20 6	15 7	25 4
United Kingdom	5 0	10 2	11 2	10 1	12 0
U.S.S R	640 0	—	—	—	—

The British linen industry shared in the general European textile recession in 1951. Government contracts for linen fabrics in connection with the rearmament programme offered some relief, but the rapid advance in raw material prices in 1951 aggravated by wage increases in all sectors of production led to higher prices and decreasing international demand. Exports of linen piece goods from the United Kingdom during July 1952 were valued at £870,121, as compared with £1,153,171 for the corresponding month of 1951 Exports to the United States during July 1952 were valued at £207,838, as compared with £404,794 in July 1951. Exports to Australia also registered a substantial decline, but those to Brazil, valued at £107,227, rose by almost 100% in July 1952.

Promotional activities of the linen industry continued in 1952 with an estimated payment of $42,000 by the Northern Ireland Ministry of Commerce to the Irish Linen guild as a grant-in-aid to support the cost of publicity in the United States during the first eight months of 1952. This supplemented the guild's main source of income, the linen industry itself.

(I. L. BL.)

LITERARY PRIZES. The 1952 Nobel prize for literature was awarded to François Mauriac (*q.v.*) The value of the award was about 171,000 Swedish kronor (£11,408).

Great Britain. Among the awards made during 1952 were: the JAMES TAIT BLACK memorial prizes (about £250 each) to Noel G. Annan for *Leslie Stephen* (the biography prize) and to W. C. Chapman-Mortimer for *Father Goose* (the fiction prize); the CARNEGIE medal (awarded by the Library association for an outstanding book for children) to Cynthia Harnett for *The Woolpack*, the ROSE MARY CRAWSHAY prize (£100, for a critical or historical work on English literature by a woman) to Ethel Seaton for her edition of Abraham Fraunce's *Arcadian Rhetorike*; the SOMERSET MAUGHAM award (about £250 for a British writer under 30, to be used mainly for foreign travel) to Francis King for his novel *Dividing Stream*; the DENYSE CLAIROUIN memorial prize for the year's best translation from the French, to Denise Folliot for her translation of *Moira* by Julien Green.

The Arts Council offered two prizes of £225 each for a first book of original English verse by a living poet published during the period Jan. 1, 1951-June 30, 1953, and for a book of original English verse by a living poet published during the same period. (X)

France. Among the numerous literary prizes awarded in France during 1952 were. GENS DE LETTRES to Claude Aveline for his work as a whole and to Michel de Saint Pierre for *La Mer à boire*; CRITIQUES to Georges Borgeaud for *Le préau*, VILLE DE PARIS to Jean Rostand for his work as a whole, MONACO to Henri Troyat for his work as a whole, AMBASSADEURS to André Billy for *Sainte-Beuve*, GRAND PRIX DE LA MER ET DE L'OUTRE-MER to Joseph Peyré for *Sang et Lumière* and *Guadalquivir*, GUILLAUME APOLLINAIRE to Alain Bosquet, ALBERT LONDRES to Georges Menant; COURTELINE to Pierre Daninos; CHRONIQUE PARISIENNE to Carmen Tessier, DEUX MAGOTS to René Jean Clot, ROMAN D'AVENTURES to Jean Kery; and PRIX DES NEUF DE DEAUVILLE to Emmanuel Berl, ACADÉMIE GONCOURT to Beatrix Beck for her novel *Léon Morin, Prêtre*; INTERALLIÉ to Jean Dutourd for his novel *Au Bon Beurre*, FEMINA to Dominique Rolin for *Le Souffle*; SAINTE-BEUVE (novel) to Pierre Boulle for *Le Pont de la rivière Kwai*, (essay) to Etiemble for *Le Mythe de Rimbaud*, THÉOPHRASTE RENAUDOT to Jacques Perry for *L'Amour de rien.* (A PR)

United States. PULITZER PRIZES, five prizes in letters, of $500 each, were awarded to Herman Wouk for *The Caine Mutiny* (fiction), to Merlo J Pusey for *Charles Evans Hughes* (biography), to Oscar Handlin for *The Uprooted* (history); to Marianne Moore for *Collected Poems* (poetry); and to Joseph Kramm for *The Shrike* (drama)

ACADEMY OF AMERICAN POETS, $5,000 fellowship to Padraic Colum AMERICAN ACADEMY OF ARTS AND LETTERS and NATIONAL INSTITUTE, gold medal for fiction to Thornton Wilder, gold medal for history and biography to Carl Sandburg. AMERICAN ACADEMY OF ARTS AND LETTERS, Prix de Rome fellowship of $3,000 to William Styron ANISFIELD-WOLF AWARDS, two awards of $1,000 each for the year's best books on racial relations, to Laurens van der Post for *Venture to the Interior* and to Brewton Berry for *Race Relations* BANCROFT PRIZES, for the best two books on American history, American diplomacy or American international relations, $2,000 each to Merlo Pusey for *Charles Evans Hughes* and to C. Vann Woodward for *Origins of the New South*. BOLLINGEN PRIZE IN POETRY, $1,000 to Marianne Moore for *Collected Poems*. CHRISTOPHERS' AWARD, for works of enduring spiritual significance, $5,000 to Fulton Oursler for *The Greatest Book Ever Written*. FRIENDS OF AMERICAN WRITERS, $1,000 annual award for the encouragement of young authors from the midwest to Vern Sneider for

The Teahouse of the August Moon. LAUTERBACH AWARD, $1,000 for the most substantial contribution to the cause of civil liberties, to William O. Douglas for his lecture "The Black Silence of Fear" published in the *New York Times Magazine.* NATIONAL BOOK AWARDS, gold medals awarded by the entire book industry for distinguished fiction, to James Jones for *From Here to Eternity;* for non-fiction, to Rachel L Carson for *The Sea around Us,* and for poetry, to Marianne Moore for *Collected Poems* NATIONAL INSTITUTE OF ARTS AND LETTERS, $1,000 each to six non-member writers for encouragement to young artists of ability and as practical recognition for more established authors: Saul Bellow, Alfred Hayes, Theodore Roethke, Elizabeth Spencer, Peter Taylor and Yvor Winters NEW YORK DRAMA CRITICS AWARD, honorary awards given by the New York metropolitan critics for best play, to John Van Druten for *I Am a Camera* (based on Christopher Isherwood's *Berlin Stories*); best musical, *Pal Joey;* best foreign play, to Christopher Fry for *Venus Observed.* POETRY AWARDS, Harriet Monroe Memorial prize of $500, to Robert Lowell. RUNG AWARD, $5,000 for novel emphasizing Christian living, to Elizabeth Patton Moss for *The Iranian* TAMIMENI AWARDS, $500 each to Whittaker Chambers for *Witness* and Merlo Pusey for *Charles Evans Hughes* CALDECOTT MEDAL, for the year's most distinguished American picture book for children, to Nicolas Mordvinoff for illustrations of *Finders Keepers.* JOHN NEWBERY MEDAL, for the year's most distinguished contribution of American literature for children, to Eleanor Estes for *Ginger Pye.* ZONDERVAN JUVENILE AWARD, $1,000 prize for Juvenile Christian Fiction contest, to Craig Massey for *Flaming Valley*

Canada. GOVERNOR GENERAL'S AWARDS. Silver medals awarded to Morely Callaghan for *The Loved and the Lost* (fiction); Josephine Phelan for *The Ardent Exile* (creative non-fiction), Frank MacKinnon for *The Government of Prince Edward Island* (academic non-fiction), Charles Bruce for *The Mulgrave Road* (poetry), John Hayes for *A Land Divided* (juvenile) LEACOCK MEDAL FOR HUMOUR, to Jan Hilliard for *The Salt Box.* LORNE PIERCE MEDAL, for achievement of special significance and conspicuous merit in imaginative or critical literature, to Hugh McLennan, author of *Each Man's Son.* TYRRELL MEDAL, for research in Canadian history, to C B Sissons, author of *Egerton Ryerson. His Life and Letters.* (A J RR)

LITERARY RESEARCH. Important facilities for research were contributed in 1952 from local archives. In the Abingdon guildhall the town's charters from 1556 and other documents were exhibited (*The Times*, July 19). In the Dorchester town hall a series of 21 royal charters, beginning with one from Edward I, March 12, 1305, were displayed (*ibid.*, May 17). Isle of Wight archives were shown at Carisbrooke castle, beginning with a charter to the borough of Newport in 1180 and including a letter of Charles I in 1648 when he was imprisoned in the castle (*ibid.*, May 5). There was a remarkable discovery of the Great Charter of Leeds, granted by Charles I in 1626, which had been lost for over 300 years and was found in a Canterbury bookshop It was restored to the Leeds archives (*ibid.*, July 3). The Corporation of Wardens of St. Saviour, Southwark, deposited its archives, including a unique series of "token books", for attendance at Holy Communion from 1578 to 1643, in the L.C.C. muniment room (*ibid.*, March 15).

The British Museum acquired 12 of the Earl of Leicester's Holkham hall MSS., including the fascinating 14th-century Bible picture-book described by Francis Wormald (*Times Lit. Supp.*, May 2). Derek Price drew attention in two articles (*ibid*, Feb 29 and March 7) to an astronomical MS. in the library of Peterhouse, Cambridge, *The Equatorie of the Planetis*, written in 1392, which had kinship with Chaucer's *Treatise of the Astrolabe*, and might possibly be by Chaucer himself. In *Interludes in Fifteenth-Century Revels at Furnivall's Inn* (*Review of English Studies*, July) Dr. S. Bland noted payments for entertainments at the inn between the Christmasses of 1407 and 1502, and the use of the debated term "interlude" in 1412 The final volume of the Clarendon press edition of *Ben Jonson* (11 vols, ed. C H Herford, Percy and Evelyn Simpson) was published, containing new documents, Jonson's literary record and criticisms passed on him. W. F. Oakesholt, aided by British Museum experts, indentified a MS in private hands as Sir Walter Raleigh's commonplace book while he was working in the Tower on his *History of the World.* It also contains autograph verses to Cynthia, and a library list, doubtless of books used by him It also goes far to prove that the map of Guiana in the British Museum is Raleigh's own drawing (*The Times*, Nov. 29). Jean Robertson edited, with a biography of Breton and notes, a detailed discussion of the canon of *Poems by Nicholas Breton* (Liverpool) L. C. Martin described a MS. of Richard Crashaw's *Hymn to St. Teresa*, now in the Pierpont Morgan library, New York, with several unique readings (*Times Lit. Supp.*, April 18) Sybil Rosenfeld described a newly found *Second Letter-book of Sir George Etherege* (*Review of English Studies*, Jan). *Studies in English Theatrical History*, published by the Society for Theatrical Research, contained an account by James Laver of Gabrielle Enthoven's collection of playbills and essays on theatrical personalities from the Restoration till the 1900s.

R. W. Chapman revised Hill's edition of Johnson's *Letters*, to which he added nearly 500, and a collection of letters to Johnson from Mrs Thrale J L. Clifford printed three further holograph letters and three notes from Johnson to Mrs Benjamin Way (*Times Lit. Supp*, May 30).

Important new light was thrown by A D Hopkins on *Elizabeth Gaskell, Life and Letters* (London), and by L. and E Hanson on *Marian Evans and George Eliot* (Oxford). Gordon N. Ray in *The Buried Life* (Royal Society of Literature), traced the relation between Thackeray's fiction and his personal history Swinburne's unfinished novel *Lesbia Brandon* was edited by Randolph Hughes (London) An early story for boys by Thomas Hardy, *Our Exploits at West Poley*, was discovered in a magazine and published in book form (Oxford) (F. S. B.)

LITERATURE: *see* AMERICAN LITERATURE, AUSTRALIAN LITERATURE, BOOK COLLECTING AND BOOK SALES, BOOK PUBLISHING; CANADIAN LITERATURE; CHILDREN'S BOOKS; CLASSICAL STUDIES; ENGLISH LITERATURE, FINNISH LITERATURE, FRENCH LITERATURE; GERMAN LITERATURE; ITALIAN LITERATURE; LATIN-AMERICAN LITERATURE, LITERARY PRIZES, LITERARY RESEARCH, NEWSPAPERS AND MAGAZINES; NEW ZEALAND LITERATURE, RUSSIAN LITERATURE; SCANDINAVIAN LITERATURE; SOUTH AFRICAN LITERATURE; SPANISH LITERATURE; WORDS AND MEANINGS, NEW.

LITHUANIA. A Soviet Socialist republic, bounded N. by Latvia, E. and S.E. by Byelorussia, S. by Poland and Soviet-incorporated East Prussia and W. by the Baltic sea. Area (including Klaipeda or Memel and Vilnius or Wilno territories): 25,173 sq.mi. Pop.: (Oct. 1939 est, including Vilnius but excluding Klaipeda) 2,970,000; (1950 est., including Klaipeda) *c.* 3,000,000. Language: Lithuanian, Polish and Russian. Religion: Roman Catholic and Greek Orthodox. Chief towns (pop., 1938 census): Vilnius (cap., Oct. 1939 est., 207,800); Kaunas (152,365); Klaipeda (47,189); Šiauliai (31,299). Chairman of the presidium of the Supreme Soviet, Justas I. Paleckis; chairman of the council of ministers, Mečislovas A. Gedvilas.

History. On the 12th anniversary of the incorporation of Lithuania into the U.S.S.R. the Communist press published articles emphasizing the "historic changes in the life of the Lithuanian people". The Communist party membership amounted to 36,000. During the first Five-Year plan, 1946-50, wartime ruins were fully restored and production was higher than in 1940. The output of industry in 1950 was 87 5% larger than in 1940. In 1951 industry's share in the national economy amounted to 56%, as compared with 35% in 1945. For the first time Lithuania began to produce metal-working machine tools, turbines and electrical equipment. There were three times as many employed in industry as in 1940

As part of the Five-Year plan, 1951-55, a hydro-electric power station was to be built on the Niemen river at Kaunas and the port of Klaipeda was to be enlarged to accommodate larger sea-going vessels. As a result of the merger of small collective farms into bigger ones, the number of *kolkhozy* was reduced between July 1950 and July 1952 from 6,549 to some 3,000.

On May 10 *Izvestia* reported that a "Defence of Peace" conference of churchmen of the Soviet Union had been called at Zagorsk by the patriarch of Moscow The presence of Mgr. Kazys Paltarokas, Roman Catholic bishop of Panevežys, refuted the rumour of April 1950 that he had died in a Soviet prison.

The Soviet telegraphic agency Tass reported from Wilno on Feb 26 that in "districts with a Polish majority" Polish public libraries existed, lectures in Polish were being organized and Polish talking pictures were shown in cinemas According to *Sovietskaya Litva* there were 277 schools in the province of Wilno in which teaching was in Polish as well as 11 Polish newspapers.

Education. Schools (1951) primary *c* 3,200, pupils 459,000, secondary and technical *c* 200, pupils 135,000, institutions of higher education 12, students 12,000

Finance. Budget (1952 est.) balanced at Rb 1,471,051,000

(K. M. S.)

LIVESTOCK. The changing pattern of production and trade was brought into sharper relief in 1952. Increasing industrialization and higher demands for meat for home consumption led to a restriction of export trade and an emphasis on meat production Even in countries such as Great Britain where milk had been the dominant product of the cattle industry, there had been a further switch in emphasis towards store cattle raising and beef. In England and Wales, particularly, the previous emphasis on milk, which was assisted by rising costs, itself gave rise to a position in which milk supplies tended to be derived from somewhat fewer cows of higher average milk yields. Artificial insemination was being widely used not only to disperse higher potentials of milk production throughout the dairy herds, but also to disseminate the possibility of breeding beef stores from the poorer-quality dairy cattle, especially in the marginal areas. In Great Britain, also, sheep and pig numbers showed significant increases, sheep flocks being revived in some measure in parts of the lowland grassland areas. The subsidy for ploughing-up grassland stimulated the production of coarse grains available for livestock feeding and would not in the long-term conflict with the campaign for increased production from grassland which was being expressed by more intensive utilization by grazing as well as by more and better conservation as silage, hay and dried grass. The use of the electric fence to give more precise control of grazing for dairy cows made further progress and showed signs of greater application to pig-raising as well as possibly to beef-cattle production. Price control, rationing and subsidy schemes still operated to bias production in time, quality and quantity, but did not overcome the slaughtering, supply and distribution difficulties inherent in any system of seasonal production For example, in 1952 there was a marked shortage of British milk supplies in September, partly as a long-term consequence of the previous encouragement of winter milk.

The prices of wool fell from their earlier very high level but remained a powerful factor in the maintenance of sheep-raising industries, although the general fall foreshadowed some difficulties in connection with the policy of price stabilization schemes.

In Australia, severe droughts had catastrophic effects on the beef-cattle-raising areas, in which recovery of stocks would be slow. The Queensland beef project was virtually abandoned, but the year closed with word of importation of the hot-climate-resistant, hardy Santa Gertrudis cattle from Texas to northern areas in Australia (*see* AGRICULTURE).

An outstanding feature of the year was the very high prices obtained for first-class pedigree animals of British breeds, by home-breeders, for export, and in overseas countries. (J. E. N.)

United States. U.S. farms reported an increase in livestock at the beginning of 1952, as compared with a year earlier, in all classes except dairy cows and, as usual, horses and mules. Value of livestock on U.S farms reached a record of $19,600 million on Jan. 1, 1952, up from the 1951 record of $17,100 million Cattle of the beef type were outstanding in that they increased by about 6 million head to a total cattle level of about 93 million. There was agreement that cattle slaughter increased in 1952, with larger numbers to be marketed in 1953. Record numbers were on feed in midwestern feed lots during the year, but the high price paid for feeder cattle late in 1951 or early in 1952, together with decline in fat cattle prices, meant little profit to feeders in 1952

U.S cattlemen were very uneasy after an outbreak of foot-and-mouth disease in Canadian cattle in Saskatchewan in February, with recurrence in April Though it was brought under control and trade in livestock was restored within Canada in late summer, strict exclusion of movement to the U.S. continued. The 1952 pig crop consisted of 56,607,000 spring pigs and an indicated 36,500,000 autumn pigs, or a total of about 93,100,000 head, a sharp decline from the 102,189,000 head of 1951. Preliminary indications suggested a total of less than 90 million head in 1953. The continued decline was associated with an unfavourable corn-hog ratio, *i.e.*, relatively high corn prices and increasingly weak prices for hogs, a situation which it was expected would be little improved by the larger corn crop of 1952. Sheep made slow progress in their comeback from record low numbers. Though lamb and mutton prices continued to be favourable wool prices declined sharply.

LIVESTOCK ON U.S FARMS
(in thousands of head)

	Average 1941-50	Jan 1, 1951	Jan 1, 1952
Horses	8,135	4,993	4,370
Mules	3,100	2,074	1,923
Cattle (incl calves)	79,464	82,025	88,062
Milk cows	25,907	23,722	23,407
Sheep	43,755	30,635	31,725
Hogs	61,977	62,852	63,903
Chickens	486,803	442,657	453,498
Turkeys	6,324	5,091	5,835

World. World cattle increased further during 1952 Reductions were mostly in some drought areas, chiefly in the southern hemisphere. The Australian cattle industry had a bad year, particularly in the Northern Territory. World hog numbers were estimated at 305 million head at the beginning of 1952, 3% more than a year earlier and 5% above prewar levels. There was a serious cholera outbreak in the Netherlands. Coloured pigs were outlawed by government decree

in Ireland. At the beginning of 1952 the sheep population of the world was 808,300,000 head, 4% more than in 1951. (*See* also DAIRY FARMING, MEAT; VETERINARY MEDICINE.)

(J. K. R.)

LOCAL GOVERNMENT. The general election of Oct. 1951 brought a change of emphasis rather than a general change in tempo in the work of local authorities in Great Britain. Housing became the predominant theme and the minister of housing and local government, Harold Macmillan, called for a housing crusade. The government's target was set at 300,000 new houses a year, designs were encouraged which maintained the minimum room sizes of the *Housing Manual*, 1949, but reduced the overall size of the house (see *Houses 1952*—second supplement to *Housing Manual*), and local authorities were given power to license more private building up to a limit of one house built under licence to one built by the local authority to let. The limits formerly placed upon local authorities on the extent of their building programmes were, in practice, not applied, the only real limitations being those of the availability of labour and materials in a particular locality.

The financial policy of the government necessitated an increase in the subsidies paid to local authorities for house building and also entailed a curtailment of other expenditure. In addition, the rearmament programme brought about limitations of manpower and materials. The Housing act, 1952, increased the subsidy paid by the government in respect of each house from £16 10*s*. to £26 14*s*. and placed an obligation upon the local authorities to increase their subsidy from £5 10*s*. to £8 18*s*. The opportunity was also taken by this legislation to enable the minister to impose conditions when giving consent to the sale of houses owned by local authorities.

The only other act of parliament of great importance to local government was the Town Development act, 1952. This was to be regarded as complementary to the New Towns act, 1946, and was intended to stimulate the expansion of the smaller towns, particularly those within 50 or 60 mi. of the Greater London area, by the transfer of population to relieve congestion or over-population elsewhere. Grants might be made by the exchequer under the act, in the nature of a "sweetener", to induce a small town to embark upon the necessary expansion. From a national point of view, it was apparently regarded as more economical to expand certain of the existing towns than to build new towns.

The other facet of government policy which most deeply affected local government was the general determination to curtail public expenditure and the limitations placed upon the capital investment programme by the needs of rearmament. The first service affected was education, in which an overall reduction of 5% in the estimates for 1952-53 was called for. Highway authorities were asked to limit their expenditure on the maintenance of unclassified roads. Many of the other normal local government services, such as water supply, sewerage and sewage disposal, private street works and coast protection, were curtailed by the necessity of reducing overall capital expenditure and the limitation on supplies, particularly steel.

During the year rates continued to rise because of rising costs and the increased burdens from the expansion of services during the preceding years, in spite of the transfer of certain services to the central government. The average rates levied in the different classes of local authority for 1952-53, as compared with 1945-46, were as follows:

Year	County Boroughs	Metropolitan Boroughs	Non-County Boroughs	Urban Districts
	s. d.	*s. d.*	*s. d.*	*s. d.*
1945-46 . .	15 6	13 10	15 2	15 9
1952-53 . .	21 0	18 4	21 1	21 0

These increased burdens again caused local authorities to express dissatisfaction with the extent of their financial resources. Approach was made to the government to repeal the derating provisions of the Local Government act, 1929. These gave substantial derating benefits to industrial, freight transport and agricultural hereditaments. Local authorities had contended for a long time that the conditions of 1929 had ceased to exist and that these special privileges to certain classes of property should be removed. The government, like their predecessors, refused the request. Many urban areas were also dissatisfied with the distribution of the exchequer equalization grant provided by the Local Government act, 1948. No general grant was now being paid to all authorities, as under the Block grant given by the act of 1929, and in 1952 27 county boroughs and 7 county councils received no general exchequer grant under the act of 1948. An investigation into the working of the grant provisions of this act was being undertaken, but under terms of reference which precluded any reconsideration of the principles upon which the grant was based. The most important of these principles was an assumed uniformity of property valuation throughout the country. The central government, under the act of 1948, took over the responsibility of carrying out this task and hoped to complete a revaluation of the whole of the country by 1953. This proved to be impossible and there was little likelihood of a general revaluation before April 1956. Legislation was being promoted to secure this postponement.

No progress in local government reform took place in 1952. The Ealing Borough council attempted to obtain a modified form of country borough government by promoting a bill in parliament. As with similar efforts by Luton and Ilford in previous years, the bill was rejected by the House of Commons on second reading.

Just as the year began, the second report of the Local Government Manpower committee was published (Cmd. 8421, H.M.S.O., London) on the completion of the main task of the committee. Many recommendations in the first report were said to have been put into effect with resultant savings in manpower.

In the development of the national health services, much attention was paid to co-operation between the hospitals, the local health services and general practitioners. The Central Health Services council published a special report to the minister of health on this subject. (G. H. BL.)

LONDON. The largest city in the world, the largest port, the largest industrial town in England, the capital city of the United Kingdom and the centre of the Commonwealth, London consists of the City, its ancient heart (area 1·05 sq.mi.), the county, comprising the 28 metropolitan boroughs (area 117 sq.mi.; pop., 1951 census, 3,348,336); and greater London, of about 15 mi. radius from Charing Cross and identified with the Metropolitan and City police areas (693 sq.mi.; pop. 8,346,137), comprising the whole of Middlesex and large areas of Kent, Surrey, Hertfordshire and Essex. Chairman of the London County council, Edwin Bayliss; lord lieutentant of the County of London, Field Marshal Viscount Alanbrooke; lord mayor of London, Sir Leslie Boyce, and, from Nov. 8, 1952, Sir Rupert de la Bère. At the L.C.C. triennial elections (April 3, 1952) the Labour party obtained 92 seats, the Conservatives 37; no Liberal was elected.

The early part of the year in London was inevitably dominated by the profound public feeling evoked by the sudden death of King George VI at Sandringham in the early

On June 7, 1952 Lancaster Herald (in carriage) proclaims the coronation of Queen Elizabeth II. In background is Admiralty Arch.





A B.E.A. helicopter landing on the South Bank site during tests to determine the site's suitability for helicopter services.

hours of Feb. 6. Grief and shock at the loss of the king did not exclude lively sympathy and eager loyalty for the new queen; and the pleasure of the crowds who witnessed the splendid ceremonial of the accession proclamation on Feb. 8 by garter king of arms, in company with the pursuivants and other heralds, at St. James's palace, Charing Cross, Chancery lane and the Royal Exchange, was not at all imcompatible with a genuine feeling of personal loss. While the king's body lay in state for three days at Westminister hall, long files of those waiting to pay their homage stretched along the Embankment and over Lambeth bridge, and vast crowds lined the route of the funeral procession from Westminister to Paddington on Feb. 15.

On May 5 the queen took up her residence at Buckingham palace, and on June 5 took for the first time the sovereign's part in her own right at the Trooping the Colour. On June 7 the coronation proclamation for the holding of the coronation in 1953 was made by the officers of arms at the traditional stations at Westminister and the City.

In May the king of Denmark visited London and re-dedicated the Church of St. Katharine, Regent's park, for the Danish community in London.

Building and Reconstruction. In September the county council approved the County of London Development plan (1951), required under the Town and Country Planning act (1947). The plan would entail an expenditure of £540 million and would take 20 years to execute. It incorporated most of the County of London plan (1943) and involved the setting aside of 5,665 ac. for housing, 1,071 ac. for open spaces, 910 ac. for schools, and included 11 mi. of new principal roads, 2 mi. of tunnelling, the rebuilding of two bridges and the "zoning" of certain "precincts" of particular character, such as London university, the museums at South Kensington and the governmental area of Westminister. Residential development was estimated at 2,496 ac. to accommodate 240,000 persons. Objections to the various clauses were being heard before a public court of enquiry.

The L.C.C.'s housing estimates for 1952-53 represented an expenditure of £21 million, an increase of £500,000 over 1951. In the borough of Paddington an original and ambitious housing scheme attracted the attention of experts. A bombed site of 17 ac., well provided with trees from previous gardens on the site, was being laid out with blocks of flats arranged round large courtyards. A block of ten storeys containing 80 flats was already in occupation in 1952. Despite the difficulty of obtaining building licences new structures steadily replaced the familiar bracken, fireweed and ragwort on the bombed sites, though it was deplored in the City that business enterprises found it more expeditious to build on isolated sites in the west end than in the City where they must conform to the slow procedures involved in the City plan.

On Oct. 15 the lord mayor formally opened the reconstructed portion of the Old Bailey. St. Etheldreda's, Ely place, was reopened after restoration and a new east window was installed in the Temple church. Tower bridge was completely repainted. St. Martin's-in-the-Fields received extensive repairs to bomb damage and the Chapel of St. Mary Undercroft at the palace of Westminister was restored and reopened. The Church of St. George the Martyr in Southwark, associated with Charles Dickens' *Little Dorrit*, was handsomely restored after bomb damage, much of it by parishioners. The restored buildings of the National Central library in Malet place were reopened in June. In November the queen laid foundation stones for a new Inner Temple Hall and Lloyd's new building in the City. A playing field was opened by the Duke of Edinburgh in Stepney: this was the first grass field to be laid in Stepney for many years.

A memorial window in Westminster Hall to war casualties at the Palace of Westminster was dedicated by the Archbishop of Canterbury. In November the first pillar box bearing the royal cipher of the new reign was unveiled in Whitehall.

In some parts of London street associations were active. The Mayfair association had been facing problems arising from the altering character of Mayfair, which was gradually becoming a business as well as a residential district, with consequent traffic congestion and inadequacy of postal facilities. People had been obliged to wait at over-flowing letterboxes to hand their letters to the post-office collecting vans. The association prevailed upon the post office to amend the situation.

The work of demolishing the exhibition buildings of the Festival of Britain proceeded briskly, and a broad riverside walk was constructed between County hall and Waterloo bridge. The station-gate buildings of the exhibition were acquired by British European Airways for a passenger terminal which was expected to have twice the capacity of that at Kensington which it would supersede early in 1953. A proposal to establish a helicopter port on the site was being seriously considered.

Traffic and Shipping. On July 5 the last honours were paid to London's tramcars. On the six surviving tram-routes enthusiasts gathered in crowds to see the last of them. At midnight the last tram made the final journey from Woolwich to New Cross, driven alternately by the mayor of Deptford and the vice-chairman of the London Transport executive, himself originally a tramwayman, to the accompaniment of valedictory cheering. At the end of its journey the tram very properly broke down, and had to be manhandled to its resting-place.

In March the travelling public in the London area received a shock when the agreed rise in bus and tube fares came into force. In response to protests action was taken by the minister of transport and on Aug. 31 some adjustments were made.

Road casualties in the Metropolitan police area in 1951 increased by 10% over 1950, one-third of the total being elderly persons. Fatal accidents to children had decreased.

The net tonnage of shipping using the Port of London for the year ending March 31, 1952, was 57,692,297 tons, over 3 million tons more than in the previous year, and only 4 million tons less than in 1939. The total tonnage of goods passing through the port, 39,938,762 tons, was about 4

million tons more than in 1951 and about 6 million tons more than in 1939. Repairs to war-damaged wharves and locks continued. A new rolling lift-bridge over the Surrey entrance to Surrey Commercial dock was brought into use, and a new quay completed at West India Transport dock. Two new floating grain elevators, " John Anderson " and " Douglas Fletcher ", came into service. Two of the temporary piers provided in 1951 for the Festival—one at South Bank, the other at Battersea pleasure gardens—were operated by the Port of London authority during the summer.

Antiquities. Further explorations into Roman London resulted in a clearer conception of the date and dimensions of the fort recognized in 1950 in the Cripplegate-Aldersgate area; it was now regarded as definitely older than the Roman wall in which it was incorporated. An impressive stretch of the wall was newly excavated and became visible on the north side of the old churchyard of St. Alphege in London Wall. Its south face had been known since the 19th century; the north face would now be preserved and an open space laid out in front of it. Excavations for the foundations of the new Lloyd's building in Lime street located the remains of an imposing Roman building, itself built over the burnt remains of an earlier structure, testifying perhaps to the rebuilding of Roman London after the devastation of Boadicea's rebellion. Part of a Saxon cross found under All Hallows, Barking-by-the-Tower, could be ascribed to the Saxon church on the site rebuilt by the Normans at the Conquest. At Whitehall excavations for laying out a terrace and garden on the river-front of the new government building on the site of the old Whitehall palace brought to light part of the original riverside terrace of the palace. This would be incorporated in the new building.

Art, Museums and Entertainment. A notable exhibition was held at the Royal Academy in celebration of the 500th anniversay of the birth of Leonardo da Vinci. In the autumn the Royal Academy held an exhibition of the work of Sir Frank Brangwyn, the first time that such an honour had been paid to a living member of the academy. The winter exhibition consisted of the works of Dutch masters. An unusual exhibition, sponsored by the Arts Council, was that of copies by Italian craftsmen of figures from the 5th and 6th century mosaics at Ravenna.



One of the last trams crosses Westminster Bridge. On July 5 trams in London were replaced by buses.

An addition to London's museums was made in July by the opening of Apsley house, a residence of the Duke of Wellington from 1817, as a permanent Wellington museum.

As a result of two bequests the University of London came into possession of an outstanding collection of Chinese ceramics, mostly of early date. These were arranged in a large Georgian house in Gordon square; it was intended to found a chair in the university for the study of Chinese art and archaeology.

In September the winter season of music and entertainment was inaugurated by the simultaneous arrival in London of Arturo Toscanini to conduct two concerts at the Royal Festival hall, and of Charles Chaplin for the London *première* in October of his film *Limelight*.

The Battersea pleasure gardens re-opened experimentally for the summer months on May 24 and closed on Oct. 18, the attendance having reached only 2·5 million, compared with over 8 million in 1951.

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LONDON UNIVERSITY. In the academic year 1951-52 there were 11,374 full-time men students and 4,256 full-time women students at the schools (constituent colleges) and senate institutions of the University of London; in addition 2,385 men and 282 women were working under recognized teachers at institutions in the London area not organically connected with the university (polytechnics, academies of music, research centres, etc.). Of the 30,722 external students *c.* 6,000 were preparing for examinations through correspondence courses, *c.* 3,000 by private tuition; 3,500 were at the English university colleges, *c.* 11,000 at technical colleges and 3,802 overseas (incl. 488 at colonial colleges in special relationship with the university).

In 1952 the Institute of Education celebrated its jubilee, having been established by the London County council in 1902 as the London Day Training college and re-named on transfer to the university in 1932. Two houses on the property recently acquired from the Bedford estate in Woburn square were adapted as an annexe to the institute. A third house, 53 Gordon square, was adapted for the Percival David Foundation of Chinese Art, under the auspices of the School of Oriental and African Studies, and the collection of ceramics and other objects made accessible to students and the public. In June the School of Pharmacy was granted a royal charter. The Institute of Dental Surgery (at the Eastman Dental hospital) and the Institute of Cancer Research (at the Royal Cancer hospital) attained federated status in the British Postgraduate Medical federation, itself a school of the university which then comprised ten specialized institutes.

A new degree of master of dental surgery was instituted, the requirements for which followed closely those of the doctor of medicine (M.D.) and master of surgery (M.S.) degrees. The first five-year course for the new degree of bachelor of veterinary medicine began at the Royal Veterinary college. This degree, unlike the older B.Sc. (Vet.Sci.), would be a registrable qualification. In place of the B.Sc. (household and social science) degree two new degrees, entitled B.Sc. (household science) and B.Sc. (nutrition) were introduced, designed to place these studies on a more scientific basis. M.Sc. degrees were established in pharmacology and geophysics.

At the university library 20,000 volumes were added to the book stock and 216 new titles to the list of periodicals, bringing the total number of books to over 550,000 and the current periodicals to 2,700. The music library was re-opened after war-damage repairs and an open-access library of 30,000 books made available.

The foundations of the new University of London union building on the Bloomsbury site north of Birkbeck college were finished and work started on the first part of the superstructure which would provide common rooms, gymnasium and library. The union itself was reconstituted and from Aug. 1 comprised the former union and Athletic union. All students at grant-earning schools of the university became members automatically and the union received assistance direct from the university to compensate for loss of affiliation fees formerly paid by the schools or by their students' unions.

Sir William Halliday retired after 25 years as principal of King's college and was succeeded by P. S. Noble, regius professor of humanity at the University of Aberdeen.

Following a dinner held on Jan. 25 to celebrate the acquisition in 1951 of 13 ac. of property adjacent to the existing 11-ac. Bloomsbury site, honorary degrees were conferred on Professor Sir Patrick Abercrombie, Lord Beveridge, Sir Roydon Dash, I. J. Hayward, Herbert Morrison and Arthur Thomas. On Foundation day honorary degrees were conferred on Sir Cecil Carr, Rev. Professor C. H. Dodd, Professor F. E. Fritsch, Lord Hailey, Professor D. H. Robertson, Louis S. St. Laurent, Professor G. W. Sherburn, B. N. Wallis and T. B. Wheeler.

The deaths occurred of Philip Mitchiner (deputy vice-chancellor), Professor Sir Fred Clarke (director of the Institute of Education 1936-45), Lord Macmillan (chairman of the University court 1929-43), A. C. Ford (former director of the Department of Extra-Mural Studies) and Sir Robert Witt (benefactor of the Courtauld institute). (*See* also UNIVERSITIES AND COLLEGES) (J. H. Ps)

LORDS, HOUSE OF: *see* PARLIAMENT, HOUSES OF.

LUTHERANS. In 1952 the most important event among Lutherans was the Lutheran World federation assembly at Hanover, Germany, where delegates, alternates and visitors from 52 member churches in 25 countries on all continents met for 10 days. They represented about 46 million of the more than 60 million Lutherans in the world.

Bishop Hanns Lilje of Hanover, Germany, was elected the new president and Carl E. Lund-Quist of the United States was chosen executive secretary, both for five-year terms. The permanent office of the federation is in Geneva, Switzerland. Lutherans of the United States invited the assembly's next meeting in 1957 to be held in the United States.

Three new departments of work were set up by the Lutheran World federation: (1) theology, to foster international understanding and appreciation of doctrine, (2) world missions, to co-ordinate global foreign missions, and (3) world service, to strengthen joint work all over the world for refugees and people and churches in need.

Johannes Smemo replaced Bishop Eivind Berggrav as Bishop of Oslo, the primate of Norway. In the United States, the year 1952 saw initial steps toward organic merging of five Lutheran conference synods: the Evangelical, American, Augustana, Lutheran Free, and United Evangelical Lutheran Churches.

The sum of $500,000 was spent by the National Lutheran council and five national church bodies associated with it for the production of a feature-length dramatic film on the life of Martin Luther. Filming was done in Germany.

The Lutheran Television Productions committee of the Lutheran Church, Missouri Synod, produced a series of family films, *This is the Life*, which began to be televised on major networks and stations in Oct. 1952. With a budget of $750,000 and much volunteer service, it was the most ambitious church undertaking in television up to that time. The National Council of Churches of Christ in the U.S. was to be the distributing agency.

Lutherans in the United States increased to somewhat more than 6,500,000. According to the National Lutheran council this was an increase of approximately 4% over the previous year. (J. SN.)

LUXEMBOURG. Independent grand duchy in western Europe bounded S. by France, N.W. by Belgium and N.E. by Germany. Area: 999 sq mi. Pop.: (Dec. 31, 1947, census) 290,992; (July 1, 1950, est.) 298,600. Language: Luxembourgian (idiomatic) and (officially) French. Religion: Roman Catholic 98%. Capital, Luxembourg (pop., Aug. 1949 est., 62,000). Ruler, Grand Duchess Charlotte; prime minister, Pierre Dupong.

History. On May 13, 1952, the Chamber of Deputies ratified the treaty establishing the European Coal and Steel community (*q.v.*) by 47 votes to 4 (Communist). On Aug. 10, a nine-member High authority of the E C S.C. was established in the city of Luxembourg. Albert Wehrer, Luxembourg minister to France, was appointed member of the High authority.

On May 27, Joseph Bech, minister of foreign affairs, signed in Paris the treaty establishing the European Defence community (*q.v.*). It was announced at the same time that the four Luxembourg battalions would be integrated with the Belgian armed forces.

The output of iron ore increased during the first half of the year by almost one-quarter; it reached 658,000 tons in May 1952. The steel output slowed down slightly and the best month was January with 266,000 tons. In March only 13 people were registered as unemployed.

Some 500 Soviet-built "Moskvich" cars and a considerable quantity of manganese ore were delivered during the year to Luxembourg by the U.S.S.R. in exchange for raw steel and rails. During the fiscal year ending June 30, 1952, the U.S. armed forces placed $300,000 worth of orders in Luxembourg for "off shore" purchases.

Education. Schools (1949-50) elementary 944, teachers 1,012; higher elementary 22, secondary 10, technical 6, teachers' colleges 2 and an Academy of Music.

Agriculture. Main crops: wheat, oats, potatoes. Livestock (Dec. 1951) cattle 124,230; pigs 119,680; horses 13,910, sheep 2,700; goats 1,240

Industry. Production in thousand metric tons.

	1937-39	1945	1949	1950	1951	1952 (6 mths)
Iron ore (metal content 30%)	6,252	1,404	4,152	3,828	5,628	3,498
Pig iron	1,968	312	2,376	2,496	3,158	1,553
Crude steel	1,908	264	2,268	2,448	3,072	1,512
Gas (million cu.m)	—	11 6	17 8	17 3	17 8	8 9
Electricity (million kwh)	507 6	177 6	620 4	697 2	809 0	421 0

Finance. Budget (million francs, 1951 est., 1952 est. in brackets): revenue 3,477·7 (3,637·6); expenditure 3,446·2 (4,009 3). Monetary unit. Luxembourg *franc*, at par with the Belgian franc

Transport and Communication. Railways (1950): 340 mi. (incl. 90 mi. narrow gauge). Roads (1950) 2,673 mi. Motor vehicles registered (June 30, 1950): cars 9,204, commercial 4,525, motor cycles 4,880 Telephones 20,287.

MACAO: *see* PORTUGUESE OVERSEAS TERRITORIES.

MACHINERY AND MACHINE TOOLS. From about the middle of 1952 there was some deterioration in the outlook for British makers of various classes of

machinery in comparison with the position that they had enjoyed almost without interruption for several years. Among contributory factors could be mentioned limitations on imports into various overseas markets, increasing competition from certain foreign countries, notably Germany, and the discouragement of capital investment at home. Although many machine-tool builders doubtless welcomed some temporary relief from the pressure of demand in order to reduce the heavy volume of orders in hand and offer earlier deliveries, it was generally agreed that greater efforts would have to be made in marketing, if capacity production was to continue throughout 1953.

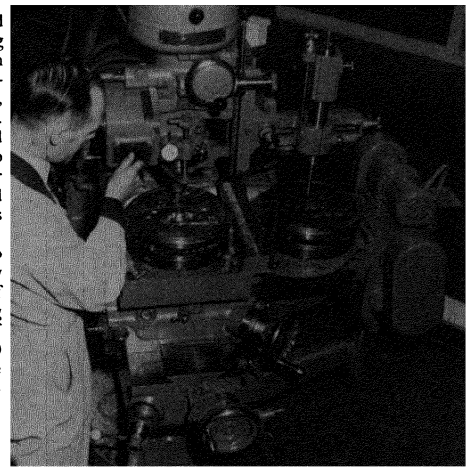
In the first six months of 1952 there was certainly no evidence of any decline in activity at the works of machinery builders. On the contrary, the average monthly value of agricultural machinery (including tractors) produced during the period was £9,816,000, as compared with a figure of £8,900,000 per month for the whole of 1951 and £7,058,000 in 1950. Similarly, the monthly output value for textile and hosiery machinery rose from £5,790,000 for 1950 to £6,360,000 in 1951 and £6,720,000 in the first half of 1952.

The British machine tool industry had now completed the greater part of its contribution to the equipment required for Great Britain's defence programme. In September the president of the Machine Tool Trades association expressed the opinion that when another six or seven months had elapsed, 90% of the machines ordered for arms production would have been delivered. At the same time, the minister of supply stated that about half the machines ordered abroad had by then been delivered. For the period Jan. to Sept., 1952 machine tool imports were valued at £38,842,000 (£17,222,000 from the U.S. and £8,340,000 from the German Federal Republic), whereas for the full year 1951 the total was £15,263,000 and for 1950 only £5,796,000.

The outstanding event of the year, in so far as the machine tool industry was concerned, was the staging of the quadrennial International Machine Tool exhibition at Olympia in September. This event was very well supported both by British makers and by agents in Great Britain for imported machines. All the available space was eagerly taken up and there was no doubt that if larger premises of a suitable nature and situation had been available, an even more impressive display could have been arranged. A generally high standard characterized both the British and foreign machines on view and there was ample evidence of advances in design directed particularly towards more rapid output, improved accuracy of work and ease of control. It was also made clear how wide was the gap between the latest machines and much of the obsolete equipment still in use in British factories.

Despite the fact that the Second European Machine Tool exhibition was held at Hanover simultaneously with the Olympia exhibition, continental builders, and particularly those in the German Federal Republic, were strongly represented in London. Swiss and Italian machines were also prominent, but the exhibits from the U.S. were not numerically proportionate to the importance of that country as a source of supply, largely on account of the pre-occupation of American machine tool builders with defence orders.

The increasing importance of items classified under the general heading of machinery in the export trade of Great Britain was clearly shown by the latest available returns. For the nine months ended Sept. 1952 the total value of such exports was £316,442,000 as against £263,533,000 and £233,521,000 for the same periods of 1951 and 1950, respectively. For the January to September period, the increase for 1952 over 1951 was £52,909,000 and it was significant that the corresponding rise in the total of all exports of "produce and manufactures of the United Kingdom" was only



A British tool and die milling machine, one of 2,000 machines at the International Machine Tool Exhibition at Olympia.

£24,269,000. In consequence, the proportion of that total accounted for by "machinery" advanced from rather less than 14% for the first nine months of 1951 to almost 17% in 1952. (C. H. Bu.)

United States. The year 1952 was a good one for machine-tool building and progress was made in developing new machining techniques and in perfecting existing processes. Much technical advancement was the result of attempts to solve manufacturing problems connected with armament items, especially aeroplanes and jet engines.

For the first time since 1943 the U.S. machine tool industry's output rose well over the $1,000 million mark. The demand for defence purposes was so great that in February builders were forbidden to ship any machines except to users with defence-rated orders. Those restrictions were relaxed late in the year, when the defence load on the machine tool industry began to lighten. Meanwhile the supply of machine tools available to users in the United States had been enlarged by importation from England and western Europe. It was estimated that during 1952 foreign machine tools worth about $50 million were imported, many going to defence contractors.

During the year the federal government created an Advisory Committee on Production Equipment, headed by Harold Vance, chairman of the Studebaker corporation. Towards the end of the year the Vance committee suggested that enough new machine tools should be put into defence factories to make possible a large, rapid expansion of production if an emergency should arise and that enough large machine tools (popularly called the "elephants") should be produced during the following year or two to provide a comfortable supply for reserve purposes. These machines normally take 9-18 months to build.

Trying to machine so-called "unmachinable" materials had been one of the foremost problems in the United States. In 1952 a new process—the ultrasonic method—was discovered. The process consisted of vibrating at high frequency and low amplitude a soft tool having an end shaped to the desired contour against a workpiece while a mixture of finely divided abrasive and water flowed around and under the end of the tool on top of the work. Under light but continuous pressure, the tool would sink into the workpiece,

which might be tungsten carbide, titanium carbide, zirconium boride, hardened tool steels, molybdenum, alnico or other metals, as well as substances such as diamond, quartz, aluminium oxide, flint, glass, boron carbide and others. With this process, carbide dies could be solid instead of being made in the weak sections conventionally required for complex shapes. One of the most unusual applications of the process was for producing curved holes Other outstanding applications were for producing single-point carbide cutting tools, grinding chip breakers, sharpening milling cutters, broaches, hobs and other tools with carbide inserts.

"Flame plating" was another process developed during the year. By this process, tungsten carbide and other powdered metals could be coated on any metal in thicknesses from 0 0005 in. to 0 020 in. Irregular objects could be coated, providing surfaces could be covered from the horizontal plane to 45° above it. Abrasive belt taper grinding was a new method of tapering aircraft wing and fuselage skins which was demonstrated during 1952. A 36-grit, 126 × 50 in. waterproof cloth belt was used for all heavy rough-grinding tests. Belt speed was 6,200 surface ft per min. Between 200 and 250 lb. of material was removed before the belt lost its grinding efficiency. Then it was used as a finishing belt, resulting in satisfactory surface finishes.

Two tracer-controlled, right-angle lathes were developed during the year for fast, accurate machining of jet-engine parts. They were equipped with right and left power angular slides and air-gauge tracer units for contouring operations on outside and inside diameters or faces. Five blade surfaces were ground in a single operation on a new grinding machine with 24-in.-diameter wheel which was announced during the year. A new abrasive-belt grinder removed up to 1/32-in. of stock on jet-engine bucket airfoils in less than eight seconds This contour grinder employed a 12-ft. belt driven through a 9-speed transmission by a 15-h.p. motor. Both convex and concave surfaces are ground by clamping the work between upper and lower dies that have the required form. (B. FY.)

McNAIR, SIR ARNOLD (DUNCAN), British lawyer (b. London, March 4, 1885), was educated at Aldenham and Gonville and Caius college, Cambridge, of which he later became a fellow. He was admitted as a solicitor in 1906. He was a member of many commissions, including the Coal Industry (Sankey) commission in 1919, the League of Nations Codification commission in 1926 and the Palestine Jewish Education commission, 1945. He was professor of international law at The Hague Academy of International Law in 1928, 1933 and 1937, and held other professorial posts in the Universities of Calcutta (1931) and Cambridge (1935-37 and 1945-46). From 1937-45 he was vice-chancellor of Liverpool university. In 1948 he became a British member of the Permanent Court of Arbitration at The Hague, and in May 1952 was elected president of the International Court of Justice, of which he had been a judge since 1946. In a judgment given on July 22 on the Anglo-Iranian Oil company dispute, Sir Arnold McNair voted with the majority in upholding the Persian objection to the jurisdiction of the International Court of Justice on the case.

MADAGASCAR. Island (fourth largest in the world) off S.E. coast of Africa; an overseas territory of the French Union. Comoro archipelago is administered as a separate territory. Areas and populations are:

	Area (sq mi.)	*Population* (1936 est.)	(1950 est.)
Madagascar (with dependencies)	228,589	3,669,328	4,181,810
Comoro archipelago	849	128,608	168,890
Total	229,438	3,797,936	4,350,700

Population: many indigenous racial and tribal groups, the Merina being the most numerous (*c.* 900,000); 64,429 Europeans (1950), incl 44,517 French; small Hindu, Chinese and Arab minorities. Language: Malagasy, related to the Malayo-Polynesian group. Religion: Madagascar, Christian and pagan; Comoro archipelago, Moslem. Chief towns (pop., 1950 est.): Antananarivo or Tananarive (cap., 174,153); Majunga (32.163), Tamatave (28,747), Diego-Suarez (23,865). High commissioner, Governor-General Robert Bargues. Comoros, administrator, Pierre Coudert.

History. The moderates polled the most votes in the elections to the provincial assemblies on March 30, 1952: out of 93 seats, only 3 (in the town of Antananarivo) fell to the nationalists. The poll was heavier than in any previous election. The elections to the Senate resulted in no change.

Teaching was made to conform more to metropolitan standards, but the use of the Malagasy language was permitted for those learning to read. "Modernized native rural communities" were still being tried out in various parts of the island.

It was decided to begin exploitation of the Sakoa coal deposits with a target of 100,000 metric tons a year, for local use. The plan also envisaged new sugar, sisal and vegetable-oil-crop cultivation in the western plains, where soil conditions were still being investigated There was a slight increase in the quantity of rice exported, particularly to the Mascarenhas, because of the shortage of rice from Asia By planned irrigation the area under rice was increased in the past five years from 500,000 to 650,000 ha. and the production from 700,000 to 900,000 metric tons of paddy.

In September and October there was a big exhibition in Antananarivo to demonstrate modern techniques, and to outline Madagascar's potentialities. The Malagasy academy celebrated its 50th anniversary.

At the Comoros, which in Dec. 1950 were struck by a disastrous cyclone, 600,000 coconut trees were replanted and pepper plantations started.

Education (1952) Pupils primary 236,000, secondary 11,500, technical 4,300, undergoing higher education 200 Bursaries in France 135

Finance and Banking. Note circulation Fr C F A 7,500 million. Monetary unit franc C F A (Colonies Françaises d'Afrique)= metropolitan Fr 2

Foreign Trade (1951, million francs C F A) Imports 22,400 (incl 18,400 from the French Union and 1,350 from the British Commonwealth), exports 13,500 (incl 11,000 to the French Union and 1,300 to the British Commonwealth), mainly coffee (5,300), cloves (1,000), meat (1,000), hides (800), tobacco (800), fibres (700), graphite (500) (HU. DE.)

MAGAZINES: *see* NEWSPAPERS AND MAGAZINES.

MAHER, ALI, Egyptian statesman (b. Cairo, 1883), after studying at the Khedivial School of Law in Cairo was admitted to the bar in 1905 and was appointed judge in 1907. From 1919 he was a member of the Wafd el-Misri (Egyptian Nationalist) party, but left it early in the 1930s. Elected a member of the Lower Chamber in 1924, he was under secretary of state for education (1924), minister of education (1925-26), of finance (1928-29) and of justice (1930-32). He was appointed to the Senate from 1930-32, in 1936 and from 1939-46. During King Fuad I's last illness in 1935 he was appointed chief of the royal cabinet. From Jan. to May 1936 he was premier as an Independent, and in July 1937, when King Farouk came of age, was re-appointed chief of the royal cabinet. In Aug. 1939 he was again premier and military governor, with a policy of neutrality in World War II; refusing to sever diplomatic relations with Italy, he resigned on June 23, 1940. From April 1942 to Oct. 1944 he was placed by Mustafa el-Nahas under house arrest. Ali Maher returned to political life in Nov. 1945. After the riots in

Cairo on Jan. 26, 1952, he was next day appointed premier and military governor, but on March 2 resigned rather than oppose Major-General Mohammed Neguib as Farouk wished. On July 23, after the military *coup d'état*, Farouk again appointed him prime minister and three days later abdicated. On Sept. 7 he resigned and his place was taken by Major-General Neguib (*q.v.*), the military c.-in-c.

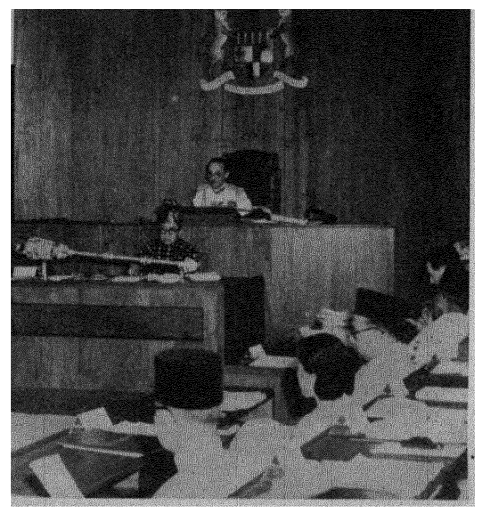
MAIZE: *see* GRAIN CROPS.

MAKINS, SIR ROGER MELLOR, British diplomat (b. London, Feb. 3, 1904), was educated at Winchester and at Christ Church, Oxford (he became a fellow of All Souls college in 1925). He was called to the bar in 1927 and a year later entered the Foreign Office, subsequently serving in Washington (1931-34) and Oslo (1934). As an economist he was assistant adviser on League of Nations Affairs, Foreign Office, 1937 (adviser in 1939), adviser to the British delegation, International Labour conference, New York, 1941, and to the U.K. delegation to the first conference of the Food and Agriculture organization, 1945. In 1943-44 he had been assistant to the resident minister at Allied Force headquarters, Mediterranean. He was minister at Washington from 1945 to 1947 when he returned to England to become, until 1948, assistant under secretary of state, Foreign Office, in charge of the economic and North American political departments. He subsequently accompanied ministers abroad as adviser on several occasions: in 1949 he went to Washington with C. R. Attlee and Sir Stafford Cripps and in Jan. 1952 visited the U.S. and Canada with Winston Churchill (*q.v.*) and Anthony Eden for talks with President Harry S. Truman and Louis St. Laurent (*qq.v.*). On Jan. 23 he led the British delegation at the opening of the half-yearly Anglo-Italian economic committee in Rome. On Feb. 12 he left England for countries on the Persian Gulf on a mission of enquiry into recent increased oil production in that area and on March 9, on his way back to England, had talks with the British ambassador in Egypt. During June 12-14 he was joint chairman at the seventh session of the Anglo-Norwegian committee, Oslo. In October he was appointed to succeed Sir Oliver Franks as British ambassador in Washington and on Dec. 31 he sailed to take up his post. He was knighted in 1949 and in the 1953 New Year Honours he was created K.C.B.

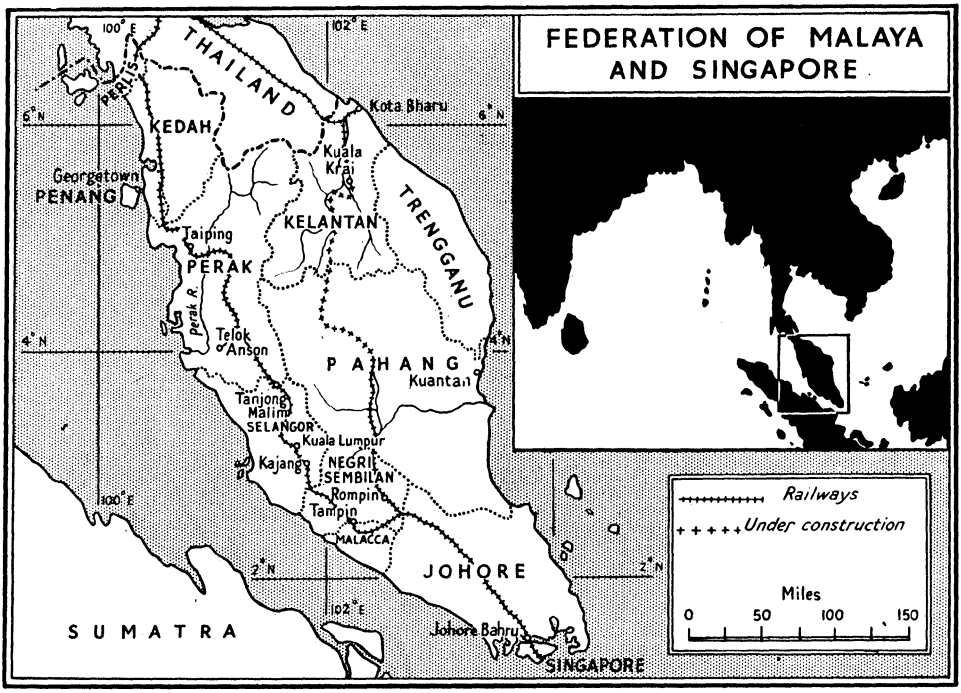
MALAN, DANIEL FRANÇOIS, South African statesman (b. Riebeek West, Cape Province, May 22, 1874), was educated at Victoria college, Stellenbosch, and at the University of Utrecht, Netherlands, where he obtained the degree of doctor of theology. He returned to South Africa as a minister of the Reformed Church, and in 1915 became editor of *Die Burger*, shortly afterwards being elected chairman of the newly formed Nationalist party in the Cape. He was elected to the House of Assembly in 1917 and during 1924-33 was minister of the interior, health and education. At the outbreak of World War II he supported General James Hertzog's policy of neutrality, and on the general's death in 1942 became leader of the opposition. In the 1948 election the Nationalist party obtained a majority and Malan succeeded J. C. Smuts as prime minister. In April 1949 he attended the Commonwealth prime ministers' conference in London. His government carried out a policy of *apartheid* (racial segregation) but in 1952 a constitutional crisis arose over a decision of the Appeal Court in March which invalidated the Separate Representation of Voters act. Maintaining the sovereignty of parliament his government introduced the High Court of Parliament bill. On Jan. 5, 1952, at Ohrigstad, he opened the Van Riebeek tercentenary celebrations. Speaking in his constituency on Feb. 29, he said that the government's policy was to keep white and white together and black and black together and described the colour problem as the most important in the country. On May 13 he stated that the non-transference of the three British territories to the Union had become an acute problem and could not continue indefinitely. In a message on his 78th birthday he described the constitutional crisis as "graver and bigger than any in our history of crises." After the High Court had revalidated the Voters act in August and the Cape Supreme Court had declared the High Court of Parliament act itself invalid, Malan on Aug. 30 described South Africa as being at the cross roads: "the choice is between the life and death of the nation." For the 37th successive time he was elected leader of the National party in the Cape at its congress on Sept. 15. He opened South Africa's first uranium plant at Krugersdorp, Transvaal, Oct. 8.

MALAYA, FEDERATION OF. British settlements of Malacca and Penang and the protected states of Johore, Kedah, Kelantan, Negri Sembilan, Pahang, Perak, Perlis, Selangor and Trengganu. Area: 50,690 sq.mi. Pop.: (1947 census) 4,908,086, incl. 2,427,834 Malays, 1,884,534 Chinese (38·4%), 530,638 Indians and Pakistanis; (1951 est.) 5,337,222. Religion: Malays are Moslem; Indians mainly Hindu; Chinese Buddhist, Confucian and Taoist. Chief towns (pop. 1947 census): Kuala Lumpur (federal cap., 175,961); Penang or George Town (189,068); Ipoh (80,894); Malacca (54,507); Taiping (41,361). Administration: high commissioner; executive council; legislative council with unofficial majority; each state and settlement has its own council; matters affecting Moslem religion and Malay custom are controlled by the sultans. High commissioner, General Sir Gerald Templer (*q.v.*). Commissioner-general for the U.K. in southeast Asia, Malcolm MacDonald.

History. The Communist insurrection in Malaya entered on its fifth year in 1952. It had begun in June 1948 when several thousand Communists, the overwhelming majority of whom were Chinese, led by former members of the Malayan People's Anti-Japanese army, took up arms and attempted



General Sir Gerald Templer presiding over the federal Legislative Council. The mace was presented by the rulers of the Malay states.



to disrupt the economic and administrative life of the country and to establish " liberated areas " from which to operate. Twelve army battalions, later reinforced, began to combat the uprising; and 30,000 special constables (mainly Malays) and about 17,000 auxiliary police were enrolled. During 1949 the special constables gradually relieved the military on static defence duties. The Communists almost ceased their attacks on guarded targets and retired to deep jungle bases, but laid frequent ambushes to secure arms. In Feb. 1949 they announced the formation of a Malayan Races Liberation army under the command of Cheng Ping, secretary-general of the Malayan Communist party. During 1949 Communist " incidents ", *i.e.*, acts committed with the intention of causing death of a person or damage to or destruction of any property or installation, averaged 26 a week.

In 1950 the Communist forces, probably encouraged by Mao Tse-tung's successes in China, stepped up their attacks: " incidents " rose to 571 in October and the Malayan public were noticeably unco-operative in their relations with the authorities and police. Anti-terrorist operations were entrusted to Lieut.-General Sir Harold Briggs who became director of operations. He put into effect a plan for disrupting the terrorists' supplies by cutting their communications with the civil population. The resettlement of the half-million Chinese, who were scattered over Malaya, mainly on the jungle fringes, into compact new villages was started. Lieut.-General Briggs also started to " sweep " the jungle areas in one state after another, beginning with Johore in the south. Military reinforcements arrived during the year, Dayak trackers were used for offensive jungle patrolling and the Royal Air Force made 106 " strikes " to dislodge terrorists from jungle camps. The Communists reacted by attempting to hinder resettlement of the " squatters " and by breaking up into small gangs and causing " incidents " (apparently to distract the police and military)—cutting telephone wires, stealing identity cards and firing stray shots. In Nov. 1950 the number of " incidents " decreased to 200 and terrorist casualties increased to 85. The Communists started to turn to scattered labourers in remote estates or mines to extort food.

By the beginning of 1951, 127,000 " squatters " had been or were being resettled in new villages under some degree of police protection, and in this year Lieut.-General Briggs began the " regrouping " of estate and mine workers' habitations in delimited areas in order that police protection could be afforded them. Nevertheless the terrorists forged contacts in the resettlement areas and continued to obtain food with which to build up substantial dumps. In June food supplies were put under tighter control by limiting retailers' stocks and checking the movement of supplies in the countryside. During the first half of 1951 the number of terrorist " incidents " rose again to a peak of 606 in June, but the general effect of the Briggs plan was to intensify contact with the Communists whose casualties rose during the year to 1,025 killed, and 650 wounded. The casualties suffered by the security forces also increased to 505 killed and 663 wounded. Damage done to plantations by the Communists in the last six months of 1951 was 30% greater than in the corresponding period of 1950. In all during 1951 over one million rubber trees were slashed.

The home guard in the Chinese villages, which had been launched in the autumn of 1950, was amalgamated with the Kampong guards (mainly Malays) and provided with more arms and better training. Compulsory service in the police force was instituted for the 17-25 age-group, and racially mixed Federal Jungle companies were formed for offensive action and to take over from army units in selected areas. Civilian co-operation with the authorities was considerably better in 1951 than in the preceding year, partly because of

improved police protection and partly because large rewards (up to £10,000) were offered for the apprehending of terrorists. By the end of 1951, about 500,000 persons had been resettled in 486 new villages. On Oct. 6 Sir Henry Gurney, the high commissioner, was ambushed and killed by Communists in the Pahang hills. Lieut.-General Briggs left Malaya on retirement in Dec. 1951.

In Feb. 1952 Lieut.-General Sir Gerald Templer became high commissioner of Malaya in overall control of both the civil administration and the armed forces. The numbers of casualties continued to move in favour of the security forces who between March and October lost an average of 55 killed per month, only about half the corresponding figure for 1951. Terrorist casualties rose between March and October to a monthly average of 121 compared with 118 in the same period of 1951. Communist-created " incidents " decreased by nearly 50%, comparing the same periods of time.

From May 1948 to Dec. 31, 1952, the terrorists suffered 5,691 losses (3,791 killed, 991 captured and 909 surrendered), while the security forces had 1,539 killed (incl. 385 Britons) and c. 2,400 wounded. The total number of civilians killed amounted during the same period to about 2,170, two-thirds of them being Chinese. (*See* Table.)

CASUALTIES IN MALAYA

			1950	1951	1952
Terrorists	killed		639	1,025	1,135
	captured		147	121	315
	surrendered		147	201	
Security forces	killed	army	72	124	264
		police	222	381	
	wounded	army	164	237	396
		police	321	426	
Civilians	killed		646	532	342
	wounded		409	357	345
	missing		106	135	

SOURCES. *Annual Report for Federation of Malaya* (London, 1952); statement by General Sir Gerald Templer, London, Dec. 4, 1952; statement published at Kuala Lumpur on Jan. 15, 1953.

One important step taken by the new high commissioner was the establishment of the Malayan Federation regiment, open to all racial communities. The first 11 officers were enrolled for the regiment and a campaign to recruit the first company was undertaken. Arrangements were made to add a sixth battalion to the Malay regiment (which was open only to Malays). In July a law was passed making all able-bodied men in Malaya liable for two years' service in the armed forces, the police or civil defence organizations; and the federal legislative council adopted a resolution favouring the early introduction of conscription. For 13 days in March, after eight policemen and four civilians had been killed in an ambush near Tanjong Malim, Selangor, the town was placed under a 22-hour daily curfew, its schools closed and its rice ration cut, in an effort to secure information from the inhabitants. In August, the village of Permatang Tinggi, Province Wellesley, was destroyed and about 70 of its inhabitants were detained for failing to give information after a Chinese official had been murdered by terrorists. These measures, ordered by the high commissioner, were criticized in the press on the grounds that it was unfair to punish Malayan villagers for failing to give information, so long as the government was unable to protect them adequately from terrorist reprisals.

The background to the military and police struggle against Communist terrorism in 1952 was the continuing effort to transform the tri-racial society of Malaya into a unified nation. In September, after nationality laws had been passed in the nine Malay states, a new federal law was enacted under which 60% of the Chinese and 30% of the Indians in the country automatically became citizens. Two months later the high commissioner said that non-Malays (who had long been admitted to the government technical services) would henceforth be able to enter the Malayan civil service in the proportion of one non-Malay to four Malays. Seventy special university scholarships were announced for Malays. In November an education bill was passed adopting free compulsory primary education in multi-racial schools as the goal. National schools might use either



A guard of honour of the Malayan Police Force at Kuala Lumpur being inspected by General Sir Gerald Templer when he was installed as high commissioner of Malaya on Feb. 20.

Malay as the medium of instruction (with English taught in the first year) or English as the medium of instruction (with Malay taught at latest at the beginning of the third year). Tamil or Mandarin would be available if desired. Other schools would continue to get government assistance but would be required to teach Malay and English and to comply with certain minimum conditions regarding appointment of teachers and use of text books. In June the refusal of the leading European club in Kuala Lumpur to admit the sultan of Selangor as a guest led to the resignation of the club's committee after the deputy high commissioner had criticized "community segregation".

The holding of local elections went forward gradually. In February 12 members (out of 18) were elected to the Kuala Lumpur municipal council. Nine seats were won by an alliance of the United Malays National organization (U.M.N.O.) and the Malayan Chinese association (M.C.A.), and only two by the pan-racial Independence for Malaya party (I.M.P.) led by Dato Onn. The terms of the franchise (still confined to Malayan citizens) disqualified about half the adult population and out of the 60,000 qualified to vote only 11,600 had registered. But 70% of the registered electors went to the poll after a lively election campaign. Further elections to parts of the municipal councils of six towns were held in December. Out of 37 seats contested 26 were won by the U.M.N.O.-M.C.A. alliance. The I.M.P. and the Pan-Malayan Labour party won, between them, only three seats.

In May an ordinance providing for elected village boards was referred to a select committee of the legislative council. It enabled such boards to be constituted both in new Chinese villages in resettlement areas and also in Malay villages. The new boards were to be corporate bodies with power to raise local rates up to limits to be fixed by resident commissioners or prime ministers of states, and their main tasks were to be the establishment and upkeep of schools, playgrounds and community centres, village roads and sanitary works. In October the town clerk of Hornsey arrived in Malaya to investigate and report on the conditions necessary for elections in 19 more big towns. The main party-political development was the formation of the Pan-Malayan Labour party, an amalgamation of existing Labour parties in Singapore, Penang, Malacca and Selangor; by the end of the year it had about 10,000 members.



The Duchess of Kent and her son the Duke tap a rubber tree in Malacca during their visit to Malaya.

World economic developments had a serious effect on Malaya's social and economic progress in 1952. The price of rubber, upon which the economy of the country so greatly depended, fell from $1·40 a pound in January to 74 cents a pound in October. In June the wages of the 350,000 rubber workers were reduced. In August the Malayan Planting Industries Employers' association announced further cuts of 11% to 14%; these were rejected by the trade union on the grounds that the cost of living to the workers had fallen but little. In October both sides agreed to accept the decision of an arbitration board appointed by the Malayan government which awarded reductions about half the size of those demanded by the employers.

The fall in rubber prices also had serious consequences for the progress of the six-year development plan that had been launched in 1950. Expenditure on the anti-terrorist war had in any case priority and in the estimate for 1952 this amounted to about half the total outlay. The yield from the export duty on rubber, Malaya's principal source of revenue, during the first half of 1952 was about 20 million Malayan dollars less than expected; a budgetary deficit at the end of the year seemed likely. The expansion of housing and the educational and health services was retarded.

The financial resources of the Federation of Malaya continued to be under great strain as a result of the heavy expenditure on emergency measures against the Communist rebels. Spending on defence and internal security had amounted to about 40% of total outlay in 1951 and 1952. Nevertheless the budgetary deficit for 1952 was small, about $26 million, despite a big fall in the yield from export duty on rubber. This had been counterbalanced by an improved yield from tin export duty and a surprising rise in the receipts from income tax which were nearly double what had been estimated. With an eye on rising expenditure on defence and development the Malayan government decided to raise a loan of $100 million.

About 80% of the Malayan population lived in villages with less than a thousand inhabitants and most of the peasant cultivators were Malays whose economic weakness in relation to the middlemen (mainly Chinese) seriously impeded political unity. The Rural and Industrial Development authority, which had made a slow start in 1951, succeeded in allocating nearly twice as much money in the first half of 1952 as it had expended in the whole of the previous year. The extension of tractor-ploughing and the financing of fertilizer distribution was undertaken on a small scale; three rubber-processing factories to serve smallholders were planned; and schemes were drawn up for training Malays as rural artisans.

Slow progress was made in the appointment of rural development officers who were to stimulate self-help in the villages and to set up elected village boards to undertake small-scale public works.

During their tour of the far east in October the Duchess and Duke of Kent spent five days in Malaya. The duchess laid the foundation stone of a new anti-tuberculosis institution in Kuala Lumpur, visited a rubber estate, reviewed voluntary workers' organizations and inspected a battalion of the Royal West Kent regiment. She also met the Malayan rulers and leading official and unofficial persons of all races (D. A. SN.)

Education (1951). Government-maintained and aided schools: Malay 1,704 (285,864 pupils); Chinese 1,171 (206,343 pupils); Indian 881 (37,164 pupils). English-instruction schools: 111,354 pupils.

Junior technical schools 4, agricultural colleges 1; teachers' training colleges 2 University of Malaya (1952-53) 875 students, academic staff 129

Agriculture. Main crops ('000 tons, 1951); rubber 605, rice (1950-51) 703, copra 160; coconut oil 86, copra cake 56, tea ('000 lb.) 3,684, pineapple (canned exports) 17. Livestock ('000 head, 1951) buffaloes 228, oxen 249, goats 252, sheep 22, pigs 280, horses 5 Fisheries (1951) total catch 159,179 tons, value $239,835

Mining. Production (1951) tin-in-concentrates 57,167 tons, coal 382,539 tons, iron ore 846,803 tons, gold 17,018 troy oz

Finance. Monetary unit Malayan dollar ($M1 2s 4d sterling) Budget (1951 revised est.) revenue $733,268,678, expenditure $534,474,066, (1952 est.) revenue $640,951,250, expenditure $660,605,065

Foreign Trade ($ million 1951, Jan.-June 1952 in brackets) imports 1,131 (2,053), exports 1,978 (2,055) Main sources of imports (1951) U.K. 335; Indonesia 196, Thailand 187, Australia 51 Main destinations of exports (1951) U.K. 609, U.S. 403, France 155, Italy 90, Germany 79

Transport and Communications. Registered motor vehicles (1951) private 30,750, commercial 9,193 Railways (1951) passenger train-mi. 1,194,000, passenger journey-mi. 6,735,000, goods train-mi. 2,268,000, paying goods ton-mi. 243,097,000 Air transport passengers carried (1951) 186,532, (1950) 93,017 Shipping ships (75 tons and over) entered and cleared (all federal ports, 1951), 6,729, total tonnage, 19,359,176 N.R.T. Telephones (1951) 28,086

See T. E. Smith, *Population Growth in Malaya* (London, 1952)

MALDIVE ISLANDS: *see* CEYLON.

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 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 five 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 14 by 1952) 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. 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. At the 19th congress of the Communist Party of the Soviet Union (as it was now called), Malenkov read the main report (Oct. 5, 1952) and was elected member of a commission of 11 to revise the party programme (Oct. 13) as well as of the new central committee of 125 (Oct. 14). The last-named elected him on Oct. 16 to the new key party bodies: a 25-member presidium and a 10-member secretariat.

MALTA. British colony, a group of Mediterranean islands *c.* 58 mi. S. of Sicily; only Malta and Gozo are important. Area: Malta 94·9 sq.mi.; Gozo 25·9 sq. mi. Pop.: (1948 census) 305,991; (1951 est.) 313,000. Language: Maltese and English; Italian also spoken. Religion. Roman Catholic. Principal towns (pop. 1948): Valletta (cap., 57,156 incl. suburbs), Sliema (24,294), Hamrun (17,124), Birkirkara (16,070). Administration: governor, nominated council, 2 *ex-officio* and 3 services members (responsible for external affairs and defence); executive council consisting of cabinet (prime minister and up to 7 other ministers) under presidency of governor, privy council (nominated and executive councils sitting together), legislative assembly, 40 members elected on universal suffrage. Governor, Sir Gerald Creasy; prime minister, G. Borg Olivier.

History. The year 1952 began inauspiciously with a strike of 10,000 Admiralty, War Office and Air Ministry employees during a dispute about an increase in the cost of living bonus. Rioting occurred on March 6 and 29 people, mostly strikers, were injured. The strike ended when a trade union delegation was sent to negotiate with the service departments in London. Activity in Valletta and the movement of military and naval forces increased during the early part of the year because of the disturbed situation in the Suez canal zone. Early in June G. Borg Olivier, the prime minister, led a delegation to the Colonial Office in London which discussed the continuing economic difficulties of the island and sought financial aid. After prolonged negotiations the secretary of state for the colonies announced in the House of Commons on Aug. 1 that Olivier had not accepted the assistance offered, which included £500,000 in 1952 and up to £200,000 a year for five years starting in 1953 to assist emigration. Later, however, it was accepted with modifications. (K. G. B.)

Education (1949-50) Primary schools 111 (attendance 38,708), state-aided secondary 4 (attendance 587), technical 3 (attendance 353), private elementary and secondary 64 (attendance 15,877), university, 300 students, 65 professors and lecturers

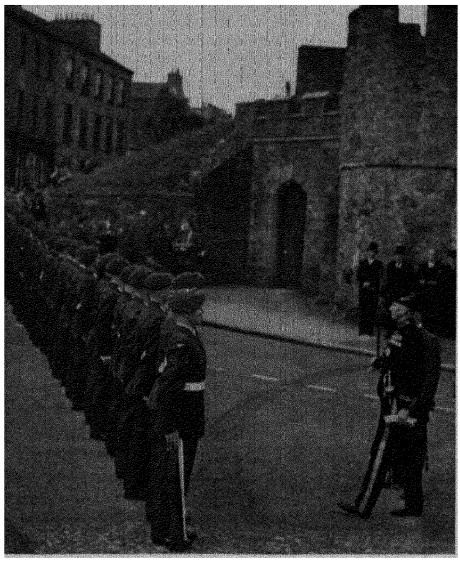
Finance and Trade. Currency sterling. Budget (1951-52) revenue £6,402,045, expenditure £6,856,975 Foreign trade (1951) imports £19,040,000, exports £1,878,000

MAN, ISLE OF. Island in the Irish Sea, part of the United Kingdom but administered separately by a lieut.-governor, an appointed legislative council and the House of Keys of 24 elected members. Both branches of the legislature sitting together are known as the Tynwald court. Area: 220·7 sq mi. Pop. (1951 census): 54,713. Capital: Douglas (pop., 20,088). Lieut.-governors in 1952: Air Vice-Marshal Sir Geoffrey Bromet and (from Sept. 8) Sir Ambrose Dundas.

History. Sir Ambrose Dundas took the oath as lieut.-governor in Castle Rushen on Sept. 8, 1952.

Twenty-five acts were promulgated at the July Tynwald Court. Six of these were consolidation acts. During the year the government housing scheme was practically completed. The Board of Agriculture scheme to free the island's herds from bovine tuberculosis by 1955 was made compulsory, and by the autumn of 1952 the whole central belt of the island had been cleared of tuberculous cattle. In all there were 380 attested and 29 supervised herds: 51,179 beasts were tested and by October the total number of "reactors" was 3,774. During 1952 there was a further increase in the demand for artificial insemination; the greatest demand by far was for the dairy shorthorn breed. The fourth generation of calves from artificial insemination was now well established, and there was a marked improvement in character, physique and milk-production. In the salmon hatchery about 750,000 salmon and sea-trout eggs were hatched.

On the insular aerodrome a centre-line low intensity runway approach and a runway visibility measuring system for low visibility ("runway visual range") were installed. The new airport terminus, offices and waiting rooms were about two-thirds complete. The National Trust of England and Wales handed over the Calf of Man on a long lease to the Manx National Trust. Considerable headland and glen areas were added to the Trust's care. A Norse mill of about the



Sir Ambrose Dundas inspecting the R.A.F. guard of honour at his installation as governor of the Isle of Man.

11th century was excavated in Druidale near Ramsey. Three mediaeval buildings were being carefully restored, the 13th-century chapel of St. Mary in Castletown (used since 1698 as a school), the 14th-century Friary chapel of Bemaken, Kirk Arbory, and the three-arched pack-horse bridge near Rushen abbey, Kirk Malew.

Last year it was reported that 18 Independents had been returned in the general election to the House of Keys 1951. But one of these, T. Q. Cannell, who had won his seat at the previous election as an Independent, now stood, and again won the seat, as a Manx Conservative.

The harbour was equipped with a more powerful radar installation with a 15-in. cathode ray tube and a range of 20 mi.

Education. Schools (1951-52): primary 31, pupils 4,280; secondary 6, pupils 2,947; King William's college (independent), pupils 355. Domestic science college 1, students 170; technical college 1, students 285.

Agriculture. Livestock (1951): horses 1,409; cattle 23,163; sheep 72,475; pigs 5,875. Tractors 927. Milking machines 217.

Finance. Budget (1951-52): revenue £2,913,817; expenditure £2,922,300. National debt (March 31, 1952): £1,810,000.

Communications. Sea-passengers passing through ports 566,453; air-passengers passing through airport 103,044.

See W. Cubbon, *Our National Heritage* (Liverpool, 1952).

(E. H. S.)

MAO TSE-TUNG, Chinese Communist leader (b. Shaoshan, Hunan, 1893), attended the Hunan normal school at Changsha (1912-18) and became a teacher. He joined the Chinese Communist party (Kungchantang or K.C.T.) in Oct. 1921. During the period of Kuomintang-Communist collaboration he worked in the Shanghai headquarters of the Kuomintang. After the breakdown of this collaboration in 1927, he started to propagate communism among the peasants. In 1931 he became the head of the Communist republic in Kiangsi, in southern China, but in 1934-35 took part in the "long march" to the north and organized the Communist government at Yenan, in Shensi. In 1936 he was elected chairman of the central committee of the K.C.T. After the Japanese aggression in 1937 Mao's government promised to co-operate with Chiang Kai-shek's national government against the invader, but friction soon developed between the two armies, which after 1941 operated independently. When Japan capitulated Chiang invited Mao to Chungking in the hope of achieving unity, but to no practical effect. In the spring of 1946 the Chinese Communist armies started a general offensive towards Manchuria. By March 1947 the break between the two Chinas was complete. During 1949 all continental China fell into Communist hands. On Oct. 1 Mao became chairman of the central people's government council, an office similar to that of the president of the republic. On Dec. 16 he arrived in Moscow for the first time and was received on the same day by Stalin. The Chinese-Soviet treaty of alliance was signed in Moscow on Feb. 14, 1950, and three days later Mao left the Soviet capital, returning to China. Addressing the People's Political Consultative conference (P.P.C.C.) on June 24, 1950, he said that the nationalization of industry and the socialization of agriculture were matters for the distant future, when the possibility of socialism would have been endorsed by the entire nation. In a speech at the P.P.C.C. on Oct. 23, 1951, Mao said that military support for the North Koreans would continue until the U.S. government was willing "to settle the problem peacefully". On Oct. 4, 1952, he gave a banquet in honour of Yumzhaghiyin Tsedenbal, premier of Mongolian people's republic.

MARGARET ROSE, PRINCESS (b. Glamis castle, Angus, Aug. 21, 1930), younger daughter of George VI and sister of Queen Elizabeth II (*q.v.*). For her earlier career see *Britannica Book of the Year 1952.* The early part of 1952 was overcast with the death of George VI on Feb. 6, and the public engagements of the royal family were cancelled or postponed during the period of court mourning which lasted until June 2. After the funeral of the late king Princess Margaret and Queen Elizabeth, the queen mother, resided for a time at Royal lodge, Windsor, before returning to Buckingham palace. With the queen and the Duke of Edinburgh, the princess attended the opening of the Royal tournament at Earls court on June 4 and on June 14 she visited Bedford school in connection with the 400th anniversary of the granting of the school charter. On July 6 she opened three orthopaedic theatres at the Norfolk and Norwich hospital. On July 18, she opened the Navy, Army and Air Force institutes' club in Portsmouth. Princess Margaret was present at the passing out parade at the Mons Officer Cadet school, Aldershot. On Oct. 21 she opened a new block of flats at Troy Town, Peckham Rye, which had been erected by the Camberwell Housing society. On Nov. 27 she named and launched the New Zealand ship "Maori" at Vickers-Armstrongs' naval yard at Newcastle-on-Tyne.

MARIANAS ISLANDS: *see* PACIFIC ISLANDS, U.S.; TRUST TERRITORIES.

MARINE BIOLOGY. In 1952 the 50th anniversary meeting of the International Council for the Exploration of the Sea took place in Copenhagen. A survey of the proceedings of this council of northwest European nations showed the great part played by marine biology in supplying the fundamental background necessary to make possible its aims for the rational exploitation of the sea. During the same year was held the first International Seaweed symposium in Edinburgh. Increasing attention had been paid to the distribution and growth of the larger seaweeds and especially to the seasonal changes in their chemical composition. The extraction of substances of value in a number of commercial and medical applications prompted these investigations.

Work on the physiology of unicellular planktonic plants continued, and the use of the antibiotics, penicillin and

streptomycin, for controlling bacterial growth in algal cultures was investigated. Subcultures of a diatom were obtained which produced no bacterial growth on a variety of media. Observations were also made at sea to study the sources of nutrient rich water necessary for successful phytoplankton production, and the mechanisms whereby this water is made available to the plants in the photic zone.

The possibilities of obtaining a reliable estimate of the total potential productivity of the oceans were brought nearer by the first publication of the results of a new method used on the Danish "Galathea" expedition. This was the measurement of the photosynthesis of plankton algae, using radioactive carbon. By addition of known quantities of radioactive carbon to the sea water it was possible to estimate the total amount of carbon assimilated by the plankton algae present.

Continued experiments threw further light on the differing effects of sea water from different regions upon the development of the larval stages of invertebrates.

Plankton investigations at sea continued to be undertaken from research ships over wide areas. At the same time many surveys were made with high-speed collecting gear and plankton-recording devices. Much of this work was intended primarily to assist in special fishery investigations, but the results also threw much light on purely marine biological problems. The following of moving water masses by a study of the planktonic population they contain was now a well-tried method and was proving increasingly valuable as results were built up. Data published during the year showed how valuable such observations are in supplementing knowledge gained from purely hydrographical research. Routine observations were also made from weather-ships and for the first time detailed results were available, showing the seasonal cycle of the phytoplankton in the open ocean and the changing vertical distribution of zooplankton organisms throughout the year.

In inshore waters study was made of the processes controlling the numbers of coliform bacteria in a tidal estuary. The bactericidal action of sea water was shown to be the most effective factor, followed by reduction in numbers by predators and by dilution. These three processes accounted for more than 99% of the decrease in numbers of bacteria in the estuary. Investigations were also made on the role and distribution of bacteriophages in the sea. An increased interest was shown in the water interchange in estuaries. It was shown that nutrient salts and detrital matter available in the estuarine mud is released under certain tidal conditions. This results in an increase in micro-organisms available for food in the overlying water, and it has pointed the way to successful experiments in manuring oyster beds.

New investigations were made on the occurrence of pigments in marine invertebrates, especially the carotenoids. It was found that the crustacean euphausians, which sometimes form the main food of the whalebone whales, contain high concentrations of vitamin A. Ninety per cent of this vitamin was present in the eyes, the remainder being in the exoskeleton and contents of the cephalothorax.

The development of methods for direct underwater observation was continued. Submarine photography was advanced, and photographs of good definition showing the nature of the ocean bed and the forms of life thereon were obtained. These proved valuable for geologists studying the distribution of bottom sediments and to the biologist estimating the numbers of certain kinds of animals. Beds of brittle starfish were shown, for instance, to exist in some regions in very dense aggregation and covering areas at least half a mile wide and two miles in length. The mean density of starfish in one such area was 392,000 to the acre. These populations may occupy the same areas for many years. Observations were made by underwater swimmers on the behaviour of planktonic animals, and underwater cinematograph films were made demonstrating the working of fishing nets. A start was made in the use of television for the study of life beneath the sea surface.

The study of the life histories and habits of a number of marine invertebrates continued, including the primitive horse-shoe crab, *Limulus*, which preys upon the soft clam; the crab lives 9 to 12 years before becoming sexually mature.

Experimental studies on the luminescence of the marine worm *Chaetopterus* showed that the production of light was under nervous control.



Professor J. L. B. Smith (centre) with the coelacanth which was caught off Madagascar in December and flown to South Africa.

In 1938 was made the remarkable discovery of *Latimeria*, a coelacanth fish thought to have been extinct for 50 million years. The last few days of 1952 were notable for the capture of another coelacanth of a different genus. This specimen, which was more complete than the *Latimeria*, was caught in water only 20 m. deep off Anjouan Island in the Comoro group, 200 mi. west of Madagascar. Thanks to the prompt action of Professor J. L. B. Smith of Rhodes university, Grahamstown, South Africa, this five-foot fish was preserved for science. He named it *Malania anjouanae* and it was hoped that more details of it would be available in 1953. (*See* also FISHERIES; OCEANOGRAPHY; ZOOLOGY.)

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MARKET GARDENING. Market growers in the United Kingdom benefited during 1952 from both acreage adjustments on holdings and the remedial balance of payments measures: and they also moved further over towards livestock farming, particularly with pigs. On April 15 the Board of Trade imposed import quotas upon some vegetable products and some fruit products, though not upon fresh products, which remained subject to licence. The limitations imposed, applicable for the year ending June 30, 1953, were: canned tomatoes £2,900,000; canned tomato juice, purée and paste £1,750,000; fruit pulp (other than apricot, grapefruit, peach, pear and pineapple) £1 million. Prices of home-grown produce responded to the improved outlook and many staple products sold at prices about 15% above the 1951 level, tomatoes being one exception.

Soft fruit acreage in England and Wales declined 6% on the year to 44,800, well below the peak of 51,000 ac. in 1950 and 5% below 1939 level. A full comparative statement is given below.

U.K. imports of fresh soft fruit to Aug. 31 were lower

SOFT FRUIT PRODUCTION, ENGLAND AND WALES

	1939		1952	
	acreage	production (tons)	acreage	production (tons)
Strawberries	18,700	22,400	16,000	27,500
Raspberries	4,100	5,300	4,200	7,200
Blackcurrants	10,400	13,200	15,000	26,500
Redcurrants	2,300	3,300	1,400	3,200
Gooseberries	9,100	16,100	7,000	17,800
Total (incl "others")	47,100	65,300	44,800	84,600

than in 1951 or 1950: gooseberries totalled 11,240 cwt. (1951, 32,900); strawberries 27,556 cwt (43,149), bilberries 45,732 cwt (58,435).

Production of tomatoes in England and Wales was assessed at 115,000 tons, made up of 86,000 tons from heated houses, 11,000 tons from cold houses and 18,000 tons from outdoor crops. Prices were disappointing to home growers, as the crop bulked early and a low rate of pricing was established. Shipments from the Channel Islands, at 41,300 tons, were heavier than in 1951 and total imports to Aug. 31 were 145,000 tons, as against 133,000 tons in 1951.

Flowers and nursery stock were grown on a slightly larger scale, at 24,300 ac. Hardy nursery stock was maintained at recent levels, the increase being in flowers for cutting, partly at the expense of the acreage under bulb flowers

In the United States production of strawberries was 2 12 million short tons, 3% above 1951 and 38% above recent normal. Acreage was down on the year, but above-average yield in the early- and mid-spring areas helped towards a final average of 27 7 cwt. an acre, 19% above normal. About 30% of the crop was frozen and held over for off-season consumption. Production of cranberries was 908,200 bbl., 18% above recent normal. About 55% of this crop was processed. Freezing was a most important outlet for berries of all types: *per capita* purchase of frozen berries had increased since 1937 from 0 3 lb. to 1 3 lb. (*See* also FRUIT; HORTICULTURE; VEGETABLES.) (R. R. W. F.)

MARQUESAS ISLANDS: *see* PACIFIC ISLANDS, FRENCH.

MARRIAGE AND DIVORCE. Generally, marriage and divorce rates declined throughout the world during 1952, the trend of the last half of 1951 being continued.

Great Britain. In England and Wales a study disclosed that in 1952 the mean ages of men and women at marriage were 29·5 and 26·5 years respectively with more men marrying at age 23 and more women at age 21 than in any other years. The estimated marriage rate of 8 per 1,000 population indicated a slight decline from the rates of 8·1 for 1951 and 8·2 for 1950. It was believed that the divorce rate would be about one-half that in 1947 when about 60,190 divorces were granted. The Catholic Marriage Advisory council opened new counselling centres at Birmingham, Bristol and Liverpool. The National Marriage Guidance council held its sixth annual conference at Bournemouth on May 22-25.

In Northern Ireland, where the marriage rate had decreased more than one-half during the past century, by royal assent on Dec. 20, 1951, the minimum ages at marriage of 14 years for boys and 12 years for girls were raised to 16 years for both.

Commonwealth. In Canada it was believed that marriage and divorce rates continued the slight decline experienced in 1951. In Quebec there was considerable pressure not only to raise the legal minimum age of marriage (12 years for girls and 14 years for boys) but also to give wives the right to own property, to have legal authority over their children and to be entitled to legal separation on the same grounds as husbands.

In India, with marriage of girls under the age of 14 years legally prohibited, child marriage had virtually disappeared, the prime minister, Jawaharlal Nehru, urged wider use of sterilization, and the World Health organization, assisted by the Indian government, campaigned to popularize contraception.

From Australia came an estimate that one in every ten marriages ended in divorce, a rate thought to be slightly lower than that prevailing in New Zealand. A government grant of £500 was made toward the expenses of a marriage counselling service in Adelaide.

United States. With a marriage licence rate of only 9·6 per 1,000 population based upon the first six months of the year, a total of 1,450,000 marriages was estimated for 1952, a decrease of 9% from the preliminary total of 1,594,900 marriages for 1951. Median ages for marriage in 1951 were 22 6 years for men and 20·4 for women. Including annulments, the number of divorces was not expected to exceed 375,000—a possible increase of 1% above the 371,000 divorces granted in 1951 but a decrease of nearly 3% from the 385,100 divorces of 1950.

Other Countries. For the last three years, the National (Lutheran) Church of Finland had given regular courses in marriage, in Helsinki alone nearly one-third of all engaged couples attended the courses. The Finnish Population association, through its eight clinics, offered advice and assistance in problems of subfertility, contraception and sexual maladjustment. In France the marriage and divorce rates showed a slight decline. The divorce rate in the German Federal Republic for 1951-52 was estimated to be about 17% lower than the rate for 1950 (1 6 per 1,000 population), 16 counselling centres had been established by the German Conference for Youths and Marriage-Counselling. The federal government at Bonn stated that there were about 3,200,000 women, or 13% of the female population, who had been divorced or legally separated, as compared with 1,900,000 in 1939 In general, marriage and divorce rates in Japan declined. From Norway came the report that 90% of women were expected to marry, with 50% of them marrying before the age of 25 years.

In Mexico, through a new clinic directed by Alfonso Seguro Albiter, eugenic marriage counselling was made available to workers in the Ministry of Health and Welfare. A survey in Palestine of Arab women disclosed that 25% of Moslems and 12% of Christians were marrying before the age of 15 years. (*See* also VITAL STATISTICS.) (C. R. A.)

MARSHALL ISLANDS: *see* PACIFIC ISLANDS, U.S.; TRUST TERRITORIES.

MARTIN, ARCHER JOHN PORTER, British biochemist (b. London, March 1, 1910), was awarded the Nobel prize for chemistry jointly with Richard Laurence Millington Synge (*q.v.*), on Nov. 6, 1952, for his share in the evolution of their method of identifying and separating chemical elements by chromatographic analysis. Martin was educated at Bedford school and at Peterhouse, Cambridge. He and Synge worked together on chemical research at Cambridge and from 1941 to 1943 at the Wool Industries Research association's laboratories at Leeds, Yorkshire; Martin had come to the Leeds laboratories in Oct. 1938 and went on working there until 1946 In Oct. 1948 he went to the National Institute for Medical Research, London, where he became head of the physical chemistry division. He had been elected a fellow of the Royal Society in 1950, and in 1951 he received the Berzelius gold medal of the Svenska Läkaresallskapet.

MARTINIQUE. Island in the Lesser Antilles, a French overseas *département.* Area: 427 sq.mi. Pop.: (1946 census) 261,595; (1950 est.) 273,000, mainly coloured (Negro or mixed). Language: French *patois.* Religion: Roman Catholic. Capital: Fort de France (pop., 1946, 66,006). Prefect, Christian Laigret.

History. Claudius Petit, French minister of reconstruction, visited the Antilles and studied the problems of town development. Fort de France airport was completed: it was in the international class and had a runway of 1,700 m. An air service between Martinique and Guadeloupe was established with three flights a week. The harbour of Fort de France was enlarged and by 1952 it had 775 m. of quays in deep water, a dry dock and sheds for storing bananas. The road system was further extended. Reafforestation of the mahogany woods was begun.

Education. All children of school age receive primary education: one *lycée*; Institute of Political, Legal and Economic Studies.

Foreign Trade (1951, million francs). Imports 10,910 (incl. 9,500 from the French Union); exports 7,500 (almost all to the French Union), mainly sugar (2,577), rum (2,075), bananas (2,281).

Transport and Communications. Ships entered (1951): 664.

(HU. DE.)

MASSEY, VINCENT, Canadian statesman (b. Toronto, Feb. 20, 1887), was educated at St. Andrew's college, Toronto, at the University of Toronto and at Balliol college, Oxford. He was lecturer in modern history, University of Toronto, 1913-15. He served in the army during World War I, rising to the rank of lieutenant-colonel, and became associate secretary of the war committee of the cabinet in 1918. In 1925 he was appointed minister without portfolio in the federal government. In the following year Massey became the first Canadian minister to the United States, a post he held until 1930, and in 1932-35 he was president of the National Liberal federation. He was Canadian high commissioner in London, 1935-46. He was known for his interest in the arts and, while in London, was a trustee of the National gallery (1941-46) and of the Tate gallery (1943-46). He was appointed chairman of the National Gallery of Canada in 1946 and, from 1949 to 1951, was chairman of a Royal Commission on National Development in the Arts, Letters and Sciences which reported in June 1951. He became chancellor of the University of Toronto in 1947. On Feb. 28, 1952, Massey became the first Canadian-born governor-general of Canada when he succeeded Viscount (later Earl) Alexander of Tunis (*q.v.*). On April 22 he received Queen Juliana of the Netherlands in Ottawa. He was created a Companion of Honour in 1946.

MATHEMATICS. The new International Mathematical union held its first general assembly at Rome during March 6-8, 1952. Among the topics discussed were the preparation of a world directory of mathematicians, methods of reducing the cost of mathematical publication and methods of facilitating international exchanges of mathematicians. It was also decided to set up an international commission on mathematical teaching; a similar body published a series of valuable reports shortly before World War I. Officers of the union were elected as follows: president, M. H. Stone (U.S.); vice-presidents, E. Borel (France) and E. Kamke (Germany); secretary, E. Bompiani (Italy).

The distinguished Italian mathematician Guido Castelnuovo died at Rome on April 27, 1952, in his 87th year. He studied at Padua under G. Veronese, and taught at Turin and Rome, retiring in 1935. Together with F. Enriques, he was mainly responsible for the foundation of the theory of the invariants of algebraic surfaces and he successfully linked this work with that of the French school on algebraic functions of two variables. In 1938 racial discrimination laws were enacted in Italy, and Castelnuovo organized a secret university for those excluded from the state universities. He went into hiding during the German occupation of Rome in 1943-44. When Italy regained its independence, Castelnuovo was elected president of the Accademia Nazionale dei Lincei and took a full share in the restoration of Italian scientific life. He was also elected one of the five life members of the Italian senate.

In 1900 David Hilbert gave a famous lecture to the International Congress of Mathematicians at Paris in which he outlined 23 unsolved mathematical problems. The fifth of these was concerned with continuous groups of transformations; he asked to what extent the results known for groups in which the functions involved in the group relations were differentiable (Lie groups) remained valid when these functions were only supposed to be continuous; in other words, under what conditions of a non-analytic nature could a continuous group be shown to be a Lie group? The first general solution of this problem was given in 1952 by A. M. Gleason, D. Montgomery and L. Zippin, who proved that every finite-dimensional, separable, metric, locally compact, connected and locally connected topological group is a Lie group. This result makes possible the application of Sophus Lie's analytical methods to a wide class of continuous groups of transformations and opens the way to new uses for these groups in many fields of mathematics.

An important result in topology was obtained by E. E. Moise, who proved that two topologically equivalent three-dimensional manifolds were combinatorially equivalent; in other words, they could be dissected into pieces topologically equivalent to spheres and a correspondence could be set up between the pieces of the two manifolds, in such a way that the pieces of each manifold fitted together in the same pattern. This result, an old conjecture, was known as the "Hauptvermutung" (main conjecture) for $n=3$; the corresponding result for $n=2$ was already known to be true.

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(F. Ss.)

MAURIAC, FRANÇOIS, French man of letters (b. Bordeaux, Oct. 11, 1885), was brought up in the Bordelais and the Landes till the end of 1905, when he went to Paris to finish his education. In Paris he frequented Catholic literary circles, as he had done in his province, becoming president of the Cercle Montalembert. His first book, *Les Mains jointes* (poems, 1909), won the approval of Maurice Barrès, whose influence he always acknowledged. His first novel, *L'Enfant chargé de chaînes*, appeared in 1913, the year of his marriage. In World War I he served for a short time with a medical unit at Salonika but got malaria and was sent home. It was with his short fifth novel, *Le Baiser au lépreux* (1922), published in *Les Cahiers verts*, that he first made a great name for himself. A continuous stream of work followed, including the novels *Le Fleuve de feu* (1923), *Genitrix* (1923), *Le Désert de l'amour* (Grand Prix du Roman, 1925), *Thérèse Desqueyroux* (1927), *Destins* (1928), *Le Nœud de vipères* (1932), *Le Mystère Frontenac* (1933), *Les Anges noirs* (1936), *Les Chemins de la mer* (1939) and *La Pharisienne* (1941); a *Supplément* (1928) to Bossuet's *Traité de la concupiscence;* the play *Asmodée* (1937), performed by the Comédie Française; and religious, controversial and critical essays. Mauriac became president of the Société des Gens de Lettres in 1932 and was elected by 28 out of 31 votes to Eugène Brieux's seat in the French Academy on June 1, 1933. Unlike many French Catholics, he refused to give blind support to the Nationalists in the Spanish civil war. In World War II he was clearly for the resistance and published a clandestine pamphlet, *Le Cahier noir*, under the pseudonym of Forez (1943) and a signed

eulogy of Gen. de Gaulle in *Figaro* (1944). From 1945 he devoted himself mainly to journalism, writing strongly anti-Communist editorials for *Figaro;* other work, however, included *Du côté de chez Proust* (1947) and a play, *Passage du Malin* (1947) In Nov. 1952 he was awarded the Nobel prize for literature; another of his brief novels, *Caligaï*, appeared during the year. Nearly all Mauriac's best novels evoke his native country, the Landes, to which he constantly returned; its pine forests, its vineyards and its sultry climate. Against this background his characters, peasants and bourgeois, are portrayed as lustful, avaricious, envious or proud, to be saved only by God's grace A hint of Jansenism in his writing has incurred him less reproach from the more pious of his fellow Catholics than his delineation of sensuality.

MAURITANIA: *see* FRENCH WEST AFRICA.

MAURITIUS. British colony in the Indian ocean with island dependencies, of which the largest are Rodriguez and Diego Garcia. Area: Mauritius 720 sq mi.; Rodriguez 42 sq.mi. Pop.: (1944 census) Mauritius 419,485 (57% Indo-Mauritian); Rodriguez 11,885, Diego Garcia 501, other dependencies 1,077; total pop. (1951 est.) 508,000. Languages: French and Creole French, Hindi and English. Religion: Indo-Mauritians mainly Hindu, others mainly Roman Catholic. Capital, Port Louis Administration: governor; executive council, 3 *ex-officio* and 6 unofficial members, legislative council, 3 *ex-officio*, 12 nominated unofficial and 18 elected members. Governor, Sir Hilary Blood.

History. The 1952 sugar crop was excellent, amounting to nearly half a million tons, and the secondary crops now being developed made good headway: there was a steadily increasing production of aloe-fibre, tea and tobacco. Other development projects in progress included improved domestic water supplies, irrigation of new lands and hydro-electric power. A reafforestation scheme was approved during the year and a development commissioner was appointed. The sugar industry was considering the establishment of a weed control organization: with the shortage of labour due to the growth of the industry, weed control had become an urgent problem. There was another outbreak of poliomyelitis in April, but it was less severe than its predecessors. In September Mauritius became a port of call on the new air route from Sydney to South Africa, the service being inaugurated by Qantas Empire airways (K. G. B.)

Education. Schools (1951) primary 227, pupils 64,410, secondary 45 (incl 3 government and 9 grant-aided), pupils 5,480 One teachers' training college College of Agriculture (Oct 1951) students 30, professors and lecturers 12

Finance and Trade. Monetary unit: Mauritius rupee (Re 1 = 1s 6*d* sterling) Budget (1951-52 revised est.) revenue Rs 78,098,028, expenditure Rs 70,734,676 Foreign trade (1951, incl government and military imports, excl bullion and specie, and trade with dependencies) imports Rs 203,062,064, exports Rs 237,005,361 Principal exports sugar, spirits, fibre Production (1951) sugar 484,000 metric tons, tobacco 485,688 kg., alcohol from molasses (exports) 8,900,000 litres, tea 841,160 lb

See M Malim, *Island of the Swan* (London, 1952), F D Ommanney, *The Shoals of Capricorn* (London, 1952)

MEAT. During 1951 production of meat throughout the world was much greater than before World War II, but was little changed from the previous year. Consumption on the other hand showed a further increase in the main producing countries with the result that the amount of meat which found its way into international trade declined to about four-fifths of the 1938 level. World exports of carcase meat fell from 1,159,500 tons in 1950 to 977,800 tons in 1951, as compared with 1,576,600 tons prewar. This decrease of 600,000 tons in exports occurred although the output of the main producing countries had increased by 1,300,000 tons since 1938.

Cattle numbers in many important meat-producing countries continued to increase during 1951 with the notable exception of Argentina and Uruguay. The upward trend in the cattle population in Europe was maintained and in most countries numbers were at or about the prewar level. In the United States a marked increase occurred during 1951 which was maintained in 1952, the record level of 88 million being 7% greater than the year before. In Australia loss from drought and bush fires caused a heavy reduction as compared with 1951, but in the United Kingdom, Denmark and the Netherlands the reduction was slight. Unofficial estimates for Argentina suggested that numbers continued to decline from the peak of 1948 because of several years of severe drought.

TABLE I CATTLE NUMBERS (million head)

	1938	1948	1949	1950	1951	1952
Australia	13 1	13 8	14 1	14 6	15 2	14 8
Canada	8 5	9 5	9 1	9 0	9 3	9 2
Denmark	3 2	2 8	2 9	3 1	3 1	3 1
Netherlands	2 8	2 3	2 5	2 7	2 9	2 9
United Kingdom	8 8	9 8	10 2	10 6	10 5	10 3
United States	65 2	77 2	76 8	78 0	82 0	88 1

World sheep numbers, which had been expanding since 1947, continued their upward trend in 1951 and in most major meat-producing countries the total exceeded the prewar figure. In Australia the sheep population in 1951 rose by 2 5 million above the previous year, but was still 8% below the peak of 125 million head. A further recovery was recorded in 1952 In New Zealand flocks also rose further in 1951 and surpassed the previous record of 34 million in 1945. The sheep population of the United Kingdom showed a very small decline in 1951 which was more than recovered in 1952 The decline in sheep numbers in North America, apparent since 1945, was halted in 1951 and in the United States slight increases were recorded in 1951 and 1952. In the U.S.S.R. the expansion continued and was estimated in 1951 to be 93 million head.

TABLE II. SHEEP NUMBERS (million head)

	1938	1948	1949	1950	1951	1952
Australia	113 4	102 6	108 7	112 9	115 6	117 5
Canada	3 1	2 3	2 1	2 0	2 0	1 6
New Zealand	32 4	32 5	32 8	33 9	34 8	
United Kingdom	26 8	18·2	19 3	20 4	20 0	21 7
United States	51 2	34 3	30 9	29 8	30 6	31 7

Although the pig population of most major pig-producing countries continued to increase during 1951, the rate of expansion was much slower than in previous years as the demand for pig meat was more nearly met. Estimates showed that by 1951 the prewar totals in many European countries had been exceeded while in Canada and the United States numbers were much greater than in 1938. Under the stimulus of increases in guaranteed prices the pig population in the United Kingdom showed a marked upward trend and in 1952 had passed the prewar total by 543,000 head. There was a slight recession in Denmark and the Netherlands in 1951, but numbers were substantially above prewar and in the case of Denmark were fully restored by 1952. In the German Federal Republic stocks showed a further large increase and the total was 7% above prewar.

TABLE III PIG NUMBERS (million head)

	1938	1948	1949	1950	1951	1952
Canada	3 53	4 46	5 16	5 25	5·88	5 74
Denmark	2 84	1 46	2·69	3 21	3·20	3 63
Irish Republic	0 96	0 45	0 67	0 64	0 56	0 71
Netherlands	1·54	0·87	1 30	1 86	1 94	1 84
United Kingdom	4 38	2 15	2 82	2 99	3 89	4 92
United States	44·53	54·59	56·26	58 85	62 85	63·90

Production. Despite the upward trend in cattle numbers during recent years, beef and veal production in the main countries appeared to have declined during 1951, although output in most countries remained considerably greater than prewar. In the United States production amounted to

4,421,400 tons, which was lower than any year since 1945, in Argentina, 1,849,700 tons, lowest for several years; in Australia 584,700 tons (651,500 tons in 1950); in France 974,400 tons (995,000 tons); in Canada 367,500 tons (409,100 tons); in the United Kingdom 652,000 tons (633,700 tons); and in the German Federal Republic 563,900 tons (510,800 tons).

Output of mutton and lamb in the main countries concerned except Australia declined substantially in 1951. Production figures for 1951 with those for 1950 in parentheses are as follows: New Zealand 292,400 tons (331,800 tons), Australia 276,900 tons (274,300 tons), United States 233,000 tons (265,500 tons), United Kingdom 130,900 tons (149,100 tons), Argentina 151,900 tons (167,000 tons)

Production of pig meat in 1951 increased in most countries, especially in the United States and the German Federal Republic.

International Trade. World exports of beef, which in 1949 were only 18% below prewar level, subsequently fell heavily and in 1951 were less than one half of the 1938 figure, 352,300 tons against 755,500 tons. Mutton and lamb exports, which had shown considerable fluctuations in the postwar period, fell from 336,500 tons in 1950 to 254,900 tons in 1951. New Zealand, the world's leading exporter, reduced shipments by 18% as compared with 1950; nevertheless its supplies constituted 82% of the world's exports in 1951. Australian shipments, which had reached the postwar peak of 86,200 tons in 1949-50, fell to 24,200 tons the following season and in 1951-52 were further reduced to the negligible figure of 14,000 tons. World exports of pork in 1951 were 120,000 tons, a further increase and substantially above 1938 The trade in bacon and hams which continued to expand in the main European countries fell sharply in 1951 because of the reduction in Canadian shipments, the total of 250,600 tons was 35% below the prewar level. There was a very marked expansion in world exports of canned meat in 1951 when the total of 359,800 tons reached the highest level since 1946 and exceeded the previous year by 40%.

Consumption. Total consumption of all kinds of meat in most important producing countries, which had shown a marked upward trend in previous years, declined appreciably in 1951, except in New Zealand and Canada. In Argentina consumption per head declined for the second year in succession, but at 230 lb. was 16 lb. greater than in 1938. In the United Kingdom the level of consumption, which had risen sharply in 1950, fell by 23 lb. to 59 5 lb. in 1951 and was 45 lb. lower than before World War II. The provisional estimate for 1952 was 67 lb. Supplies of meat and offal during the year were 1,555,000 tons, of which 546,000 tons were imported and 1,009,000 tons home produced. Of the imports New Zealand contributed 324,000 tons, Argentina 110,000 tons and Australia 34,000 tons. The U.K. absorbed about 90% of the total world exports of bacon and ham, imports in 1952 being 250,000 tons, the highest for 12 years Home production amounted to 285,000 tons, which was approximately 65% above the prewar level. (*See* also LIVESTOCK.)

(C. A. MO.)

MEDICAL ARTICLES: *see* BACTERIOLOGY; BIOCHEMISTRY, BLOOD, DISEASES OF THE; CANCER; DENTISTRY; DERMATOLOGY; DIABETES; EAR, NOSE AND THROAT, DISEASES OF; ENDOCRINOLOGY; EPIDEMICS; EYE, DISEASES OF THE; GENETICS; GYNAECOLOGY AND OBSTETRICS; HEART DISEASES; HOSPITALS; INDUSTRIAL HEALTH; INFANTILE PARALYSIS; MEDICINE; MENTAL DISEASES; NUTRITION; OSTEOPATHY; PHARMACY; PHYSIOLOGY; PSYCHIATRY; PSYCHOLOGY; RESPIRATORY DISEASES; RHEUMATIC DISEASES; STOMACH AND INTESTINES, DISEASES OF; SURGERY; TROPICAL DISEASES; TUBERCULOSIS; VENEREAL DISEASES; VETERINARY MEDICINE; X-RAY AND RADIOLOGY.

MEDICINE. *Pulmonary Tuberculosis.* A combination of streptomycin and para-aminosalicylic acid (P.A.S.) remained the generally accepted routine for the chemotherapy of pulmonary tuberculosis in 1952. There was much interest, however, in a new anti-tuberculous drug, *isoniazid.* Following preliminary and independent announcements by the Squibb Institute for Medical Research and the scientific laboratories of Hofman la Roche in Feb. 1952, a controlled trial was arranged by the Medical Research council.

Thirty-nine hospitals took part and at the end of three months 173 patients receiving isoniazid alone showed almost exactly the same improvement as 158 treated with streptomycin and P.A S The first group had gained more weight and the trial showed isoniazid to be remarkably free from toxicity. The main disadvantage of the new drug was that resistant bacilli appeared quickly. Clearly isoniazid was an effective anti-tuberculous drug, but it remained to be seen whether its use in combination with other drugs would get over the difficulty of drug-resistance by the tubercle bacilli (*B.M.J*, London, Oct. 4, 1952).

Corneal Grafting. Four years of skilful propaganda, conducted by B. W. Rycroft and his colleagues at the Corneo-Plastic unit at East Grinstead, Sussex, culminated in the Corneal Grafting act, 1952. This received the royal assent on June 26 and came into operation three months later. Scars across the front of the eye account for 2½% of cases of blindness. In most of them sight can be restored by a corneal graft. The best graft is from the eye of a person who has died a natural death, the eye being removed within a few hours of death. Previously there were all sorts of legal difficulties in removing eyes soon after death. The Corneal Grafting act ensured an adequate supply of donor grafts from people who wished to bequeath their eyes after death, or from people who died in hospital and whose relatives agreed to this course. This act gave a powerful impetus to corneal graft surgery and was expected to enable many hundreds of unfortunate people to win back their lost sight (*Family Doctor*, London, Sept. 1952)

Artificial Respiration. American workers proved that the push-pull methods (pulling by elbow-lifting and pushing by back pressure applied below the shoulder-blades) of the Holger Nielsen method of artificial respiration yielded two or three times the ventilation obtained by the Schafer method (D B. Dill, *U.S. Armed Forces Med J.*, vol. 3, p. 171, 1952), thus endorsing the findings of the Royal Life Saving society and other authorities. It seemed likely that the Holger Nielsen push-pull method would be taken up in preference to Schafer's method by the armed services and it later received the general approval of all first-aid organizations.

Chloramphenicol. Chloramphenicol was used widely and successfully in the treatment of typhoid fever and a number of other conditions. Unfortunately, it was sometimes found to cause an aplastic anaemia which might be fatal. In 1952 several such fatalities were described, notably in children. P. Sturgeon recorded six deaths in children treated with chloramphenicol (*J. Amer. Med. Ass.*, vol. 149, p. 918, July 5, 1952).

Radioactive Phosphorus. Work continued on many different modes of application of radioactive isotopes. A possible diagnostic advance was reported by Sir Geoffrey Jefferson and T. P. Morley (*B.M.J.* Sept. 13, 1952). They injected one millicurie of radioactive phosphorus (P^{32}) intravenously the evening before operation Then once the cortex of the brain had been exposed an underlying tumour could be located and demarcated by the use of a special probe connected up to a Geiger-Muller counter. The P^{32} is concentrated in the tumour and emits Beta particles. The method was described as a valuable additional aid to the surgeon in selected cases,

particularly when taking a small biopsy specimen through a burr-hole

Acrylic Lenses. An important development in the operation for cataract was introduced by H. Ridley. The surgery of cataract has long been safe. The clouded lens can be removed from the eye and vision is greatly improved. Unfortunately the vision is far from perfect, big and powerful lenses have to be used as spectacles. Without them the patient may be helpless and even with them he can only see effectively if he moves his head slowly. A quick movement to one side or the other throws everything out of focus. After removing the cataract in the ordinary way—usually by the extracapsular technique—Ridley inserted, as a replacement for the natural lens damaged by cataract, an artificial lens made of the transparent plastic polymethyl methacrylate He operated on some 27 eyes with good results. It was found that in this way vision even without glasses approached very nearly to what was normal for the individual before the cataract developed (*Brit. J. Ophthal*, vol 36, p. 113, 1952; *Lancet*, vol. 1, p 118, 1952).

Daraprim. This is the name now given to a new anti-malarial drug: 2:4-diamino-5-(4-chlorophenyl)-6-ethyl pyrimidine, first referred to in trials as B.W. 50-63. A comprehensive series of trials was carried out by J. Schneider, J. Canet and R. Dupoux in Tunisia and Indochina (*Bull Soc path. exot.*, vol. 45, p 33, 1952) In the treatment of malaria due to *Plasmodium falciparum* they used a single dose of 50 mg. or at most two doses of 50 mg. on successive days These and other trials showed that daraprim is a very potent anti-malarial drug Its most important use may prove to be as a suppressant rather than in treatment It is tasteless, unlike other anti-marials, and can easily be given to infants in the form of a syrup. It has no unpleasant side-effects, and may prove to be effective in weekly doses

The Intern Year. The Medical act, 1950, provided for an "intern year" between qualification and registration Sometimes known as the "Goodenough year" because it was stressed in the Goodenough report, this year was to be divided into two appointments of six months each. The General Medical council had laid down regulations which would apply to every medical student in Britain who passed his qualifying examination after Jan 1, 1953. A list of approved hospitals was published by the G.M.C and these would cater for 3,000 young doctors. Once a post had been obtained the new doctor would be eligible for admission to the *Provisional Register* After six months as a house-physician, and six months as a house-surgeon or obstetric house-surgeon, certificates of satisfactory service would have to be sent to the appropriate licensing body (university, Conjoint board, etc) The intern would then be eligible for admission to the full *Medical Register*

The number of available housemen would obviously be increased and approved hospitals would benefit Hospitals which were not approved for this purpose might have difficulty in recruiting junior medical staff. The young intern would have normal national health service pay and conditions of service. These would be the same for men and women (of all medical students about one-fifth were women and the proportion was increasing) The general effect of the intern year would be to bring the British practice into line with that of, for example, the United States and South Africa.

The Danckwerts Award Mr. Justice Danckwerts, as an independent adjudicator appointed by the lord chancellor, resolved on March 25 a dispute between the Ministry of Health and the general practitioners which had bedevilled the national health service since its inception in 1948. Both parties had accepted the recommendations of the Spens committee on the range of income for general practitioners in the national health service. Spens recommendations were based on the 1939 value of money. What Mr Justice Danckwerts had to determine was the "betterment factor" to be applied to 1939 values to bring them up to date. After a three-day hearing he applied a betterment factor of 85% for 1948-49 and of 100% for 1950-51. The 100% factor was also accepted by the government for 1951-52. The arrears of pay due to the general practitioners for the four years 1948-52 amounted to some £27 million and most of this was actually paid out by the end of November. The Danckwerts award also laid it down that the central pool from which doctors were paid should be adjusted each year by reference to the number of doctors in the national health service and with an allowance of 38 7% for practice expenses—which has an important bearing on income tax liability.

When it was agreed that adjudication was the only possible answer to four years of wrangling, it was also agreed that a working party of representatives of the Ministry of Health and of the British Medical association should be appointed. Its terms of reference were to arrange for a revised distribution of the central pool of monies in such a way as to ensure the best possible medical service to the public It was also desired to discourage unduly large lists, to improve the position of those doctors who were unfavourably placed, to make it easier for new doctors to enter general practice and to encourage partnerships and group practice

There was much debate and discussion about the proposals of the working party but by and large they met with general acceptance. It was agreed that a doctor working on his own should have a maximum list of 3,500 instead of 4,000 patients Partners were to have a maximum of 4,500 instead of 5,000 The number of persons on the list of a permanent assistant was to be 2,000 instead of, as heretofore, 2,400. Instead of the capitation fee varying from area to area it was to be fixed at 17s There was to be an additional 10s a head for the 1,000 persons on a list after the first 500 or, in other words, the capitation fee was to become 27s for numbers 501-1,500 on a doctor's list Above 1,500 it was to be 17s. again and there was to be no payment at all for persons in excess of the 3,500 The old scheme provided an average gross income of £2,905 for a list of 3,500 The new distribution gave a gross income of £3,475 for a 3,500 list Partnerships were to be encouraged by applying the 27s capitation to 2,000 persons even though the senior partner had, say, 2,300 on his list and the junior partner only 900. This was a real inducement for single-handed practitioners to enter into partnership. Where there was a shortage of doctors in designated areas young practitioners who started in practice there would be given an "initial practice allowance" of £600 in the first year, £450 in the second and £200 in the third.

There were over 90% of practitioners working in the national health service by the beginning of 1952 and they had a long-standing grievance about their remuneration. The Danckwerts award was expected to go far to remove this and the working party's proposals were designed to have the triple effect of reducing lists, making partnership more attractive, and making entry into general practice easier for the newly qualified. (I. H. Fk.)

United States. *Hyaluronidase.* A substance called hyaluronidase had been known as the "spreading factor" because of its ability to disperse colloids. When hyaluronidase is injected under the skin or into the muscles with other drugs this activity hastens absorption. Investigators found that this substance, when it gets into the urine, acts to disperse the colloids and this interferes with the formation of kidney stones. Using X-rays, doctors found that existing stones did not grow larger and new stones did not form after administration of hyaluronidase. Never before had any substance been known which could produce this effect. The only help previously had been surgical removal.



A blood storage room at the North London Blood Transfusion Centre at Edgware, Middlesex. The centre, which was officially opened on Aug. 7, serves more than 300 hospitals in parts of London and the home counties.

Antibiotics. The search for new antibiotics continued. Perhaps the most significant announcement of 1952 was the development of erythromycin, also called ilotycin, an antibiotic capable of interfering with the growth of a variety of pathogenic organisms. · Other new developments involved substances called pleocidin; mycobacidin, said to be useful against leprosy and tuberculosis; fumagillin, for use against amoebas; and an improved penicillin called bicillin.

Coeliac Disease. Coeliac disease is a condition affecting babies about the age of one year; they show a sudden disinclination for food with an increased frequency of action of the bowel. The stools are pale, bulky and offensive in odour. The child loses weight, has abdominal distention and wasting of the buttocks and limbs. Such children are apathetic and morose. Formerly the condition was thought to be the result of inability of the bowel to handle fats, and bananas were used in treatment. New research showed that the fat is not absorbed and that a diet free from wheat and rye results in increased absorption of fat. A high caloric diet can be given with biscuits made from cornflour or soyabean flour instead of wheat. B complex vitamins are given simultaneously to prevent deficiency. Under such treatment improvement occurred in almost every case.

Poliomyelitis. An important discovery for the possible control of poliomyelitis was the demonstration of the virus in the blood of monkeys. In five out of eight attempts in chimpanzees without apparent disease, virus was isolated from the blood on the fourth to the sixth day after the virus was fed to the animals. In another experiment 12 out of 23 monkeys inoculated by feeding the virus became paralysed and these had the virus in the blood on the seventh day after feeding. If there is a stage in poliomyelitis when the virus is in the blood before the paralysis begins, the opportunity to destroy the virus before it reaches the nervous system is much greater.

A well-controlled experiment showed that injection of gamma globulin has power to prevent poliomyelitis to a considerable extent for a period of 12 to 15 weeks. Such inoculations also help to lessen the severity of the infection. Vaccines against poliomyelitis were also prepared by growing the virus outside the body in tissue cultures and then attenuating it. Such vaccines proved effective in building resistance against infection with poliomyelitis virus, but the method was in the earliest experimental stages.

Thyroid Gland. Radioactive iodine was found of increasing usefulness in conditions affecting the thyroid gland. The rate at which the thyroid takes up the radioactive iodine is an indication of its activity. The radioactivity can stop completely the action of the cells so that giving of thyroid extract temporarily may be necessary. The action was reported effective even in cancer of the thyroid and several cases were reported of complete control of cancer of the thyroid by taking radioactive iodine in water. (*See* also cross-reference MEDICAL ARTICLES.) (M. FI.)

MENTAL DISEASES. The mental health statistics for England and Wales included in the Ministry of Health reports published in the autumn of 1952 gave details about mental disease and mental deficiency up to the end of 1951, and in future would relate to the calendar year instead of the financial year as formerly.

The report drew attention to the shortage of nurses and beds in the mental health service, leading to overcrowding, waiting lists and restrictions on the admission of voluntary patients. There were 4,964 beds which could have been made available if staff could have been found and 1,466 mental

hospital beds which had been diverted to other uses, as well as 2,119 beds which had been returned but not yet re-instated or re-equipped. There had been a large increase in the turnover of the hospital population and the number of admissions and discharges in 1949 was double that for 1939, though there was little change in the number of beds. This change was due to the larger number of voluntary patients coming forward and to the increased use of active curative treatments. Nowadays half those admitted to mental hospitals are discharged within a year of admission and the average stay per patient is four to six weeks.

Admissions to mental hospitals during the year ended Dec. 1951 numbered 63,953 of whom 66 3% were voluntary, 2·1% temporary and 31·6% certified patients. (The corresponding figures for 1950 were 60,266; 65·5% voluntary, 2·2% temporary and 32 3% certified patients). Those discharged numbered 50,167, of whom 32% were recovered and 54% relieved. There were 13,008 deaths. The average daily number resident during the year was 147,552 and there was estimated overcrowding of 16,124. Of the 148,071 persons resident in mental hospitals on Dec. 31, 1951, 19 6% were voluntary patients, 0 23% temporary patients and over 80% certified patients. Of these patients 97 6% were resident in hospitals vested in the minister of health, there continued to be a decrease in the number resident in private hospitals The proportion of males to females in the hospital population was 42 5% to 57·5%. The sex distribution of the admissions was males 41 5% to females 58 5%.

Mental Deficiency. The number of patients under care in institutions and homes under the Mental Deficiency act, 1913, was 57,661 at the end of 1951; accommodation was regarded as being adequate for 50,310, revealing overcrowding to the extent of 4,778 when allowance was made for 5,266 patients on licence and for 2,693 beds out of use because of a shortage of nurses and for other reasons. The sex distribution differed from that of the mental hospitals in that males predominated slightly amongst certified mental defectives.

The number of mental defectives reported to local health authorities whether "subject to be dealt with" or not on Dec. 31, 1951, was 128,808, representing 2 94 per 1,000 of the population, and the number found "subject to be dealt with" was 112,055, or 2 56 per 1,000 of the population. The number of notifications would probably have been greater if notification had brought with it a greater possibility of admission to hospital.

There were 3,263 admissions to mental deficiency institutions and homes during 1951, and 1,194 discharges. In the same period 3,394 patients were placed under guardianship and 203 released from this supervision. The total number of mentally defective persons under care in the community at the end of 1951 (as distinct from the 57,661 in institutions) was 75,462, made up of 5,266 on licence from institutions, 3,394 under guardianship and 50,049 under statutory supervision, together with 16,753 under voluntary supervision.

Rehabilitation. The report stated that in April 1951 out of 936,196 persons registered as disabled under the Disabled Persons act, 1944, 49,184 were recorded as suffering from psychiatric disability; of these 37,040 were classified as neurotic, 6,391 as mentally defective and 5,753 as psychotic. Although there were only 5,266 psychotic disabled persons among the 65,128 unemployed disabled persons in April 1950, their percentage of unemployed to registrations was the highest, being 10·7% compared with 9·5% medical, 4·7% surgical and 5·7% other cases.

The report included an account of the work of voluntary workers in the mental health field and of the results of a recent community care survey. (*See* also PSYCHIATRY.)

(J. G. H.)

MENZIES, ROBERT GORDON, Australian statesman (b. Jeparit, Victoria, Dec. 20, 1894), became prime minister of Australia for the second time on Dec. 19, 1949. In July-Aug. 1950 he visited Great Britain, the United States, Canada and New Zealand, and in Jan. 1951 was in London for a meeting of Commonwealth prime ministers. (For his early career see *Britannica Book of the Year 1952.*)

On Feb. 7, 1952, in the House of Representatives he paid tribute to King George VI. He and his cabinet took the oath of allegiance to Queen Elizabeth II on Feb. 19. On March 8, he announced that the government was restricting imports into Australia, and two days later he broadcast an explanation of this policy. At a meeting in May of the Australian Loan council he was outvoted on his proposals to limit the size of the works programme for 1952-53. He later said that the government would not be stampeded into accepting financial policies which would increase taxation or impede the restoration of economic stability. He was invited by Winston Churchill (*q.v.*) to London for discussions with British cabinet members. He left Australia on May 14 and visited the United States, reaching London on May 24, where his discussions dealt with many aspects of Australia's economic position He was made an honorary freeman of the City of London on June 4 and in the following week visited the Netherlands and France. He returned to Australia on July 2, after visiting the United States and Canada. He said that his visit had achieved success "far beyond any expectations I had before I went away". On July 7 he presided over a meeting of state premiers at which he proposed that the levying of taxes should revert from the federal government to the states. On Aug. 13 he vehemently rejected H. V. Evatt's claim that the government had deliberately planned unemployment. On Oct. 15, in a statement from Canberra, he expressed delight that arrangements had been finally made for Queen Elizabeth II and the Duke of Edinburgh to visit Australia in 1954. Menzies left Australia in mid-November for the London economic conference of Commonwealth countries.

METALLURGY. Research and development in the field of metallurgy were greatly stimulated by the demands of the defence programme. Some of the more striking advances in 1952 are described briefly in the following paragraphs.

Continuous Casting. After only a relatively short time in the development stage, the continuous casting method was put into regular use to cast brass, bronze, steel, copper, aluminium and magnesium in rounds, billets, flat bars, slabs and cakes. The product was sounder and more uniform than with former methods of casting.

Levitation Melting. Utilizing the magnetic forces generated by high frequency alternating current in two coaxial coils connected in series opposition, a small mass of metal can be suspended in space and melted, either in air, a controlled atmosphere or a vacuum, without being brought into contact with a crucible or other materials that might cause contamination.

Magnetic Alloy. A new magnetic alloy with a higher coercive force than any other known magnetic material was made by hot-pressing a mixture of bismuth and manganese powders in a strong magnetic field.

Substitutes. Hastelloy X, an alloy of iron, nickel (45%), chromium (22%) and molybdenum (9%), with 0·15% carbon, was being used as a substitute for scarce cobalt in applications requiring resistance to corrosion at high temperatures. The alloy had good forming characteristics and was available in sheet, plate, bars, wire and precision investment castings.

Vapour Deposition. After 50 years of relative inactivity, the coating of one metal with another by vapour deposition was being revived and extended. The earlier use of direct

aporization and condensation was handicapped by the high emperature required to produce a workable vapour pressure ıith many metals. The process was simplified and speeded p by bringing a mixture of a volatile metallic compound and a educing agent into contact with a receiving surface which ıas heated to a temperature sufficient to cause chemical eaction, thus depositing the liberated metal on the surface ɔ any desired thickness. The temperature of the receiving urface was a critical factor that was best controlled by ıduction or resistance heating.

X-Ray Photography. A new method of X-ray photography ɔok pictures of hot welded sections up to a temperature of ,200°F. Records could be made at any stage of the welding nd any flaws detected could be corrected before completing the ıeld, thus assuring a perfect weld when finished (G. A. Ro.)

METAL PRODUCTION: *see* MINERAL AND METAL RODUCTION.

METEOROLOGY. The year 1952 was one of sustained rogress over a broad front, as is evident from the selection f topics discussed briefly below. Most notable among ublications was *The Compendium of Meteorology*, edited by . F. Malone for the American Meteorological society Boston, 1951), a collected work which set out to survey ɔcent progress over the whole field of meteorology and to oint the way to attack on significant problems of the nmediate future. This very large volume drew on authors om many countries but is in English throughout. Also otable was the publication of the *Climatological Atlas of the ritish Isles* (H.M.S.O., London, 1952). Here, month by ıonth, were displayed in readily assimilable map and ıagrammatic form the climatological means and deviations f all the usually observed elements which go to make up the eather of the British Isles. Its potential application by a wide ınge of professions and industries, from town-planning to ırming, could hardly be overestimated. It was to be hoped ıat other national meteorological services would follow the ɔcellent example set by this volume and so provide a major eapon in the attack on the problem of the world's food roduction and on others of little less urgency.

Weather forecasting has a history almost as long as that f man himself. For the last 100 years at least it has been a ıentific exercise but of a very empirical and rather subjective ınd—relations were sought between weather " now " and in ıe immediate past, with weather following, but, so great the complexity of the atmosphere, no situation ever repeats self, and the forecaster calls upon his integrated experience ɔ make the best estimate of what will emerge on a given ɔcasion. The meteorologist has not doubted, with certain ɔservations, that the weather is determined, *i.e.*, that yesterday ıd today imply tomorrow, but he has been unable to apply s physics to the problem, as the oceanographer does to ıes or the astronomer to the ephemeris, because of the sheer agnitude of the problem and the time-scale within which ɔ works. Consequently he has been quick to seize upon the ɔtentialities of the high-speed electronic computing machines hich have latterly been constructed. For by their means ılculations involving thousands of man-hours have become few minutes' work. From this point of view, weather recasting becomes in principle a problem of setting up the ifferential) equations which are an expression of the way which the atmosphere behaves (its physical laws of motion, heat transfer, and so on), of observing a sufficiently large ılume of the atmosphere at any moment and of inserting e observed values in the equations. The calculating machine ay then be used to obtain the solutions to the equations for certain time ahead. This would be the forecast.

The problem as here stated is, however, a gross over-simplification. No existing machine or any likely to emerge for many years has the capacity for calculation which would be required to carry out the task in detail. Moreover the actual form of some of the equations is not yet known with precision and the observations of weather which would be fed into the machine are taken at widely scattered points, especially over the oceans. The latter limitation is serious because in the atmosphere small beginnings often lead to large consequences—a thunderstorm from the small cumulus cloud for instance—and significant detail may therefore slip through any reasonably spaced observational network. Meteorologists in recent years have tried so to simplify the problem that it should come within the compass of modern machines and to ask questions which admit of sensible answers with the current network of observing stations. This has meant a concentration on large-scale weather systems which change less rapidly than smaller-scale systems (such as small depressions or thunderstorms) and for which the physical laws of behaviour are better understood and the network of observing stations better adapted.

The results of the recent deliberations and experiments of those engaged on this work were discussed at a symposium on numerical forecasting in Stockholm under Professor C.-G. Rossby early in the year and were reported upon in *Tellus*, vol. 4 (Stockholm, 1952). There was substantial agreement on the kind of mathematical simplification which should be made at this stage—mathematical simplification is equivalent to setting up a physical model for the real atmosphere which is thus shorn of its supposedly unimportant complications, unimportant that is for the particular problem posed. Although supported by theoretical argument, the validity of the chosen model then rests ultimately on the success of the computed forecasts. These had not appeared in sufficient number for judgment to be pronounced but a few more years of such effort should give the clue to the future

Meteorologists continued to be much exercised with another problem of immediate concern to human welfare, the artificial stimulation of clouds to produce rain. The problem is an old one but took new form and vitality in the early post-World War II years, due largely to Irving Langmuir, the distinguished physical chemist. Current work is based on the fact that clouds of water droplets, often supercooled, are stable aggregations unless a relatively few preferred particles for growth are introduced into the cloud. In a supercooled cloud, an ice crystal is such a particle but it is rather rare at temperatures above —12°C. Artificial stimulation is then attempted by introducing ice crystals at higher temperatures. With or without supercooling, the preferred particle may be the exceptionally large cloud droplet, perhaps often present over the sea from upborn spray. A second method of stimulation is then to inject a water spray into the cloud There is good evidence that cloud modification has been achieved by both these procedures but it has not been established that significant additions to rainfall had occurred or could be ensured.

Civil aviation entered upon its jet-engine era in 1952, thus posing new problems to the meteorologist These were discussed by aircraft designer, operator and meteorologist at a special meeting of the Royal Meteorological society and were recorded in its *Quarterly Journal*, vol. 78 (London, 1952). The problems relate largely to the upper troposphere and lower stratosphere, above the " weather " but in the levels of jet-stream winds and clear-air turbulence. Here as elsewhere the meteorologist found himself with empirical knowledge of how the atmosphere behaves and was able to turn the knowledge into forecasting practice. But the understanding of these phenomena was not achieved and left him with a challenge. (P. A. Sd.)

Weather of 1952. *British Isles.* Cold, wintry weather, with incursions of polar air and snow, persisted during the latter

TABLE I MONTHLY RAINFALLS AND TEMPERATURES BRITISH ISLES

		1951 July	Aug	Sept	Oct.	Nov	Dec	1952 Jan	Feb	Mar	April	May	June
Fort William	(1)	5 52	7 52	8 56	3 63	10 12	15 26	7 79	3 76	5·86	4·39	2 48	5 20
(Inverness-shire)	(2)	+0 63	+1 29	+2 17	—3 47	+1·92	+5 06	1 91	—3 74	—0 84	—0 11	— 1 46	+1·65
	(3)	57 0	55 5	54 1	50 7	45 5	41 8	34 1	38·9	43·3	47·9	53·3	52·4
	(4)*	—0 4	— 1 5	+0 8	+2 8	+3 8	+2 2	—5 1	—0 6	+2 6	+3 6	+2 8	—2 7
Inverness	(1)	3 49	4 62	0 83	1 08	3 99	3·66	1 96	1 15	2 02	0·74	1 50	2·29
	(2)	+0 89	+2 07	— 1 52	—1 37	+1 44	+0 96	0 59	— 1 10	—0 18	—0 91	—0 35	+0 39
	(3)	57 3	55 2	53 9	49 1	44 0	40 3	33 1	38 1	41 9	46 1	52·3	52·6
	(4)†	—0 2	1 9	+0 5	+1 4	+1 9	+1 0	—5 9	—1·3	+1 2	+1 8	+2 9	—1 5
Perth	(1)	2 99	4 08	2 29	0 70	6 88	2 89	2 08	0 51	1 80	1 50	2 35	2·35
	(2)	+0 10	+0 71	+0 06	— 2 25	+4 00	—0 34	—0 43	— 1 76	0 69	0 28	+0 13	+0 38
	(3)	59 3	55 9	54 1	49 7	44 4	40 2	33 6	37 9	42 1	47 9	53 5	55 3
	(4)‡	+0 2	—1 8	+0 8	+2 2	+3 9	+2 0	4 3	— 0 6	+1 4	+3·2	+3 2	—0 6
Edinburgh	(1)	3 50	5 27	0 88	0 52	4 23	2 45	2 45	0 47	0 95	1 50	1 70	2 43
	(2)	+0 68	+2 06	1 17	2 22	+1 99	+0 11	+0 69	— 1 19	— 1 02	+0 03	0 35	+0 43
	(3)	58 7	56 5	55 1	49 9	45 0	40 9	33 9	38 4	42 1	47 5	52 3	54 2
	(4)‡	+1 0	—0 6	+1 7	+1 9	+2 9	+1 0	—5 2	0 7	+1 8	+3 8	+3 4	0 0
Glasgow	(1)	4 21	4 37	3 31	0 97	6 01	5 65	4 55	1 70	2 31	2 29	2 16	2 94
	(2)	+1 12	+0 46	+0 33	—2 43	+2 37	+1 50	+1 28	1 18	—0 36	+0 21	—0 43	+0 42
	(3)	58 4	56 8	55 1	49 7	44 5	40 3	32 5	38 1	42·5	47 9	53 6	54·6
	(4)†	—0 3	1 3	+1 2	+1 4	+2 0	0 0	—7·0	—1 6	+1 3	+2 6	+2 8	1 0
Aberdovey	(1)	2 23	6 55	5 02	1 20	6 48	7 12	3 78	2 06	2 72	2 57	3 33	3 62
	(2)	— 1 27	+2 10	+1 82	—3 56	+1 94	+2 36	0 11	0 93	- 0 61	—0 03	+0 82	+0 90
	(3)[1]	60 9	58 9	58 8	52 5	48 3	44 7	40 4	40 7	45 6	48 7	55 1	55 1
	(4)†[1]	+1 2	1 3	+1 5	+0 6	+2 4	+1 6	—1 5	—0 8	+2 7	+2 4	+2 8	1 4
Tunbridge Wells	(1)	2 15	5 87	3 62	1 48	5 47	2 91	2 23	0 75	3 32	1 68	1 35	1 20
	(2)	+0 18	+3 66	+1 62	— 1 87	+2 44	- 0 11	+0 02	-1 28	+1 16	+0 11	—0 24	- 0 66
	(3)	62 1	59 2	57 9	48 9	46 7	41 3	36 4	35 9	43 6	49 8	56 9	59 1
	(4)§	+1 0	2 1	+0 6	- 1 5	+3 2	+1 2	—2 3	—3 2	+1 5	+3 5	+3 4	+1 4
Bournemouth	(1)	1 19	4 14	3 25	1 66	10 00	2 89	2 00	0 59	2 61	1 97	2 29	0 91
	(2)	0 94	+1 62	+0 91	—2 61	+6 60	- 0 99	0 70	1 80	+0 28	+0 18	+0 53	1 10
	(3)	63 9	60 5	59 1	51 1	49 0	44 9	39 3	39 7	45 3	49 9	56 5	60 0
	(4)†	+2 2	—1 2	+1 3	—0 7	+3 8	+2 6	1 4	1 3	+2 1	+2 6	+2 6	+1 8
Ringway	(1)	3 27	3 60	2 38	0 76	6 72	5 12	3 19	1 09	2 11	3 17	1 81	2 29
(Cheshire)	(2)	+0 49	+0 31	+0 11	— 2 35	+4 11	+2 07	+0 80	-0 80	0 07	+1 37	- 0 32	0 13
	(3)	60 1	58 0	57 4	50 1	47 1	41 3	36 5	38 1	43 9	49 0	55 5	56 5
	(4)†[2]	0 8	—2 0	+1 2	— 0 1	+3 7	+0 4	3 9	- 2 2	+1 4	+2 7	+2 4	1 2
Bristol	(1)	1 30	4 31	2 45	0 63	6 50	2 34	2 18	0 65	2 41	2 00	3 80	3 22
	(2)[2]	—1 53	+0 80	+0 06	3 15	+3 33	-1 52	—0 68	—1 70	0 12	0 18	+1 69	+0 69
	(3)	63 1	59 9	58 5	50 2	48 1	43 7	38 6	38 9	45 4	49 4	56 4	59 3
	(4)‖[3]	+0 8	—1 0	+1 5	—0 8	+4·1	+2 4	- 2 9	—1 8	+1 9	+2 5	+3 6	+0 8
Llandudno	(1)	0 85	3·40	2 66	0 92	6 10	5 42	3 40	1 61	0 86	1 44	1 81	1 43
	(2)	—1 39	+0·58	+0 53	-2 44	+3 21	+2 52	+0 99	-0 34	1 17	0 25	+0 03	0 47
	(3)	60 7	59 2	58 7	53 3	49 3	45 7	40 7	40 8	45·9	49 9	54 9	57 0
	(4)†	+0 6	—1 1	+1 6	+1 5	+3 1	+2 4	1 9	1 3	+2 5	+3·2	+2 5	+0 1
Aldergrove	(1)	3 31	3 56	2 61	0 75	6 05	3 88	3 10	0 75	1 42	1 20	1 19	2 55
(Co Antrim)	(2)	+0 51	- 0 04	+0 13	2 25	+2 81	+0 45	+0 36	— 1 66	— 1 09	0 91	— 1 08	+0 14
	(3)	58 4	57 2	55 7	50 9	45·4	41 2	35 4	38 6	43 8	48 1	53 2	55 3
	(4)‡	+0 2	0 5	+1 8	+2 3	+2 7	- 0 7	-4 7	1 6	+2 1	+3 3	+2 9	+0 3
Berwick	(1)	2 16	2 99	0 58	0 46	5 48	1 02	1 42	0 73	1 24	2 10	2 05	2 03
	(2)	—0 25	+0 53	- 1 17	2 40	+3 33	—0 90	-0 17	—0 70	—0 61	+0 65	+0 25	+0 30
	(3)		57 1	55 1	49 3	45 9	41 1	33 6	39 1	42 5			54 3
	(4)¶		0 4	+1 6	+1 4	+3 1	+0 6	6 0	0 2	+1 2	-	- -	+0 6
York	(1)	2 23	5 74	1 77	1 70	5 26	1 98	1 58	0 38	2 24	1 19	1 48	1 71
	(2)	0 29	+3 22	+0 14	-0 99	+3 17	—0 26	—0 19	—1 13	+0 56	—0 41	- 0 51	- 0 36
	(3)	61 5	58 9	57 9	49 4	47 5	41 2	36 7	39 1	43 9	49 4	56 9	58 3
	(4)‡	+0 6	- 1 4	+2 0	0 3	+4 7	+1 3	—2 8	0 7	+1 8	+3 5	+4 4	+0 9
Cambridge	(1)	0 83	3 31	2 18	1 07	2 90	1 33	1 44	0 66	2 80	1 50	1 62	1 73
	(2)	1 33	+0 96	+0 57	—1 29	+0 97	—0 60	- 0 06	—0 62	+1 33	+0 14	0 14	0 38
	(3)	63 0	60 6	59 0	49 5	48 1	42 0	37 7	38 3	44 7	50 3	56 9	59 5
	(4)‡	+1 3	—0 7	+2 1	—0 8	+5 2	+2 1	- 1 6	-1 4	+2 4	+4 0	+3 4	+1 5
Nottingham	(1)	0 80	6 05	1 19	0 72	4 70	1 60	1 70	0 45	2 41	1 70	3 40	2 60
	(2)	1 55	+3 57	—0 47	—1 81	+2 80	-0 81	- 0 12	— 1 09	+0 73	+0 28	+1 54	+0 68
	(3)	62 1	59 5	58 0	49 7	47 2	41 5	37 3	38 2	44 3	49 8	56 5	58 4
	(4)‡	+1 0	—0 9	+1 9	0 0	+4 7	+1 6	—1 8	—1 1	+2 4	+3 7	+3 6	+1 0
Birmingham	(1)	1 06	4 24	3 34	0 72	7 82	2 77	2 72	0 63	2 49	2 86	2 58	1 55
	(2)	—1 26	+1 53	+1 55	—2 06	+5 44	+0 08	+0 70	—1 06	+0 58	+1 12	+0 44	- 0 77
	(3)	61 7	58 8	57 4	49 6	46 6	41 9	36 9	38 3	44 3	49 8	56 1	57 7
	(4)**	0 0	—1 5	+1 1	+0 3	+3 7	+2 4	- 2 7	-1 0	+2 0	+4 0	+4 7	+0 5
Oxford	(1)	1 34	3 67	4 92	0 89	5 19	1 56	1 82	0 51	2 40	1 61	2 23	1 33
	(2)	—1 03	+1 39	+3 21	-2 00	+2 89	—0 90	+0 01	—1 13	+0 75	+0 01	+0 36	-0 91
	(3)	63 0	60 5	58 6	48·9	48 1	42 8	37 7	38 4	44 9	50 5	57 7	59 9
	(4)‡	+1 1	—0 8	+1 7	—1 6	+4 7	+2 0	2 4	- 1 7	+2·1	+3 6	+3 8	+1 6
Cardiff	(1)	0 99	4 59	5 37	1 91	8 02	3 51	3·26	0 86	• 2 66	3·32	3·81	2 29
	(2)	—2 09	+0 36	+2 32	2 84	+3 97	—1 50	—0 43	—2 08	- 0·49	+0 82	+1 36	-- 0 22
	(3)	62 6	59 7	58 4	50 6	48 3	43 9	39 5	39 8	45·1	49 3	56 3	58 5
	(4)‡	+1 8	0 6	+1 9	0 0	+4 3	+2 2	1 1	—0 7	+2 5	+2 8	+3 3	+0 9
Kew	(1)	1 00	3 35	2 11	0 83	5 29	1 44	1 82	0 80	2 73	1 18	2·37	1 72
	(2)	—1 17	+1 11	+0 24	1 87	+3 07	—0 85	+0·06	—0·74	+1 04	- 0 27	+0 65	—0·43
	(3)	64·2	60 8	59 0	50 6	48 4	43·4	39 1	38·9	45·0	50 9	58 0	60 8
	(4)‡	+1·2	—1·4	+1 5	- 0 4	+4 6	+1 9	- 1 4	—1 8	+1 9	+3·8	+3 3	+1 3

(1) Total monthly rainfall (in.), (2) Deviation of (1) from the normal (3) Average monthly temperature (°F), (4) Deviation of (3) from the normal Periods of the normals are indicated as follows: no symbol, 1881-1915, * 1906-22, 1932-35, † 1906-20, 1926-35, ‡ 1906-35; § 1900-20, 1926-35; ‖ 1921-35, ¶ 1924-35, ** 1923-35. [1] Data for Aberdovey not available: data for Aberystwyth used. [2] Long-period average for Ringway not available: av. for Manchester (Whitworth Park) used in computing difference from normal. [3] Av. for Bristol not available: av. for Long Ashton used. Dash indicates no value available. SOURCE Meteorological Office, Air Ministry, London

TABLE II. MONTHLY RAINFALLS AND TEMPERATURES WORLD

		1951 July	Aug.	Sept	Oct.	Nov	Dec	Jan	1952 Feb	Mar.	April	May	June
Vancouver	(1)	0·0	0·8	2 8	3·9	4·3	6·3	5 1	3 9	3 1	2 0	1 6	2·8
	(2)	—1·1	—0·8	—1·1	—1 7	—4·2	—1·9	—3·2	—2 0	—1 7	—1 3	—1 2	0 0
	(3)	64·6	62 2	58·6	50 2	42 6	35·1	34 5	39 9	42 1	48 6	53 8	64 9
	(4)	+0·9	—0 6	+1 8	+0 4	—0 2	—3 0	—1 1	+1 1	—0·5	+0 7	—0 5	+5 6
Hobart	(1)	2·0	1 2	0 4	4 3	2 4	2 8	1 4	1·5	0 5	3 3	3 3	7 0
	(2)*	—0 1	—0 6	—1 5	+1 8	+0 2	+0 3	—0 4	—0 2	1 6	+1 0	+1 6	+4 8
	(3)	47·1	45·7	51·8	53 8	54 9	57 4	60 1	58 5	59·7	53 0	50 7	47 7
	(4)*	+0 5	—3 0	+0·4	—0 5	—1·9	—2 3	—0·9	—3 6	+0 2	—2 2	—0 6	+0 8
Wellington	(1)	3·5	3 5	0 8	7·5	5·9	3 1	2 0	2 8	2 8	3 1	6 7	7 9
	(2)†	—2 0	—2 1	—3·3	+3 0	+2 9	+1 3	—1 0	1 5	0 0	0 9	+2 2	+3 6
	(3)	47 1	46 6	51·3	53 1	55 6	57 2	59 4	62 6	58·6	56 5	51 8	48 4
	(4)‡	—0·9	—2 0	—0 3	—1·2	—1·2	—3 1	—3·0	0 0	—2 0	—0 5	—0 8	—1 1
New York	(1)	3 9	3·1	1 2	4 3	9 8	5 1	5 5	2 8	5 1	6 7	5 5	3 9
	(2)	—0 3	—1 2	—2·0	+0 7	+7 4	+1 6	+2 4	—0 7	+1·8	+3 2	+2 4	+0 4
	(3)	76 6	75 2	68 5	59·4	44·1	39 0	36 7	36 5	40 5	54 9	60 8	74 1
	(4)	+2 4	+3·0	+1 8	+3 1	—0 6	+4 7	+5 4	+5 7	+0 5	+5 4	+0 7	+5 6
Washington	(1)	5 1	1 6	2 8	1 6	4·7	4 7	4 3	1 6	3 9	5 9	4 7	3 1
	(2)	+0·6	—2·8	—0 5	—1 2	+2 5	+1 4	+1 0	—1 0	+0·6	+2 4	+1 6	—1 0
	(3)	78·8	77 0	70 5	62 1	44 2	41 2	40 8	41 4	43 5	57 2	64 4	76 6
	(4)	+2 1	+2 7	+1·8	+4 8	—1·8	+4 8	+6 4	+6 3	—1 5	+3 2	—0 4	+4 7
San Francisco	(1)	0 0	0 1	0 0	0 8	2 4	7 1	9 1	1 6	4 7	0 4	0 2	0 2
	(2)§	0 0	+0 1	—0 5	—0·1	+0 3	+3 5	+5 3	—2 5	+1 8	0 7	—0 4	0 0
	(3)	59 0	61 5	62 2	60 4	54·1	48·6	47 1	51 3	50 9	54 9	56 8	57 7
	(4)§	+0 3	+2 3	+0 4	—0 8	—2 7	—2 4	—2 6	—1 7	—3 5	—1 1	+0 2	—0 7
Manaos (N E Brazil)	(1)	2 4	0·8	5 5	4 7	5 5	6 3	15 5	17 6	12 6	17·7	—	3 5
	(2)‖	—0 1	—0·7	+3 1	0 0	—0 4	—2 3	+5 3	+7 9	+1 9	+7 0	—	0 7
	(3)	79 9	77 2	82 6	(80 2)	(79 9)	80 2	(77 2)	(77 2)	78 8	78 4	—	78 8
	(4)¶	0 0	—4·1	+0 9	1 5	—1·1	+0 5	—1 6	—1 2	+0 5	—0 2	—	—0 5
Buenos Aires	(1)	0 0	4·3	1 2	1 6	11 0	2 4	1 6	0 4	7 5	0 8	6 3	5 5
	(2)	—2·1	+1 7	1 9	—1 5	+7 2	—1 5	—1 5	—2 4	+3 2	—3 6	+3 2	+3 6
	(3)	55·2	51 3	56 3	58 5	67 6	71 1	76 6	76 8	72 1	61 0	58·3	46 6
	(4)	+5·9	+0 4	+0 9	—1·2	+1 6	0 0	+2 7	+3 9	+3 0	—1 6	+2 9	—3 2
Lisbon	(1)	0·0	0 1	0 4	1 6	7 1	2 0	3 9	0 8	7 1	2 0	4 7	1 6
	(2)	—0 2	0 0	—1 1	—1 1	+3 0	—1 3	+1 3	—2 1	+4 6	+0 2	+3 5	+0 9
	(3)	70 0	69 6	70 3	63·0	56 3	53 8	48 7	50 4	57 6	57 9	62 8	69 1
	(4)	—0 3	—2 0	+1 4	0 3	—0 2	+1 1	—2 4	—1 9	+2 9	+0 4	+0 7	+2 2
Hamburg	(1)	2 8	3 9	2 8	0 1	4 3	2 4	1 6	0 8	0·8	0·8	1 6	3 5
	(2)	—0 5	+0 3	+0 4	—2 5	+2 1	—0 2	—0 8	—1 0	—1 1	—1 2	0 6	+1 0
	(3)	61·3	63 0	58 5	44 8	44 6	40 1	34 2	34 5	35 4	50 7	53 6	57 4
	(4)	—3 1	+0 6	+1 1	—4 5	+4 7	+4 3	—0·1	—0 2	—4 7	+3 9	2 5	3 6
Stockholm	(1)	2·0	2·8	2 4	0 1	2 0	1 2	2 0	0 8	0 2	1 6	0 8	1 6
	(2)	—0 8	—0 4	+0·3	—2 0	+0 1	0 7	+0·5	—0 3	—0 9	+0 1	—0 8	—0 3
	(3)	61 7	63 3	56 3	47 5	39 6	36 3	30 0	29 1	26 8	43 9	46 8	57 2
	(4)	—0 7	+3 9	+4 1	+4 0	+4 7	+6 6	+2 5	+2 8	—4 5	+5 4	—1 8	+0 4
Brussels	(1)	3 1	5 1	3 0	0 4	3·8	2 8	4 4	2 8	2 7	0 4	1 6	1 2
	(2)	—0 4	+2 0	+0 4	—2 6	+0 7	—0 3	+1 8	+0·8	+0 3	—2 1	—0 9	—1 4
	(3)	63 3	62 1	59 7	48 2	47 5	40 3	36 1	35 4	43 7	53 1	57 7	61 3
	(4)	+1 1	+0 6	+2 5	—1 8	+6 1	+2 4	—0 8	—2 2	+1 8	+6 3	+2 7	+2 5
Malta	(1)	0 0	0 8	6 3	18 8	2 4	2 0	2 9	1·9	0 5	0 4	0 2	0 0
	(2)*	0 0	+0 7	+5 1	+16 6	—1 7	—1 3	—0·4	—0 6	—1 2	—0 5	—0 2	—0 1
	(3)	78 1	79 3	74 5	66 5	62 9	55 5	52 8	51 7	57·4	60 4	65 8	78 1
	(4)*	+0·3	+0 7	—1·1	4 0	—0 8	—1 9	—1·7	—2 8	+0 6	+0 5	+0 4	+5 6
Cairo	(1)	0 0	0 0	0·0	0 0	0 0	2 8	0·1	0 8	0 0	0 0	0 0	0 0
	(2)**	0 0	0 0	0·0	—0 1	—0 2	+2 6	—0 1	+0 6	—0 2	—0 1	—0 1	0 0
	(3)	82 0	82 9	81 0	76 3	66 2	56 1	57 4	60 1	63 7	70 0	75 7	79 9
	(4)**	+0 1	+1 2	+3 5	+3 4	+0·5	—1·1	+3·3	+3 8	+2 4	+1 6	+0 1	0 3
Baghdad	(1)	0 0	0 0	—	0·0	1·6	0 8	0·4	0·4	0 4	—	0 0	-
	(2)††	0 0	0 0	-	—0 1	+0 8	+0·1	+0 3	—0 2	—0 5	—	—0 1	-
	(3)	94 9	93 7	—	75 5	62 7	51 7	50·1	57·5	61·7	- -	81 9	—
	(4)††	+0 9	+0 9	—	—0·8	—0 2	—0 1	+1·5	+4 5	+1·6	-	—1 6	—
Aden	(1)	0 0	0 0	0 0	0 0	0 0	0 4	0·8	0 1	0 0	0 0	0 0	0 0
	(2)	0·0	—0 1	—0 1	—0·2	0 0	+0 3	+0 4	—0·1	—0 2	—0 2	—0 1	—0 1
	(3)	90 9	89 4	89 7	80 9	80 8	79 6	78 4	78 1	80·6	83 3	87·4	90 7
	(4)	+2·8	+2 9	+1 8	—3 0	+0 9	+2·3	+2 1	+1·1	+1·2	+0 3	+0 1	+1 0
Pretoria	(1)	0·4	1·2	0·0	5·5	0·8	3·9	5·5	5·9	2 0	0 8	0 8	0 0
	(2)*	0·0	+0·7	—0·8	+3·2	—3 9	—0 6	+0 7	+1 6	—2 5	—0 3	0 1	- 0 1
	(3)	48 2	53·8	61 7	67 3	69 4	71 2	72 3	68 5	69 3	63 1	55 9	52 7
	(4)‡‡	—3·5	—3·3	—2·7	—2 0	—0 2	+0 3	+0 6	—2 5	+1 0	—0 7	—1 7	+0 3
Capetown	(1)	2 8	1 6	2 0	0·8	1 2	0 0	0 0	0 4	0 8	1 2	2 4	2 0
	(2)*	—0·1	—1 2	+0 1	—0·1	+0·4	—0 4	—0 4	—0 1	+0 4	—0 1	+0 1	—1 4
	(3)	53 8	55·2	54·5	58·5	61 2	65·8	69 1	70 7	64·9	63·1	57 0	54 7
	(4)§§	+0·1	+0·9	—1·8	—1·4	—2·8	—0 9	+0·8	+1·6	—1·6	+0·1	—0·3	0 0
Colombo	(1)	11 0	0·1	13 0	7·9	35 4	5 9	8 3	4·7	0 4	8 3	12 2	8 7
	(2)‖‖	+5·5	—3 8	+6 6	—5·9	+22 4	+0 4	+4 4	+1·9	—3·9	—1 4	—3 1	0 0
	(3)	80·1	82·0	81·3	80 8	79·5	79 2	79 0	80 1	81·3	81·8	82 4	81 1
	(4)‖‖	—0·9	+1·2	+0·3	+0 9	+0·2	+0·2	—0·2	+0 4	+0 3	—0·8	+0 1	0 1
Toronto	(1)	3·5	2·0	1·6	2 4	2·8	3 9	2·8	1·6	2·8	2 4	2 8	1 2
	(2)	+0·2	—1·1	—1·1	—0 1	+0·4	+1 6	0 0	—0·6	+0·5	—0 4	0 0	—1 6
	(3)	69·3	66·4	59·2	49·3	32 4	25 9	24·1	25·7	30·0	46·9	53 4	66 6
	(4)	+1·1	+0·4	—0·2	+2·0	—3·6	+1·8	+4·7	+7 4	+0 5	+5 4	+0 4	+4 1

(1) Total monthly rainfall (in.); (2) Deviation of (1) from the normal; (3) Mean monthly temperature (°F), (4) Deviation of (3) from the normal. Periods of the normal are indicated as follows: no symbol, 1901-30; * 1911-40, † 1916-45; ‡ 1864-1923; § 1906-35, ‖ 1911-35, ¶ 1923-35, ** 1909-45, †† 1937-47, ‡‡ 1913-25, §§ 1932-40; ‖‖ 1869-1920. Bracketed figures are means of observations at 1200 and 2400 hr. G.M.T., as no mean monthly temperatures are available. Dash indicates no value available. SOURCE: Meteorological office, Air Ministry, London.

half of Jan. and first half of Feb. 1952. Great damage occurred in the Orkneys during a gale on Jan. 15. Screen temperature fell to 1°F. at Logie Coldstone (Aberdeenshire) on Jan. 30. March brought mainly mild, dull weather until March 25, when an unusually cold, wintry spell began. There was a severe snowstorm and gale in southeast England on March 29.

Both April and May were warm and sunny. Screen temperatures in London rose to 79°F. on April 30 and reached 86°F. on May 18. It was the warmest May at Greenwich and Durham since 1848. Mainly dry weather prevailed from May 12-27, but in local thunderstorms on May 19 3 27 in. of rain fell in 75 min. at Malden (Surrey). June brought dull, changeable weather with more than the average rainfall in the west and north. The rainfall of July was much less than average in most districts and many places in the south of England reported no measurable rain from July 12-29

August was in many places disappointing for holiday-makers. At Boreham Wood, Hertfordshire, 4 83 in of rain was measured for Aug. 6, of which about 3 25 in. fell in 2 hr. At Longstone Barrow, Exmoor, the measurement for Aug. 15 was 9 00 in. and an area of 42 sq.mi on Exmoor received more than 6 in. In the disastrous flooding near Lynmouth 31 lives were lost. September was generally dull and unusually cold. At Oxford it was the coldest September since before 1815. At Kinlochquoich, Inverness-shire, a total of 11 20 in. was recorded for the three days Sept. 23-25.

Cold weather continued during the first three weeks of October. The month was colder and sunnier than usual and rather wetter in most districts. November was persistently cold, especially during the second half, when snow and sleet occurred frequently. Snowfall was heavier than in any November since 1919. December was the fourth consecutive cold month and notable for one of the densest and most persistent fogs in the London area (Dec. 5-9). (J. GE.)

Weather in Europe. The year began with stormy weather on the western coasts of Europe, from Norway to Portugal. February was marked by heavy snowfalls in Norway and Denmark, where they were accompanied by hurricane winds, and in the Swiss and Italian Alps; exceptionally heavy snow, the worst for 100 years, fell in the Slovenian mountains. During March, in parts of central and southwest Europe, precipitation was above the normal. Early in April, there was a violent mistral in the Rhône valley and snow fell in Marseilles on April 4, the first time snow had fallen there in April since 1911. Abnormally warm weather set in towards the middle of the month; 77°F. was reported from Berlin on April 12. After an improvement in early May, a sudden cold snap late in May caused heavy snow in the central Alps. Early in June, Piedmont experienced violent hail storms and a tornado was reported at Vercelli.

Temperatures during June rose above normal and from June 22 widespread heat wave conditions set in and continued into July and August; over 100°F. was reported from many places. On Aug. 18 the heat wave began to break up; there were heavy thunderstorms in Austria and France where torrential rain struck the Riviera on Aug. 19, just in time to extinguish forest fires which had been raging the previous day.

The hot summer was brought to an end early in September when the first snow fell in the Dolomites (down to 4,000 ft.) and there was a cold wave with snow in Carinthia. Further snow fell at the end of September in the Alps down to 3,600 ft., and on Oct. 12 there was heavy snow on the Bavarian Alps; at Brocken, in the Harz mountains, the depth of snowfall on Oct. 19 was the greatest for 20 years.

The coldest November for decades brought hard frost and deep snow to many parts of Germany; heavy snowfalls were reported from the north of Europe and low temperatures were widespread. The year ended with stormy weather in west Europe; towards the end of December temporary thaw conditions produced flooding, and avalanches occurred in Switzerland, southwest France, Germany and west Austria. (*See* also RADIO, SCIENTIFIC DEVELOPMENTS IN; SEISMOLOGY.)

(J. PPR.)

METHODIST CHURCH. Reports showed that all the Methodist Churches in the British Isles felt a growing sense of responsibility as they prepared for the evangelistic mission to be undertaken by world Methodism in 1953. The setting up of permanent secretariats in the United States and in Great Britain was an important and historic development of the Oxford Oecumenical Methodist conference. Though the Methodist Church in the United Kingdom showed a decrease of 3,219 in adult membership, due to the proportion of deaths being higher than usual, there were 27,023 new members received, and 741,596 in full communion. In the overseas districts the total number of members was 196,152, in addition to 62,000 ex-Methodist members in the Church of South India. The Sunday school returns showed the number of scholars to be 805,659, an increase of 5,786, with an average attendance of 72 2%, whilst the number of teachers was 123,112, with an average attendance of 78 5%. The training of lay preachers was again stressed in view of the important part played by them, especially in rural areas. During the year 738 local preachers were received after taking set courses and satisfying the examiners appointed The National Children's home sheltered and nurtured 3,000 children deprived of normal home life. The work of the Methodist Homes for the Aged was extended, and several new centres were established. The work of the Women's fellowship, in addition to maintaining a home for the care of unmarried mothers and their babies, and establishing a hostel for business girls in London, extended its already wide range of social service. The Christian Citizenship department and the Order of Christian Witness in many and varied activities deepened the sense of social responsibility in the whole Methodist Church.

Numerous commissions on man-power problems considered the fuller use of Methodist premises, the amalgamation of circuits and the spiritual needs of new areas. In preparation for the world-wide campaign in 1953, local churches made their plans, based on numerous pamphlets published for their guidance.

At the Preston conference the Rev. Colin A. Roberts presided, and the vice-president was Dr. Dorothy Farrar. This conference issued a direction based on the report of the Committee on Spiritual Healing Official statements on holy baptism and on church relations in England were also published.

In Ireland the conference at Cork celebrated the 200th anniversary of the first Irish Methodist conference, which had been held at Limerick and attended by John Wesley.

In South Africa 30 candidates were accepted for the Methodist ministry, and 25 ordinands, including one Indian, were ordained. In Australia, the emphasis on evangelism, not only in the big cities, but in the sparsely populated districts, was maintained, and youth work was still further developed.

(L. F. C.)

United States. From April 23 to May 7, 1952, the quadrennial general conference, the supreme law and policy making body of the Methodist Church, major body of American Methodism, met in San Francisco. This was followed in June and July by quadrennial conferences of the six jurisdictions. These had the duty of electing, assigning and retiring bishops in the U.S. Six overseas central conferences with scheduled meetings in late 1952 and 1953 had similar responsibility for mission lands. The general conference was composed of 746 delegates, half ministers, half laymen. Because of political conditions in their homelands, 26 were

unable to attend. Delegates represented 99 annual conferences in the U.S. and 44 overseas. Sixty-six delegates came from 25 countries outside the U.S., representing more than a million members in mission lands (735,988 full members; 301,214 preparatory members).

The membership of the 39,961 churches of the Methodist Church (excluding preparatory members and members in mission lands) at the beginning of 1952 was 9,065,727. The six other main branches of U.S. methodism had a membership of 2,282,447 in 13,687 churches. (R. Sy.)

MEXICO. Federal republic of North America lying between the United States on the north and Guatemala and British Honduras on the south. Area: 760,373 sq.mi. Pop.: (1950 census, prelim. fig.) 25,367,802; about 55% of the population was *mestizo*, 29% Indian and 15% white. Language: Spanish, with an estimated 6% speaking only Indian tongues. Religion: predominantly Roman Catholic. Chief towns (pop., 1951 est.): Mexico City (cap., 2,233,709; federal district, 3,049,367); Guadalajara (379,401); Monterrey (330,012); Puebla (210,533); Mérida (159,405); Torreón (128,557); San Luis Potosí (126,601); León (122,680); Ciudad Juárez (121,912); Veracruz (113,803). Presidents in 1952: Miguel Alemán Valdes and (from Dec. 1) Adolfo Ruiz Cortines (*q.v.*).

History. Continued industrial progress, exceptional population growth and the election of a new president were the outstanding items in Mexico's chronology for 1952.

On July 6, Ruiz Cortines, candidate of the Institutional Revolutionary party (Partido Revolucionario Institucional, or P.R.I.), the government party which had controlled Mexico for 23 years, was elected president by 2,713,419 votes against 937,782 for his three opponents together. The event was peaceful and relatively unmarred by violence. Ruiz Cortines was the second civilian president elected in 40 years, retiring President Alemán having been the first. Despite spirited efforts by left-wing forces, Vicente Lombardo Toledano, Popular party candidate and prominent Communist sympathizer, received only 72,482 votes. The strongest opposition to the P.R.I. candidate was offered by General Miguel Henriquez Guzman, candidate and founder of the Mexican People's Parties federation (Federación de Partidos del Pueblo Mexicano), for whom 579,745 votes were cast. President Alemán broke precedent by refusing to instruct P.R.I. party dependants as to whom they should favour for congressional nomination. Ruiz Cortines, in a pre-election statement, stirred considerable discussion and some opposition by pledging to give Mexican women the vote if he were elected.



Ruiz Cortines (left), after his inauguration as president on Dec. 1, drives in Mexico City with Alemán Valdes, the outgoing president.

An uprising in Oaxaca (city) against a new state tax law left two dead and a score wounded in a week-end of disturbances in March. A virtual state of siege existed as angry citizens attempted to bring about the dismissal or resignation of Manuel Mayoral Heredia, the governor. Later, the federal government appointed General Manuel Cabrera Carrasquedo to replace Heredia.

Early in the year, President Alemán froze the prices of food, clothing, construction materials, motor cars and other items to halt inflation. With six months of his term remaining, Alemán reported that Mexico had invested 7,000 million pesos in public works during his administration.

Mexico city continued to sink more than a foot a year, creating serious problems in sewage and water distribution. It had sunk one foot and eight inches in 1951, according to Adolfo Orive Alba, head of the nation's irrigation department, who gave as the cause the rapid drying out of the spongy volcanic subsoil underlying the capital. Heavy August rains, worst in 17 years, put unprecedented burden on the city's drainage system; standing water resulted, causing millions of pesos worth of damage.

Discussions regarding the "wetback" labour problem continued between the United States and Mexico, as did discussion of provisions of contracts between the two nations governing the importation of "bracero" farm workers from Mexico. By mid-year, an air lift service instituted by U.S. immigration and naturalization service officials was returning an estimated 1,700 "wetbacks" to Mexico each month. Immigration officials said that an estimated 1 million border-jumpers were entering the southwestern states illegally each year, and asserted that the move was necessary to protect the legal importation of temporary Mexican labour under international agreement. The Mexican-U.S. accord on "bracero" labour was renewed for 18 months in June.

Progress in public health was emphasized by advances in polio research, by the announcement of a new and simple test for undulant fever and by a report that smallpox had virtually ceased to be an epidemic disease in Mexico. Only 25 cases of smallpox were reported in the country in 1951, as compared with as many as 1,000 in 1949.

Paricutín, the young volcano which broke through a cornfield 200 mi. west of Mexico City in Feb. 1943, died a natural death in 1952, according to geologists who examined the phenomenon.

Workers excavating for a water system in a Mexico City residential area uncovered remains of a Teotihuacán Indian culture, including a small shrine and several buildings. The culture uncovered was regarded as entirely separate from that of the ancient Toltec temples and pyramids north of Mexico City at San Juan Teotihuacán. (C. D. H.)

Education. Schools (June 1950) 29,036, pupils 3,986,428, teachers 90,212. Estimated number of illiterates (Sept. 1950): 3,096,537.

Agriculture. Main crops (1951-52 est., '000 metric tons): maize 3,400; wheat 370; rice 150; oranges 365; sugar 757; potatoes 122; cotton (lint) 282; henequen 77; cottonseed 425; beans 190; coffee (1950-51) 64; tobacco 35; barley 162; linseed 53; sesame 90. Livestock (1950 est.): cattle 13,628,288; sheep 4,703,809; goats 6,893,305; pigs 5,474,747; horses 2,937,719; mules 1,021,446; donkeys 2,543,186.

Industry. Mineral production (1951, metric tons): lead 225,468; zinc 180,064; antimony 6,825; cadmium 894; iron ore 312,580; manganese 28,524; copper 67,351; gold (oz.) 393,420; silver (oz.) 43,796,723. Crude petroleum 77,238,248 bbl.; petrol 1,471,300 bbl.

Finance (million pesos). Budget (1951 est.): revenue 3,104·0, expenditure 3,102·9. Money supply (May 1952): currency 3,234; deposit

money 3,089 Monetary unit *peso*, with an official exchange rate of 8 65 to the U S dollar and 24 22 to the pound sterling

Foreign Trade. (Million pesos) Exports (1951, Jan.-June 1952 in brackets) 5,446 9 (2,462 1), imports 6,773 1 (3,362 2) Chief exports (1951) cotton 20%, lead 10%, coffee 7%, zinc 6%; petroleum and products 5% Chief imports vehicles 10%, industrial machinery and apparatus 9%, chemicals 7%, agricultural machinery 4%, wheat 4% Main destinations of exports (1951) U S 70%, France 4%, U K 3%; Germany 3%, Belgium 2% Main sources of supply U S. 81%, U K 2%; Germany 2%; France 2%; Canada 2%

Transport and Communications. Roads (1951) 14,032 mi , of which paved 9,261 mi Motor vehicles (Dec 1950) cars 173,080, buses 18,466, lorries 111,252 Total mi flown by all air lines operating in Mexico in 1951. 26,041,104, passengers carried 1,032,413 Shipping (merchant vessels of 100 tons and over, July 1951) 81, total gross tonnage 174,232 Telephones (1951) 276,000. Radio broadcasting stations (1951) 230 Television stations (1952) 4

MIDDLE CONGO: *see* FRENCH EQUATORIAL AFRICA.

MILK: *see* DAIRY FARMING.

MINERAL AND METAL PRODUCTION.

Aluminium. With substantial gains recorded in the United States, Canada, France and Germany, world production of aluminium increased 22% in 1951 to 1,563,000 long tons. Nevertheless, supply fell far short of demand.

TABLE I WORLD PRODUCTION OF ALUMINIUM
(thousands of long tons)

	1946	1947	1948	1949	1950	1951
Austria	1 0	4 5	13 1	14 6	17 7	26 0
Canada	172 7	267 0	327 7	329 9	354·4	399 2
France	47 2	52 6	62 7	53 3	59 8	89 6
Germany	—	—	7 2	28 4	27 4	73 0
Italy	10 9	24 5	32 6	25 3	36 5	49 0
Japan	3 2	2 7	6 9	20 9	24 4	36 2
Norway	16 4	21 4	30 6	35 1	45 8	50 4
Switzerland	12 9	18 2	18 9	21 3	18 9	23 6
United Kingdom	31 6	28 9	30 0	30 3	29 5	27 8
United States	365 7	510 5	556 7	538 8	641 6	747 2
Others (excl U S S R)	11 7	14 7	21 9	26 1	27 5	41 0
Total	673	945	1,108	1,124	1,283	1,563
U S S R	103 3	120?	140?	160?	190?	200?

SOURCE U S Bureau of Metals

To meet immediate shortages and in anticipation of greatly increased future requirements plans were made for vast increases in production capacity. In the United States two new plants were opened and others enlarged as part of a programme to double domestic output by 1953. After exceeding 80,000 tons in May 1952, however, production was seriously hampered by prolonged drought and power shortage, and further relief shipments were made from United Kingdom supplies.

Progress in construction of new smelters was reported in Canada and many other countries, and the U.K. government announced provisional plans for development of production in the Gold Coast. Production in the U.S.S R. was believed to be over 220,000 tons in 1951, with an indicated target of 500,000 tons by 1955 Output during January-October was 695,780 long tons

Antimony. World production of antimony rose 28% in 1951 to 63,000 tons. Much of the increase was due to completion of development work in South Africa where production was 15,607 tons (8,179 tons in 1950). Gains were also recorded in Bolivia (11,629 tons) and Mexico (6,717 tons). By the end of the year, however, demand had slackened and ore stocks rose. During 1952 some mines were closed and production was curtailed, output in South Africa being cut to 400 tons a month by midsummer (5,945 tons January-September).

Asbestos. To meet enormous demand from the building industry, production of asbestos, particularly of the short fibres, had been increased substantially during recent years. In Canada, which accounts for two-thirds of the world total, output rose to 863,727 long tons in 1951. The increase was reflected elsewhere, particularly in South Africa, where output in the Union was 97,650 tons, and in Southern Rhodesia 69,342 tons. Nevertheless supplies were inadequate and intense demand helped many producers in other countries to start up or expand.

Cobalt. Until mid-1950 world production was sufficient to meet all requirements, but subsequent rearmament programmes led to a demand for cobalt which far outstripped supply. Consequently, in many countries its use was prohibited in all non-essential products and allocations were introduced by the International Materials conference (I M.C). Because of the unsatisfactory supply of domestic ores in the United States, which had been stockpiling cobalt for some years, the metal was regarded by the Munitions board as being amongst the most critical. Producers everywhere endeavoured to increase supplies. The Canadian government encouraged production by incentive payments, and E.C.A. assistance helped to step up output in French Morocco and Northern Rhodesia. In the latter country a new plant for recovering cobalt from copper ores came into full operation and others were under construction in the United States and Norway. Development of a very large ore body in Uganda was continued.

It was announced in Canada that a cobalt radio-active "bomb" had been invented which would be of great value in medical and nuclear research.

Copper. Despite labour disorders in the United States and Chile, and transport and fuel difficulties in Northern Rhodesia, world production of copper increased slightly in 1951. Details are given in Table II.

TABLE II WORLD SMELTER PRODUCTION OF COPPER
(thousands of long tons)

	1947	1948	1949	1950	1951	1952 Jan.-Sept
Belgian Congo	148 5	153 0	139 2	173 1	188 9	—
Canada	177 2	197 6	201 9	212 7	219 7	155 3
Chile	401 9	418 2	345 2	340 0	354 4	268 7
Germany	31 5	61 3	143 2	199 3	209 5	141 0
Japan	36 2	53 5	72 9	83 4	89 5	71 6
Mexico	57 6	48 0	48 6	47 7	58 3	39 5
N. Rhodesia	192 8	213 6	259 3	275 6	309 1	239 9
South Africa	28 6	28 5	29 2	32 8	32 4	23 7
United States	843 5	826 3	767 5	900 5	925 6	678 6
Yugoslavia	39 9	51 7	33 5	39 4	31 5	—
Others (excl U S S R)	124 1	113 6	119 9	123 6	136 0	—
Total	2,082	2,165	2,160	2,428	2,555	—
U S S R (est)	162	178	196	215	250	—

SOURCE U S Bureau of Metals

Throughout 1952 copper remained scarce and the I.M.C. continued to allocate available supplies to participating countries. The United States, whose prices were pegged, emerged as a buyer of Chilean copper, and the exploitation of the situation by the Chilean government caused world prices to rise enormously. This led to unrest amongst miners, particularly in Chile, Rhodesia and Mexico.

Plans were announced for developing extensive new deposits in Peru and for new mines to increase production in Northern Rhodesia. Rich finds of unknown extent were made in Northern Territory, Australia.

The prospect of scarcity and high prices for many years to come led to further substitution of aluminium and had some bearing on the plans for expanding production of that metal.

Lead. Because of lower output in the United States, Mexico and Canada, world production in 1951 fell 4% from the record of 1950 to 1,541,000 long tons. Although this was the largest proportional decline amongst the major metals, lead was the first to show signs of return to easier conditions. By the end of 1951 shortages which had led to

controls had largely disappeared, and as lead was not in such demand for rearmament as other metals, the I.M.C. decided against imposing allocation. In 1952 production increased in most countries except Australia and industry was faced with a surplus, though this was partly artificial due to resistance to high prices.

TABLE III WORLD SMELTER PRODUCTION OF LEAD
(thousands of long tons)

	1947	1948	1949	1950	1951	1952 Jan.-Nov.
Argentina	21 1	21 1	17 8	18 7	23 7	25 0?
Australia	185 8	188 8	185 1	199 5	200 1	179 1
Belgium	39 9	64 7	78 1	61 1	69 5	67 4
Canada	144 6	142 9	130 5	151 8	145 3	146 6
France	36 0	34 3	52 8	61 4	48 1	48 8
Germany	24 0	48 3	119 5	153 0	152 5	124 3
Italy	17 5	26 0	26 9	38 2	35 4	31 1
Japan	8 7	10 4	12 4	15 7	16 5	16 8
Mexico	190 5	191 5	225 7	217 4	195 5	201 4
Peru	33 0	34 2	36 6	31 5	43 6	44 1
Spain	33 8	24 9	32 5	49 9	40 6	37 1
United States	442 8	411 8	447 0	474 8	405 5	432 2
Others (excl. U.S.S.R.)	98 9	121 8	131 9	143 9	164 3	60 1
Total	1,277	1,321	1,497	1,607	1,541	1,414
U.S.S.R. (est.)	62	74	88	110	126	—

SOURCE American Bureau of Metal Statistics

Output in French Morocco continued to expand rapidly after reaching 20,000 tons in 1951, the first year of operation, and a considerable increase in mine production was forecast in Peru. A company was formed to mine the Greenland deposits, the only significant discovery since World War II. Nevertheless, with world ore reserves dwindling and little prospect of fresh discoveries, fears for future supplies were renewed.

Magnesium. World production of magnesium was expanded rapidly in 1951 and 1952 to meet rearmament requirements and totalled approximately 62,500 long tons, as compared with 39,300 tons in 1950 (35,250 tons in 1949). Highest wartime production regardless of cost was 235,000 tons in 1943.

Mainly because of the reopening of seven government-owned plants, output of primary magnesium in the United States rose to 36,530 tons (12,890 tons in 1950) and was expected to reach 100,000 tons in 1952. Canadian output was increased, with further plant extensions under way. Pressure of demand overrode economic considerations in Great Britain and one of four plants closed in 1947 because of high power costs was reopened. Production was started in Norway and a new plant was under construction in Italy. One of the most significant developments in application was the use of a new magnesium-zirconium alloy in British jet aircraft.

Manganese. Spurred by rearmament demands and heavy U.S. stockpiling, world output of manganese increased to 4,429,000 tons in 1951. (*See* Table IV.)

TABLE IV. WORLD PRODUCTION OF MANGANESE ORE
(thousands of long tons)

	1946	1947	1948	1949	1950	1951
Belgian Congo	12 0	17 3	12 6	12 0	16·7	69 8
Brazil	146 8	139 8	139 0	147 5	146 0	150?
Cuba	128 7	49 6	28 6	61 5	78 0	151 7
Egypt	—	—	59·0	136 4	149 8	152 9
French Morocco	57 1	112 5	211 0	230 1	282 7	366 4
Gold Coast	765 3	589 2	630·0	741 1	711 4	806 1
India	252 9	451 0	525·9	645 8	882 9	1,161 0
Japan	28 9	33·9	54 1	98 4	131 9	194 9
Mexico	24 6	30 9	52 9	53 0	31 9	65 1
Portuguese India	—	0·1	5 8	16 0	37 6	85 4
South Africa	234·1	283·7	272 1	644 8	778 4	746 9
United States	128 2	117 5	117·0	112 6	120 0	91 0
Others (excl. U.S.S.R.)	189 6	241 2	254·1	348 5	372 6	387 9
Total	1,968	2,067	2,362	3,248	3,740	4,429
U.S.S.R. (est.)	1,700	1,800	1,800	1,500	2,000	2,500

SOURCE. U.S. Bureau of Metals

In the United States, which imports 90% of its annual requirements of 1·5 million tons, anxiety was felt concerning supplies in the event of war. The U.S. government discussed means of increasing production both in the United States and abroad, and decided to finance a big new attempt to recover manganese from low grade deposits in Minnesota

With development nearly completed at the large Amapa beds in Brazil, production was expected to start by the end of 1952 at an initial annual rate of 300,000 tons. Transport difficulties handicapped exports in India and South Africa, though better port facilities speeded shipments from the Gold Coast. A ferro-manganese plant was being built at Orissa following negotiation between the Indian government and a U.S. company.

South African production was stepped up during 1952, totalling 653,880 tons from January to September.

Nickel. Production of nickel outside the U.S.S.R. increased 9% to 128,340 tons in 1951, over 90% of which was produced in Canada Nevertheless, the supply position remained critical with widespread restrictions on its use, and in Oct 1951 allocations were introduced by the I.M.C. Though nickel was temporarily very scarce, future supplies were assured by rising ore reserves and increased development of underground and surface mining.

The International Nickel Company of Canada completed a $17 million development project at its Creighton mine; by introducing emergency measures at the refinery it also achieved ahead of schedule an increase in output to 112,500 tons

The U.S government-owned plant at Nicaro, Cuba, resumed operations in July 1952 with a target of 13,500 tons a year. Begun in 1942, Nicaro was closed in 1947 as a surplus operation. In New Caledonia, the only other producer of note, reorganization of the nickel industry was continued, though 1951 production totalled only 4,200 tons (6,200 tons in 1950). Canadian output Jan.-Sept. 1952 was 93,780 tons

Sulphur. World production of sulphur increased to 6,140,000 long tons in 1951 (5·9 million tons in 1950) and to a rate of 6 4 million tons by late 1952, these increases being due mainly to developments in the United States, which accounted for over 90% of output Through the allocations of the I.M.C consumption was brought into line with production, thereby halting the serious drain on stocks, although demand exceeded supply by 1 million tons

Important new deposits were found in Mexico, which were expected to increase its production to 100,000 tons a year, and also in India. In Italy, which is the second largest and a high-cost producer, progress was made in modernizing the mines

The United Kingdom is by far the largest importer, and in 1950 depended on elemental sulphur for over half its production of sulphuric acid, only 21% being from pyrites or indigenous anhydrite. As part of a plan to treble production from the latter sources to 900,000 tons a year several new or converted plants came into operation in 1952 and the supply position was eased. Much progress was also made in the recovery of sulphur from oil.

TABLE V WORLD MINE PRODUCTION OF TIN
(thousands of long tons)

	1947	1948	1949	1950	1951	1952 Jan.-Oct.
Belgian Congo	12 4	12 9	13 8	13 4	13 7	11 0
Bolivia	33 3	37 3	34 1	31 2	33 1	27 9
China	4 3	4 8	4 2	4 0	4 8	4 5
Indonesia	15 9	30 6	29 0	32 1	31 0	28 7
Malaya	27 0	44 8	54 9	57 5	57 1	47 1
Nigeria	9 1	9 2	8 8	8 3	8 5	6 8
Thailand	1 4	4 2	7 8	10 4	9 5	7 6
Others (excl. U.S.S.R.)	8 6	7 7	9 4	9 6	9 3	7 9
Total	112 0	151·5	162 0	166 5	167 0	141 5
U.S.S.R. (est.)	7 0	8 0	9 5	-	—	—

SOURCE. International Tin Study Group.

(Metric tons unless otherwise specified Th indicates thousands, and Mn. millions of units)

Country	Aluminium (Th)	Bauxite (Th)	Antimony[1]	Arsenic[2]	Asbestos (Th)	Barite (Th)	Bismuth (Th kilos)	Cement (Th)	Chromite (Th)	Coal (Mn)	Coke (Mn)	Copper (in ore) (Th)	Copper (Smelter) (Th)	Feldspar (Th)	Fluorspar (Th)	Gold (Th oz)	Graphite (Th)	Gypsum (Th)
N & Central America																		
Canada	405 6	—	591	1,091	882 9	76 7	106 1	2,687	—	16 86	3 09	245 4	223 2	33 2	—	—	1 5	3,563 7
United States	759 2	1,878 3	3,186	14,687	46 9	767 1	P	42,548	6 4	522 84	71 97	842 2	940 4	406 9	314 8	1,895	6 5	7,861 2
Mexico	—	—	6,824	12,766	—	(p)	338 0	1,615	—	1 12	0 39	67 4	59 2	—	66 8	394	32 3	P
Central America	—	—	(p)	—	—	(p)	—	152	80 2	—	—	19 7	—	—	—	312	—	—
West Indies	—	—	—	—	—	(p)	—	487	—	—	—	—	—	—	—	1	—	74 6[e]
Other N American	—	—	—	—	—	—	—	—	—	(p)	—	—	—	—	—	—	—	—
South America																		
Argentina	—	—	—	(p)	(p)	P	42[7]	1,543	(p)	(p)	—	—	—	5 0[7]	2 4[7]	8[7]	(p)	P
Bolivia	—	—	11,816	—	0 3	—	69 1	33	—	—	—	4 8	—	—	(p)	8[10]	—	—
Brazil	—	17 0[10]	—	1,321	1 4[9]	(p)	(p)	1,440	(p)	1 95	0 29	—	—	12 0[9]	0 6[10]	200[e]	0 6[9]	51 0[e]
British Guiana	—	2,034 9	—	—	—	—	—	—	—	—	—	—	—	—	—	13	—	—
Chile	—	—	—	—	0 2[10]	1 4[10]	—	698	—	1 99	—	379 7	360 1	0 9[10]	—	174	—	65 5[10]
Colombia	—	—	—	—	—	(p)	—	641	—	1 35	—	—	—	—	—	431	—	1 9[10]
Ecuador	—	—	—	—	—	—	—	79	—	—	—	(p)	—	—	—	10[e]	—	0 4[e]
Peru	—	—	1,107	980[9]	—	23 0	262 7	367	—	0 24[7]	—	32 3	24 3	(p)	—	142	(p)	16 9
Venezuela	—	—	—	—	0 3	—	—	621	—	(p)	—	—	—	—	—	29	—	2 1[10]
Other S American	—	2,671 3	—	—	—	—	—	301	—	—	—	—	—	0 7	—	6	—	—
Europe																		
Austria	26 4	7 8	498	(p)	—	9 6	—	1,475	—	5 19	1 08	1 8	6 5	3 8	—	P	18 2	36 2[9]
Belgium	—	—	—	325	—	P	—	4,395	—	29 67	6 11	—	—	—	—	—	—	—
Bulgaria	—	—	—	—	(p)	—	—	P	P	6 17	(p)	—	—	—	—	P	—	5 0[7]
Czechoslovakia	—	—	2,000[7]	(p)	(p)	(p)	—	1,738[9]	—	48 90	5 15[e]	—	—	P	—	2[7]	15 0[7]	—
Finland	—	—	—	—	10 9[10]	—	—	829	—	—	—	27 0[e]	17 8	8 0[10]	—	19	—	1 7[8]
France	91 1	1,124 4	650	2,454[10]	6 1[10]	25 0[10]	82·0[9]	8,125	—	54 97	8 08	0 5[8]	0 3[8]	66 0	50 0	46	—	2,000 0[e]
German Fed Rep	74 1	18 0[7]	—	1,124[10]	—	331 3	(p)	12,204	—	202 04	33 63	1 7	212 9	46 1	143 7	P	6 6[10]	814 9
Greece	—	197 1	810	56	(p)	29 4	—	432	25 3	0 19	—	—	—	—	—	—	—	1 0
Hungary	16[7]	350 0[10]	P	(p)	—	—	—	640[e]	—	15 60	—	—	—	—	—	27	—	—
Italy	49 8	174 3	822	670[10]	22 6	75 1	—	5,578	—	2 02	2 17	0 2	0 1	22 6	40 8	12	4 5	298 2[7]
Luxembourg	—	—	—	—	—	—	—	132	—	—	—	—	—	—	—	—	—	—
Netherlands	—	—	—	—	—	—	—	702	—	12 67	2 97	—	—	—	—	—	—	—
Norway	51 2	—	—	—	—	—	(p)	720	—	—	—	14 4[e]	8 6	24 0	0 7[e]	—	2 5	—
Poland	—	—	—	—	—	—	—	2,688	—	86 90	6 10[e]	—	—	—	—	—	—	32 8[10]
Portugal	—	—	(p)	940	0 3[10]	—	—	644	(p)	0 50	—	—	—	1 2[9]	—	14[e]	—	43 1[9]
Rumania	—	(p)	—	—	—	—	(p)	650[10]	—	3 80[7]	0 13[7]	—	0 2[10]	P	—	113[9]	—	(p)
Spain	3 8	12 7	380	375	(p)	12 4	15 2	2,741	—	13 05	0 99	6 8	5 8	0 8	54 8	13	0 3	1,821 7
Sweden	6 6	—	—	8,967[9]	—	0 9[9]	11 0[7]	2,012	(p)	0 27	—	14 4	15 0	39 0[9]	4 3[8]	80	(p)	—
Switzerland	24 0[e]	—	—	—	—	—	—	1,315	—	(p)	—	—	—	—	(p)	—	—	120 0
United Kingdom	22 2	—	—	91[7]	—	98 6[10]	(p)	10,388	(p)	225 82	16 35	—	—	—	50 3[10]	—	—	200 0[e]
Yugoslavia	6[7]	453 0	3,205[10]	—	—	24 8	87 8	1,145	10[7]	11 82	107 0	32 0	32 0	—	—	P	—	(p)
Other European	—	—	—	(p)	—	7 5[e]	—	2,663	—	168 46	4 16	—	—	—	—	—	—	100 2
U S S R	200[7]	600[7][8]	P	P	P	P	(p)	12,400[7]	600[7]	281[7]	30[7]	254[7]	254[7]	P	P	9,500[7]	P	P
Africa																		
Algeria	—	—	1,462	—	—	21 0	—	448	—	0 26	—	0 1	—	—	—	—	—	82 0
Angola	—	—	—	—	—	—	—	—	—	—	—	1 1	—	—	—	(p)	—	(p)
Belgian Congo	—	—	—	—	—	—	0 2	205	—	0 22	—	192 0	192 0	—	—	352	—	8 0[e]
Egypt	—	—	—	—	1 2	(p)	—	1,145	(p)	—	—	—	—	—	—	16	—	112 1
Ethiopia	—	—	—	—	—	—	—	(p)	—	—	—	—	—	—	—	13[e]	—	(p)
French Africa	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	245[7]	(p)	—
French Morocco	—	—	960	—	0 6	3 3	—	377	—	0 39	—	(p)	—	—	—	—	(p)	36 1[9]
Gold Coast	—	140 0	—	—	—	—	—	—	—	—	—	—	—	—	—	699	—	—
Kenya	—	—	—	—	0 4	—	—	—	—	—	—	—	—	—	—	20	—	(p)
Madagascar	—	—	—	—	(p)	—	—	(p)	—	(p)	—	—	—	—	—	—	18 3	—
Nigeria	—	—	—	—	—	—	—	—	—	0 56	—	—	—	—	—	2	—	—
N Rhodesia	—	—	—	—	—	—	—	—	—	—	—	319 4	314 1	—	—	(p)	—	—
Sierra Leone	—	—	—	—	—	—	—	—	7 5[10]	—	—	—	—	—	—	4[10]	—	—
S W Africa	—	—	—	—	—	—	(p)	—	—	—	—	12 4	—	—	0 8	(p)	2 6	—
S Africa	—	—	15,858	—	97 4	2 0	3 2	1,953	545 3	26 63	1 20[e]	33 7	32 9	3 3	12 3	11,516	0 3	125 0
S Rhodesia	—	62	76	70 5	(p)	—	—	163	100 3	2 30	0 10	0 1	—	1 1	(p)	487	—	—
Spanish Morocco	—	—	35[10]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanganyika	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tunisia	—	—	—	—	—	(p)	—	187	—	(p)	—	—	—	—	(p)	65	—	22 1[9]
Uganda	—	—	—	—	—	—	3 7	—	—	—	—	—	—	—	—	(p)	—	—
Other African	—	4 3[10]	—	—	31 7	0 5	—	77	—	(p)	—	—	—	—	—	26	(p)	0 2
Asia																		
Burma	—	—	(p)	—	—	—	(p)	—	—	—	—	—	—	—	—	(p)	—	—
China	—	10 0[e]	8,000[7]	(p)	P	(p)	(p)	43[10][10]	—	43 25	1 30[e]	6 0[7]	6 0[7]	(p)	(p)	100[7]	P	60 0[7]
Cyprus	—	—	—	15 3	—	—	—	—	12 7	—	—	22 8	—	—	—	(p)	—	23 2
Formosa	2 6	—	—	—	—	—	—	389[e]	—	1 45	0 13	1 2[8]	0 6[e]	—	—	11	—	—
India	4 0	65 0[10]	—	—	0 2[10]	8 2[10]	—	3,252	11 0[e]	34 98	2 18	7 4	7 2	1 8[10]	—	226	1 1	193 3
Indochina	—	—	—	—	(p)	—	—	212	(p)	0 65	—	—	—	—	—	(p)	(p)	—
Indonesia	—	642 3	—	—	—	—	—	100[e]	—	0 86	—	—	—	—	—	42[7]	—	—
Israel and Jordan	—	—	—	—	—	(p)	—	439	—	—	—	—	—	(p)	—	—	—	1 7
Japan	36 8	—	221	1,300	6 1	16 7	42 0	6,548	40 4	44 72	3 86	42 3	91 0	26 5	4 0	177	4 7	200 6
Korea	2[7]	—	—	(p)	(p)	P	12 5	(p)	—	1 6[e]	0 26[e]	(p)	(p)	—	P	1	40 7[9]	—
Malaya	—	—	—	—	—	—	—	—	—	0 39	—	—	—	—	—	17	—	—
Pakistan	—	—	—	—	—	—	—	507	18 0	0 51	—	—	—	—	—	—	—	22 8
Persia	—	—	230[e]	25[e]	—	—	—	65	(p)	0 20[e]	—	—	—	—	—	—	—	378 0[e]
Philippines	—	—	—	—	—	—	—	309	334 6	0 15	—	12 7	—	—	—	394	—	0 4
Thailand (Siam)	—	—	65	—	—	—	—	312	—	—	—	—	—	—	—	(p)	—	(p)
Turkey	—	—	3,360	—	0 2[10]	—	—	396	602 2	3 99[e]	0 30[e]	11 9	16 4	—	—	—	—	—
Other Asia	—	—	—	—	—	—	—	577	—	(p)	—	(p)	—	—	—	167	12 8	258 7
Australasia																		
Australia	—	3 7[e]	310	163[10]	1 7[e]	6 5[e]	1 2	1,236	0 9[10]	25 85	1 40[e]	16 9	12 7	14 3	0 3[e]	886	(p)	370 2
New Caledonia	—	—	—	—	—	—	—	—	88 4	—	0 08[e]	—	—	—	—	—	—	15 8
New Zealand	—	—	—	—	(p)	—	—	163	—	2 48	(p)	—	—	—	—	75	—	—
Other Australasia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94	—	—
World Total	1,788	10,650	64,000	51,000	1,400	1,700	1,600	147,200	2,800	1,591	203 7	2,640	2,850	725	957	33,500	160,000	24,500

The production of certain other minerals and metals was as follows ('000 metric tons) *Ilmenite* U S., 486 1, Canada, 19 2, Brazil, 0 7[9], Spain, 0 7; Norway, 105, Egypt, 0 3, India, 143·2, Malaya, 42 3, Australia 12 4[10], French Africa, 2 5, Portugal, (p) *Nickel* U S, 0 7, Canada, 124 5; S. Africa, 1 1, New Caledonia, 9 2; U S S R, 25 0[e], Brazil, Finland, (p) *Potash* (K_2O equiv of salts produced) U S, 1,288 5, France, 987 6, Germany 1,280·0; Spain, 190 0, Israel-Jordan 60 8[7], Australia, 1 5[8], U S S R, India, Japan, P, Italy, China, Ethiopia, Korea, (p) The following are in metric tons *Beryllium*· Australia, 94, Brazil, 1,533, French Morocco, 84, India, 215, Madagascar, 530, Mozambique, 230, Portugal, 112, S. Rhodesia, 1,007, S W. Africa, 753, S. Africa, 593, U.S., 439; Uganda, (p). *Cobalt*. U S, 343, Canada, 430, French Morocco, 680, Belgian Congo, 5,875, N Rhodesia, 678, Australia, 10, Bolivia, Chile, Finland, Italy, Sweden, (p) *Magnesium*· U.S., 37,086, Canada, 4,000, France, 875; U K., 7,700[e], Norway, 120, Germany, ?, U S S R, P, China, (p) *Vanadium* U S., 961[7], Peru, 400[e]; S W. Africa, 300[e];

Metal Production in 1951

(Metric tons unless otherwise specified, Th. indicates thousands, and Mi. millions of units)

Iron Ore (Th)	Pig Iron (Th)	Steel (Th)	Lead (in Ore) (Th)	Lead (Smelter) (Th)	Crude Magnesite (Th)	Manganese Ore (Th)	Petroleum (Mi bbl)	Phosphate Rock (Th)	Pyrite (Th)	Salt (Th)	Silver (Th oz)	Sulphur (Th Long tons)	Tin (in Ore) (Long tons)	Tin (Smelter) (Long tons)	Tungsten[4] (Conc)	Zinc (in ore) (Th)	Zinc (Smelter) (Th)	Country
																		N & Central America
4,297	2,543	3,236	138 3	147 6	P	—	48 10	—	283 6[10]	876 5	24,245	—	154	155	15	302 9	198 8	Canada
118,299	65,805	95,435	354 2	412 0	608 0	92 4	2,244 53	11,273 3	1,034 1	18,331 5	39,907	5,278 2	48e	30,921	5,693	616 1	803 9	United States
460	211	430e	201 4	198 7	—	66 1	73 31	—	—	—	43,798	2 1[8]	366	350e	325	178 7	52 6	Mexico
—	—	—	—	—	—	154 1	—	—	—	69 1	3,993	(p)	—		—	—	—	Central America
17	—	—	—	—	—	—	20 97	106 9	—	124 9	172	—	—		—		—	West Indies
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Other N American
																		South America
(p)	28	250	24 0	24 0	—	(p)	24 47	—	—	—	1,254	7 8[10]	242	206	30e	15 5	9 6	Argentina
—	—	—	30 0	—	—	—	0 52	—	—	—	7,172	9 1	33,134	39	2,718	30 5	—	Bolivia
2,555	750e	830e	—	—	43 1[9]	148 3[10]	0 69	4 6[9]	3 6[8]	—	20	—	200e	180e	1,000e	—		Brazil
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	British Guiana
3,252	240	190	4 1e	—	—	42 0e	0 76	13 4[10]	—	—	983	15 2[10]	—	—	—	—	—	Chile
—	—	(p)	—	—	—	—	38 40	—	—	162 1	130	2 3	—	—	—	—	—	Colombia
—	—	—	(p)	—	—	—	2 71	—	—	32 8	34	(p)	—	—	—	—	—	Ecuador
—	—	(p)	82 3	44 3	—	—	16 11	—	—		14,857	1 0e	50e	50e	770	101 3	0 9	Peru
1,270	—	—	—	—	1 4[10]	—	622 22	—		38 9	—	—	—	—	—	—	—	Venezuela
—	—	—	—	—		—	—	—		—	—	—	—	—	—	—	—	Other S American
																		Europe
—	1,051	1,028	4 5	9 7	664 3	—	14 60e	11 5[7]	9 8	268 1	19e	—	—	—	—	3 4	—	Austria
79	4,847	5,069	—	70 6	—	—	—	50 8[10]	—	—	—	—	—	8,360	—	—	200 9	Belgium
(p)	—	—	(p)	—	—	(p)	—	—	—	—	P	—	—	—	—	—	—	Bulgaria
1,600[7]	2,000[7]	3,312e	P	P	173 0e	—	0 65e	—	3 2[8]		1,600[8]	—	—	—	—	—	—	Czechoslovakia
—	102	138	(p)		—			—	232 5	—	157		—	—	—	1 8e	—	Finland
35,264	8,839	9,828	10 6	48 8	—		2 04	110 0	280 6	430 6	547	26 6	170e	—	765	10 4	74 6	France
12,923	10,880	13,506	50 4	154 9	11 3[9]	—	9 68	—	533 5	2,757 8	4,139	—	120e	600e	—	72 9	140 6	German Fed Rep
56	—	(p)	4 9	3 9	63 9	2 3		—	181 3	82 4	64	(p)	—	—	—	8 4	—	Greece
368[10]	410e	1,234e		—	—	40[8]	3 50e	—	—	—	P		—				—	Hungary
515	1,048	2,992	38 7	36 0	(p)	27 7	0 14	—	898 0	1,124 9	822	197 4	—	—	6	85 4	47 2	Italy
5,625	3,157	3,077	—	—	—	—		—	—	—	—	—	—	—	—	—	—	Luxembourg
—	525	552	—	—		—	4 94			473e	—	—	—	20,977	—	—	22 6	Netherlands
353	241	86	(p)		1 8[10]			2 5[10]	696 2	—	161	—	—	—	—	5 5	40 2	Norway
850e	1,479e	2,800e	18 1	18 1	3 8[7]	—	1 50e	(p)	81 0[9]	—	P	—	—	—	—	80 0e	86 2e	Poland
(p)	—	—	—	—	—	7 6	—	—	729 6	29 4	56	—	1,450e	313	4,680	—	—	Portugal
510e	335e	646	3 5[7]	3 3[7]	—	65[9]	31 00[7]	(p)	(p)	—	481[7]	—	—	—		—	—	Rumania
2,316	679	831	39 2	41 2	13 7	21 9	—	22 8	1,630 7	1,261 1	736	6 8[10]	716e	884	2,300	71 9	21 3	Spain
16,111	838	1,503	15 1	9 4	—	11 8[10]	—	2 0[10]	420 0	—	1,292[10]	—	—		500e	34 8	—	Sweden
86	35	144	—	—	—		—	—	—	114 0	—	—	—		—	—	—	Switzerland
14,882	9,859	15,889	4 2	4 2	—	—	0 34	—	13 5[10]	13 3	25[8]	—	1,210e	27,900e	54	39 4	70 9	United Kingdom
581	250	434	78 7	60 1	89 9	12 7	1 09	—	143 8	95 6	3,000	—		—	—	—	13 2	Yugoslavia
—	2,887	4,211	—	—	—	—	1 20	P	(p)	3 8	—	—	—	—	8	—		Other European
24,000?	22,500?	31,500?	128 4?	128 4?	P	2,500?	285?	2,540 1?	P	—	P	(p)	—	—	7,500?	147 9?	147 9?	U S S R
																		Africa
2,815	—	—	3 0	—	—	—	0 05	776 6	31 5	—	30[8]	—		—	—	9 5	—	Algeria
—	—	—	—	—	—	46 2	—	0 9	—	49 8	—	—		—	—	—	—	Angola
—	(p)	—	—	—	—	70 9	—	—	—	0 6	3,795	—	13,669	3,011	285	88 7	—	Belgian Congo
(p)	—	(p)	—	—	—	155 4	16 31	500 0	—	687 0	—	(p)	(p)	—	7	—	—	Egypt
—	—	—	—	—	—	—	—	—	—	10 0	—	—	—	—	—	—		Ethiopia
171	—	—	2 5	—	—	—	—	23 6	—	40 0e	—	—	36e	—	—	0 5	—	French Africa
533	—	—	68 1	18 4	—	372 2	0 59	4,716 8	1 9	46 0	482[10]	—	(p)	—	30	19 5	—	French Morocco
—	—	—	—	—	—	819 0	—	—	—	—	53	—	—	—	—	—	—	Gold Coast
—	—	—	—	—	—	—	—	—	(p)	19 1	2	—	—	—	—	—	—	Kenya
(p)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Madagascar
—	—	—	—	—	—	—	—	—	—	—	(p)	—	8,529	—	23	—	—	Nigeria
—	—	—	—	—	—	—	—	—	—	—	—	—	(p)	—	—	23 0	23 0	N Rhodesia
1,185[10]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Sierra Leone
(p)	—	—	34 1	—	—	6 6	—	0 8	—	44 6	1,030	—	76	—	5e	10 1	—	S W Africa
1,421	805	948	—	—	18 8	758 9	—	81 8	33 4	149 8	1,163	—	767	827	160	—	—	S Africa
58	(p)	28	14 2	14 2	14 8	—	—	—	28 3	—	80	—	59	55	231	—	—	S Rhodesia
948	—	—	—	—	—	0 9e	—	—	—	—	—	—	—	—	—	—	—	Spanish Morocco
—	—	—	—	—	2 7	—	—	0 3	—	16 1	36	—	61	—	15	—	—	Tanganyika
923	—	—	21 2	23 1	—	—	—	1,678 9	—	160 0	61	—	—	—	—	3 5	—	Tunisia
—	—	—	—	—	—	—	—	0 5[10]	—	—	—	—	119	—	220	—	—	Uganda
—	—	—	—	—	—	—	—	—	—	176 7	(p)		120	—	—	—	—	Other African
																		Asia
—	—	—	5 0	5 0		—	0 64e	—	—	—	—		1,624	—	1,647	—	—	Burma
3,161e	1,300[7]	1,000[7]	(p)	(p)	(p)	22 0[9]	0 73e	20[7]	42 9[8]	3,000e	320[7]	(p)	4,800[7]	4,800?	15,800e	—	(p)	China
—	—	—	—	—	(p)	—	—	—	959 8	11 2	P	—	—	—	—	—	—	Cyprus
—		—			—	—	0 02		—	274 8	3e	2 6	—	—	—	—		Formosa
3,714	1,853	1,524	0 9	0 9	118 7	1,179 7	1 95	3 0[10]	—	2,894 9	17	—	—	—	—		—	India
—	—	—	—	—	—	—	—	—	—	93 9	—	—	92	—	—	—		Indochina
—	(p)	—	—		—	—	57 20	—	—	300e	(p)	(p)	30,986	—	—	—	—	Indonesia
—	—	—	—	—	—	—	—	6 9	—	—	—	(p)	—	—	—	—	—	Israel and Jordan
1,099	3,228	6,502	12 7	10 7	—	198 0	2 34	0 1	2,250 8	430 4	4,608	139 4	425	579	86	64 3	56 3	Japan
(p)	(p)	(p)	(p)	(p)	(p)	(p)	—	(p)	(p)	—	167[7]	—	—	—	2,100e	P	—	Korea
851	—	—	—	—	—	—	—	—	—	—	P	—	57,167	65,914	54	—	—	Malaya
—	—	(p)	—	—	—	—	1 35	—	—	147 1	—	—	—	—	—	—	—	Pakistan
—	—	—	—		—	9 4[10]	127 60e	—	—	76 3	—	—	—	—	—	—	—	Persia
903	(p)	—	—	—	—	22 3	—	32 6[10]	—	53 0	275	—	—	—	—	—	—	Philippines
(p)	(p)	(p)	—	—	—	—	—	—	—	250 0	—	—	9,502	(p)	1,200	—	—	Thailand (Siam)
226	155	135	—	—	0 5	50 5	0 13	—	—	271 6	P	7 1	—	—	—	(p)	—	Turkey
436	—	—	—	—	—	86 8	614 50	342 9	—	407 5	110	—	—	—	—	—	—	Other Asia
																		Australasia
2,468	1,357	1,457	216 4	203 3	38 9	8 6e	(p)	8 0	154 2	222 4	10,436	—	1,552	1,459	1,864	162 8	78 3	Australia
—	—	—	—	—	—	20 1	—	—	—	—	—	—	—	—	—	—	—	New Caledonia
(p)	(p)	—	—	—	0 6	0 4	(p)	—	—	—	133	—	—	—	35e	—	—	New Zealand
—	—	—	—	—	—	0 6	—	1,622 1	—	—	25	—	—	—	—	—	—	Other Australasia
293,000	150,000	211,000	1,605·4	1,693 7	3,800	7,000 0	4,282 87	23,420	12,600	53,000	198,600	5,800	167,500	167,500	50,100	2,188 9	2,129 6	World Total

N. Rhodesia, 87, Argentina, (p) *Platinum group metals* ('000 oz.) U S., 36 95, Canada, 317 43, Colombia, 32, U S S R , 100?, S. Africa, 190 90; Ethiopia, Sierra Leone, Japan, Australia, (p), *Diamonds* ('000 carats). Angola, 751; Belgian Congo, 10,565, French Africa 237e, Gold Coast, 1,600e; Sierra Leone, 476, S W. Africa, 478; Tanganyika, 109, S Africa, 2,256, Brazil, 200e, British Guiana, 43, Venezuela, 63, Australia, Borneo, India, (p) *Mercury* (Flasks of 76 lb): U S , 7,293, Spain, 44,480; Yugoslavia, 14,649, China, 4,000e, Italy, 53,839, apan, 1,847, Mexico, 8,093, Chile, 319[10], Czechoslovakia, 800[9]; Algeria, 102[9], Germany, U S S R , P, Bolivia, Peru, Rumania, Sweden, Turkey, Austria, (p) e indicates an estimate; (p) a small production, unknown in amount or less than the minimum base of the table; P a larger but unknown production [1] Metal content of ore. [2] White arsenic. [3] Nitrogen content of fertilizer compounds. [4] 60% WO_3 basis [7], [8], [9], [10] indicate data for 1947, 1948, 1949 or 1950 where 1951 figures are lacking

Tin. World mine production of tin in ores in 1951 showed little change from 1950 and totalled 167,000 long tons. On the other hand, production of tin metal fell by 6,000 tons to 167,500 tons. Smelter output had exceeded mine output since 1944 through utilization of accumulated ore stocks.

Since 1930 there had been virtually no prospecting in Malaya, which contributes one-third of the world's output. Although extensive low grade deposits were known to exist it was feared that continued political instability would prevent the mining or development of these before the exhaustion of many reserves on which current production depended.

Production in Indonesia reached the record postwar level of 3,419 tons in Aug. 1952 after a drop in 1951 due to labour difficulties In Bolivia the new government cancelled all mining concessions in July and established a nationalized minerals monopoly, though there was no immediate effect on the export of tin.

Zinc. The zinc position in 1951 was similar to that of lead although world mine production increased by 8% to 2,008,800 tons Smelter production increased by 6% to 1,910,000 tons. Being more in demand for rearmament purposes than lead, however, zinc was subjected to end use controls and to I M C. allocations.

TABLE VI WORLD SMELTER PRODUCTION OF ZINC
(thousands of long tons)

	1947	1948	1949	1950	1951	1952 Jan.-Nov.
Australia	69 4	81 8	80 8	84 5	77 0	80 2
Belgium	130 9	151 3	173 8	174 5	197 7	169 2
Canada	159 2	175 5	183 9	182 5	195 7	182 9
France	44 5	55 2	59 9	70 4	73 4	71 7
Germany	20 4	40 7	85 5	120 8	138 4	132 6
Italy	23 7	26 3	26 2	37 4	46 5	49 2
Japan	14 6	20 8	31 8	48 2	55 5	63 6
Mexico	47 4	49 8	51 9	48 3	51 8	50 1
Netherlands	9 4	13 4	15 4	19 1	22 2	23 2
N Rhodesia	21 1	22 2	22 8	22 7	22 6	20 9
Norway	34 0	41 1	40 4	42 5	39 6	35 1
Poland	70 5	85 7	83 9	84 8	84 8	—
Spain	19 5	20 9	19 2	20 9	20 9	18 9
United Kingdom	68 3	72 0	64 1	70 3	69 7	60 6
United States	716 5	703 4	727 5	753 1	791 2	745 5
Others (excl U S S R)	10 2	9 0	12 0	20 0	23 0	—
Total	1,460	1,569	1,679	1,800	1,910	—
U S S R (est)	105	109	109	127	145	—

SOURCE American Bureau of Metal Statistics

Smelter production continued to increase during 1952 in most countries and by mid-year the supply position had eased considerably and controls were released. On Jan. 1, 1953, the London Metal exchange was re-opened for dealings.

New smelters commenced operations in Italy and Poland, and construction was started on others in France and Yugoslavia and on the first zinc smelter in the German Democratic Republic. Mine production in Peru was increased substantially, making the country one of the world's largest exporters of concentrates. (*See* also COAL; DIAMONDS, EUROPEAN COAL AND STEEL COMMUNITY; GOLD; IRON AND STEEL, PETROLEUM; SILVER.) (P E. G.)

MINERALOGY. Thermal studies on the feldspar group of minerals, reported in the *Britannica Book of the Year 1951*, and investigations on the variable inversion temperature of rock-forming quartz shed new light on the origin of the differences known to exist between these groups of minerals in extrusive and plutonic acid rocks respectively. These differences had now been interpreted as due to changes brought about in the minerals of plutonic rocks, during slow cooling, by inversion, unmixing and recrystallization from an initial character similar to the quartz and feldspars of the corresponding extrusive rocks (O. F. Tuttle, *Journal of Geology*, 60, 107-124, Chicago, 1952). The conclusions reported necessitated a revision of ideas on the origin of mineral textures in acid and feldspathic plutonic rocks and formed an important contribution in the field of petrogenesis. A re-investigation of the polymorphic relations in the magnesium pyroxene group of minerals led L. Atlas (*ibid.*, 125-147) to the conclusion that enstatite and protoenstatite are the stable phases, the latter at temperatures above 990°C., and that clinoenstatite is a metastable low-temperature phase formed during rapid cooling of protoenstatite. The restriction in nature of clinoenstatite to meteorites is in accord with these relationships. In the binary system $MgSiO_3$-$CaMgSi_2O_6$ clinoenstatite becomes a truly high-temperature phase as earlier studies had already substantiated.

Among new minerals described during the year were *sinhalite* ($MgAlBO_4$), orthorhombic, found in collections of gem gravels from Ceylon and previously supposed to be an iron-rich olivine (*Mineral. Mag.*, 29, 841-849, London, 1952); *dalyite* ($K_2ZrSi_6O_{15}$), a triclinic mineral occurring as an accessory in granitic ejected blocks in the tuffs of Ascension Island (*ibid.*, 850-857); *latiumite*, a monoclinic sulphatic potassium calcium aluminium silicate from ejected blocks carrying leucite in the *peperino* of the Alban Hills, Italy (*ibid.*, 986); *bystromite*, a tetragonal $MgSb_2O_6$ from Sonora, Mexico (*Amer. Mineralogist*, 37, 53-57, 1952); *robinsonite*, a new triclinic lead antimony sulphide ($7PbS.6Sb_2S_3$) from Pershing County, Nevada (*ibid.*, 438-446), and *aurostibite* ($AuSb_2$), a mineral of the pyrite group from Ontario and the Northwest Territories of Canada (*ibid.*, 461-469). Among synthetic products of mineralogical interest were two polymorphs of anorthite ($CaAl_2Si_2O_8$), one hexagonal, the other orthorhombic, produced by hydro-thermal crystallization at low temperatures of glasses of the composition of anorthite. The hexagonal form is also produced as a submicroscopic product by heating lawsonite ($CaAl_2Si_2O_8.2H_2O$) at 650°C. Both polymorphs were provisionally regarded as metastable forms (*Journ. Geol.*, 60, 386-397, 1952).

X-ray structural interpretations were made on the minerals axinite ($H(Fe,Mn)Ca_2Al_2BSi_4O_{16}$) in which independent BO_3 and Si_4O_{12} groups are recognized (*Acta Cryst.*, 5, 202-208, Copenhagen, 1952); milarite ($K_2Ca_4Be_4Al_2Si_{20}O_{60}.H_2O$) with a structure based on double hexagonal rings ($(Si,Be)_{12}O_{30}$) (*ibid.*, 209-213), larnite (β Ca_2SiO_4) (*ibid.*, 307-312), and afwillite ($Ca_3(SiO_3OH)_2.2H_2O$), the first demonstrated example of a silicate containing (OH) groups as part of the Si-O tetrahedra (*ibid.*, 477-491). (*See* also MINERAL AND METAL PRODUCTION.)

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(C. E. T.)

MISSIONS, FOREIGN RELIGIOUS.

The outstanding event of 1952 was the world consultation on missions held by the International Missionary council at Willingen in Germany. It was attended by 200 delegates from 50 countries. The conference recognized the big changes in the relations between east and west, and that the control of "missions" from the west was outmoded. It called for a sense of missionary vocation amongst the thousands of young men and women who go abroad in business and government service. The conference also recognized the need for the unity of the church, and passed this resolution:

The unity already achieved in some areas is an encouragement to the Church in this task The factors impeding unity are present everywhere,

but the older Churches in particular need to re-examine their responsibility in this matter, lest their divisions place an intolerable burden upon those who desire to advance towards fuller unity in Christ

This conference also made an attempt to re-evaluate the term " foreign missions " and issued the following comment on the term:

While the Church of Christ in any place and at any time must exhibit the marks without which it will not be a Church, it has the responsibility to exhibit them in a distinctive way, incorporating into the service of Christ whatever heritage of cultural values it may have been given by God's grace This is not being " rooted in the soil " but *related* to the soil. The Church can only be rooted in Christ The Church must not imitate and reproduce the characteristics of a Church in some remote and alien land Foreign in one sense the Church must always be, its citizenship is in heaven, and it is an agent of transformation. We urge that foreignness in the more earthly sense of the word is something to be outgrown with all possible speed.

The co-operation of missions with the various technical aid programmes of governments was also discussed. It was agreed that " missionary organizations need much greater flexibility if they are to seize the opportunities presented by many lands which now eagerly seek help in technical fields."

Christians might influence powerfully the changing patterns of society if the Church helped to provide, or to direct towards, training for special departments of service, and so become strongly represented among those engaged in social and welfare work, the field of industry and labour relations, in agricultural extension and public health, in the service of the handicapped, and the profession of psychotherapy To name these is to select only a few of the openings which face the modern Christian pioneer

China. At the end of 1952 less than ten Protestant missionaries remained in China awaiting exit permits An unknown but probably larger number of Roman Catholic priests and nuns was still in the country. A number of arrests, imprisonments and suicides of leading Christians were reported. A plan to provide " overseas Chinese " with books in Chinese was begun in Hong Kong, made necessary through the closing of the publishing houses in China. A concentration of missionary forces in Hong Kong made the colony an important centre of missions in east Asia The China Inland mission—previously the largest Protestant mission in China—continued its experimental work with Chinese in various southeast Asian countries.

Malaya. Missions increased their staffs in Malaya in 1952 and co-operated with the government in educational and social work. Some missionaries independently undertook service with the government in the re-settlement areas.

Japan. A religious survey in 1952 reported the following analysis of the Christian community—Roman Catholic 142,459, Protestant 193,604, Eastern Orthodox 8,911, a total of 344,976 in a population of 83 million. Twenty-five years before the figures were 306,157. The new International Christian university in Tokyo began its sessions in 1952, and the announcement was made that Dr. Emil Brunner, the distinguished European theologian, was to join the staff for three years.

Africa. Representatives of missions took part in the important Cambridge Educational conference of the Colonial Office. In the Gold Coast the first steps were taken towards the state control of primary education which had hitherto been mainly in the hands of missions. In Nigeria the new Anglican cathedral at Onitsha was inaugurated. Missions in Africa developed in 1952 their policy of training Africans for leadership in the life of the church. More African bishops were appointed in the Anglican province of West Africa. In east Africa the Mau Mau disturbances did not affect the organization of missions. Increasing U.S. interest in African affairs was noticeable at the comprehensive conference on African affairs organized by U.S. missions at Springfield, Ohio, in June 1952.

The missions council of the Dutch Reformed Churches re-affirmed its belief in the rightness of *apartheid*, a policy which might take 100 years to put into practice At the same time the council urged its members to give non-Europeans places of leadership in the mission churches if they were fit for them. In Natal a university medical school for non-Europeans was being built

India. Reasons why large numbers of Christians in southern India voted Communist at the general election were analysed in 1952. Most of the votes were cast in urban areas, and not, as at first surmised, in the " poverty " areas of the countryside Christians with awakened social consciences voted Communist because communism seemed to offer a quick solution to India's social problems. Communist literature increased its sales in the literate Christian areas Under the auspices of Serampore college a plan to provide a range of basic Christian books for the Indian clergy was begun. Missions continued their policy of transferring property and institutions to Indian ownership

Latin America. Growth in evangelical church membership was reported, and also strong Roman Catholic reaction, particularly in Colombia, involving restrictions in religious liberty. The radio was widely used for evangelism. New stations were started at La Paz, Haiti and in Guatemala. A radio edition of the Bible was being broadcast in Spanish, and a central recording studio was established in Mexico. Roman Catholic missions reported a widespread religious revival amongst the nitrate workers of Chile.

Christian Literature. One of the marked features of 1952 was the emphasis by all missions on the provision of Christian literature. It was estimated that 25 million people were learning to read each year, but the supply of literature was not keeping pace with the demand Communist agents were providing supplies of cheap and well-produced books. In 1952 the United Society for Christian Literature continued to develop its bookshops and book-distributing agencies in Northern Rhodesia, including the central African copper belt. The Willingen conference referred in urgent terms to " Christian communities growing up ill-prepared to meet the demands of life, some of them with only a handful of books in their language."

General. In Britain and the United States subscriptions to missions were well maintained in spite of economic difficulties in Britain. There was a marked diminution in candidates offering for service with the denominational societies. Missions with headquarters in Britain paid close attention to the welfare of students from overseas.

See R D Paul, *The Cross Over India* (London, 1952), Cecil Northcott, *Christian World Mission* (London, 1952), F W Grant, *South Africa—What of the Church?* (London, 1952) (C. N)

MONACO. Sovereign principality on the Mediterranean coast, 9 mi E. of Nice, bounded on all land sides by the French *département* of Alpes Maritimes. Area: 0 578 sq.mi. Pop. (1946 census): 19,242, incl. 1,975 Monegasques, 10,522 French and 6,745 other foreigners. Ruler, Prince Rainier III; minister of state, Pierre Voizard.

History. In May there was a rumour that the 52-year-old Princesse Ghislaine, a former actress and the second wife of Prince Louis (who died on May 9, 1949), had been evicted from the palace by Prince Rainier. On May 9 a spokesman of the Monegasque government denied the rumour, but it was known that a dispute existed between Prince Rainier and Princesse Ghislaine about Louis' will, in which he had left all crown properties to his grandson and successor but half of his private fortune to his wife (about £150,000). Prince Rainier claimed that Louis had no right to make separate legacies and that all belonged to the crown. The Court of Revision, consisting of 10 French lawyers chosen by the French Foreign Office, invalidated the will. The Société des Bains de Mer, which owns the casino and most of the

hotels, intervened, and a compromise in the form of a pension for Princesse Ghislaine was agreed upon.

The Académie Internationale du Tourisme, founded by Prince Rainier in 1951, held in August its second session at Monte Carlo. The previous year it had organized a competition for the best definition of the term *tourisme*. It awarded on Aug. 23 the first prize to R. de Meyer, a Belgian, for the following definition: "A collective term for human movement and its attendant activities, caused by the exteriorization and fulfilment of the desire to escape that is more or less latent in everybody."

Finance. Budget (1951 actual) revenue Fr 1,355 4 million, expenditure Fr 1,398 3 million, (1952 est.): revenue Fr 1,640 6 million, expenditure Fr 1,719 9

MONGOLIA. People's republic of eastern Asia, bounded N. by the U.S.S.R. and E., S. and S.W. by China. Area: 606,000 sq.mi. Pop.: no census ever taken; estimates vary from 850,000 (Soviet, 1941) to 2,078,000 (Chinese, 1945). Language: Mongol. Religion: Lamaist-Buddhist. Capital: Ulan Bator (pop., 1951 est., 80,000). Chairman of the presidium of the Great Khural, G. Bumatsende. Chairmen of the council of ministers in 1952: Khorloghiyin Choibalsan (*see* OBITUARIES) and, from May 27, Yumzhaghiyin Tsedenbal.

History. The year was marked by the death on Jan. 26 of Marshal Choibalsan, the prime minister and commander-in-chief, who died from cancer in Moscow, his body was escorted to Ulan Bator by a delegation of the Soviet government headed by M. P. Tarasov, chairman of the presidium of the Russian Soviet Federated Socialist Republic, and by Marshal S. M. Budenny. The burial on Feb. 9 was attended by a Chinese delegation headed by the acting chief of staff.

In Choibalsan the Kremlin had lost a faithful friend not easy to replace. Although the Mongolian Great Khural (parliament) met from Feb. 28 to March 1 for its second session no successor was appointed. In an address to Marshal Stalin the Great Khural assured their "dear father and wise teacher" that the Mongolian people, firmly following the road traced by their leaders Sukhe-Bator and Choibalsan, would continue to strengthen and develop the Soviet-Mongolian brotherhood and would always remain faithful to the great Soviet Union. Not until May 27 did the presidium of the Great Khural appoint as premier Yumzhaghiyin Tsedenbal, who had been secretary-general of the Mongolian People's Revolutionary (Communist) party since Sept. 1945 and deputy premier from Dec. 1948. Lieut.-General Zhanchiv, minister of national defence, was appointed commander-in-chief.

On July 11 customary celebrations marked the 31st anniversary of the proclamation of independence. The journals *Unen* and *Khudulmur* published articles summarizing the government's achievements. No figures were given about the state of livestock breeding, the basis of the national economy, but it was claimed that by 1952 the value of industrial production was 185% higher than in 1942. The main industrial enterprises were the Choibalsan Combined Industrial plant at Ulan Bator, the Stalin meat canning plant, the Khatkhyl wool cleansing plant, the Nalaikha coal mines, the Chonogol iron ore mine and a motor car repair plant.

On the occasion of the 1952 *Nadom*, or national day, the first Mongolian opera was produced at the Ulan Bator National theatre. Entitled *Zhargalyn Zam* (The Road to Happiness), it was the the work of the librettists Chimit and Oidub and the composer Damdinsurun.

On his arrival in Moscow on Aug. 28 Tsedenbal was greeted at the airport not only by A. I. Mikoyan, a deputy premier, and A. Y. Vyshinsky, minister of foreign affairs, but also by Chou En-lai, the Chinese premier and minister of foreign affairs, who was visiting the Soviet capital. Tsedenbal was received by Stalin on Sept. 5 and left Moscow on Sept. 23. Four days later he reported on his Moscow talks to the council of ministers at Ulan Bator. It is believed that the construction of a new direct railway link between Irkutsk and Peking through Ulan Bator was decided upon.

On Sept. 28 Tsedenbal arrived in Peking accompanied by M. Lhamsurun and B. Shirendyb, the ministers of foreign affairs and education. The Mongolian delegation was greeted at the airfield by Chou En-lai and the following day was received by Mao Tse-tung. On Oct. 4 a Chinese-Mongolian agreement for economic and cultural co-operation was signed in the presence of Mao who afterwards gave a banquet in honour of Tsedenbal. This was the first official visit by a Mongolian premier to China which had not recognized Mongolian independence until Aug. 14, 1945. That recognition, obtained from Nationalist China, was a Soviet diplomatic victory. Communist China had, therefore, no choice but to establish normal diplomatic relations with a republic which was formerly known as Chinese Outer Mongolia. In 1951, however, the largest part of Inner Mongolia was formed into the first national autonomous region of the Chinese People's republic: it comprised the lands that were formerly part of Heilungkiang, Liaohsi, Jehol and Chahar provinces and it covered a total of 231,000 sq.mi. with an estimated population of 2·4 million.

Education. Schools (1952). elementary and secondary 400; technical 14. Further education at a teachers' training college and the university college of Ulan Bator. Literacy 1947, 42·5%, 1952, nearly 90%.

Finance. Budget (1952 est.) revenue T. 380,495,500, expenditure T 374,040,300. Monetary unit *tugrik*, at par with the rouble.

(K. M. S.)

MONTSERRAT: *see* LEEWARD ISLANDS.

MONUMENTS AND MEMORIALS. On May 15, 1952, at a meeting in the Mansion house, London, the archbishop of Canterbury moved a resolution to establish a national memorial to King George VI to take the form of a statue "in some noble setting" in London and of a permanent foundation, named after the king, for "the spiritual, mental and physical needs of young and old." The lord mayor of London launched a national appeal fund, subscriptions to which amounted, by the end of 1952, to £950,000. On April 20 a priest's carved oak stall to commemorate the reign of George VI was unveiled at Flitcham parish church on the Sandringham estate, Norfolk.

On Dec. 7 a chalice was dedicated at St. Matthew's, Moorfields, Bristol, to the memory of Sir Stafford Cripps (1889-1952), Labour M.P. for Bristol East, 1931-50, and chancellor of the exchequer, 1947-50. The archbishop of Canterbury dedicated a window in Westminister hall on Nov. 13 to the memory of members and servants of both houses of parliament who died during World War II.

On April 15, the 500th anniversary of the birth of Leonardo da Vinci, the house traditionally held to be Leonardo's birthplace, at Anchiano, near Vinci, was inaugurated as a permanent memorial. A monument erected by the Historic Sites and Monuments board of Canada to commemorate the first non-stop Atlantic flight by John Alcock and Arthur Whitten Brown on June 14-15, 1919, was unveiled on Nov. 26 in St. John's, Newfoundland. It was announced in October that the George Bernard Shaw Memorial appeal for £250,000 would be discontinued: less than £1,000 had been subscribed. A plaque was fixed to 6, Morton place, Lambeth, to record that Emma Cons (1837-1912) and Lilian Baylis (1874-1937), founders of the Old Vic theatre, had lived there. A plaque was unveiled on Feb. 14 at the Church of St. Martin's-in-the-Fields, London, to John Hunter (1728-93), the first to practise scientific surgery, whose body had been buried there



The Netherlands minister of defence lays a wreath after the unveiling of a war memorial at Flushing on May 31.

from 1793 until 1859 when it was re-interred in Westminster abbey; and in June a plaque to his elder brother, the anatomist William Hunter (1718-83), was unveiled at the Lyric theatre, Shaftesbury avenue, London.

On Oct. 15 the Duke of Edinburgh unveiled the 1939-45 extension to the Chatham division naval memorial at Gillingham, Kent. The queen mother unveiled a memorial to British and Allied commandos on Sept. 27 at Achnacarry, Spean Bridge, Inverness-shire; and a memorial to no. 4 Commando and to those citizens of the town who died during its liberation in Nov. 1944 was unveiled at Flushing on May 31. At Athens, on April 25, the king of Greece unveiled a memorial to British and Commonwealth troops who died in Greece during World War II. On Nov. 30 Theodor Heuss, president of the German Federal Republic, dedicated a memorial at Belsen, Germany, to the 22,500 victims of the Nazi concentration camp. A memorial to the men of the 43rd (Wessex) division who died during World War II was unveiled at Crewkerne, Somerset, and a memorial to the men of the 53rd Welsh Infantry division was unveiled at 's Hertogenbosch, Netherlands. The memorial chapel of the Royal Air Force college, Cranwell, Berkshire, was dedicated by the bishop of Lincoln on June 22.

See London County Council, *Commemorative Plaques* (London, 1952).

MOROCCO. Sultanate of northwest Africa, with both Mediterranean and Atlantic coastlines, divided into French protectorate (to which the historical and statistical sections below refer), Spanish protectorate (*see* SPANISH COLONIAL EMPIRE) and international zone of Tangier (*q.v.*). Area and populations:

	Area (sq.mi.)	*Population* (1947 est.)
French protectorate	153,870	8,225,000*
Spanish protectorate	17,631	1,132,000
Places of Spanish sovereignty†	823	210,000
Tangier	232	104,000
Total	172,556	9,701,000

* Census. † Alhucemas, Ceuta, Chafarinas, Melilla, Peñón de Veles and the Ifni territory (741 sq.mi.).

French protectorate pop. (1949 est.): 9,200,000, mostly Arabs and Berbers who are Moslem and speak Arabic (64%) or Berber (22%) or are bilingual (14%); Europeans (1947 census) 325,000 incl. 266,133 French; Jews 225,000. Chief towns (pop. 1947 census): Rabat (cap., 161,416); Casablanca (551,222); Marrakesh (238,277); Fez (200,946); Meknès (159,811). Ruler, Sultan Mohammed ben Yussef; grand vizier, Hadj Mohammed el-Mokri; French resident-general, General Augustin Guillaume.

History. On March 14, 1952, the sultan asked the French government to revise the protectorate statute, to set up a new Moroccan government in order that the appropriate negotiations could be pursued, and to grant certain freedoms (notably to form trade unions). The French government's answer (Sept. 17) was to suggest that the political transformation should begin with fundamental democratic reforms: councils elected in the rural areas and Franco-Moroccan commissions in the urban communities having European residents. In October the sultan made the dispute public by announcing that the French proposals would lead to a division of sovereignty in Morocco. The Quai d'Orsay rejected this interpretation. In the council of government the three electoral colleges assured the resident-general of their desire to co-operate. The Arab states and certain Asiatic governments made further complaints to the United Nations about the Moroccan situation, but the French government denied the right of this organization to interfere. (*See* FRENCH UNION.)

In a speech delivered on Nov. 18, on the 25th anniversary of his accession, the sultan reviewed Franco-Moroccan relations and declared that although the protectorate had produced tangible results in the economic field, it had not adapted itself in the social and political fields to the spirit of the new age. He had presented to the French government two memoranda in 1950 and a third on March 14, 1952, suggesting the establishment of Franco-Moroccan relations on the basis of a new agreement, but the French government's reply of Sept. 17 had proposed a plan of reforms involving the participation of Frenchmen and of French authorities in the exercise of Moroccan sovereignty. Disagreement had thus become deeper. "Nevertheless," the sultan went on, "our desire to restore Moroccan sovereignty and to allow our own people to manage their own affairs is not incompatible with Franco-Moroccan friendship."

Violent anti-European rioting occurred in Casablanca on Dec. 7-8 after an appeal by the Moroccan section of the Communist-led trade union organization and the Istiqlal (the Moroccan Nationalist party) for a 24-hr. strike in protest against the murder of Ferhat Hashed (*see* TUNISIA). About 50 people were killed, including 8 Europeans; and 6 Europeans, 4 policemen and at least 84 rioters were wounded. As a result, the French resident-general, on Dec. 11, prohibited all activities of the Istiqlal and Moroccan Communist party and, three days later, banned four Nationalist newspapers. Istiqlal and Communist leaders (among them three Soviet citizens) were arrested and deported.

On Aug. 27, the International Court of Justice at The Hague, in judgment on a dispute between France and the United States, ruled that the maintenance of control over U.S. imports, while French imports were exempt, was illegal and further that account was to be taken of the value of imports in their country of origin as well as the value in Morocco. On the other hand it decided that U.S. citizens should be subject to local law except where their consuls had jurisdiction.

The building of air bases for the U.S. went on, at Nouaçeur (near Casablanca), at Boulhaut, at Sidi Sliman and at Ben Guerir.

The four-year plan, of which France was to pay half the cost, envisaged considerable undertakings: the development of mineral and food resources and of housing as well as health

and educational projects. The over-development of the oil and preserved-food industries was followed by a slowing-down of investments. Tourist traffic brought the country Fr. 16,000 million (including Fr. 13,000 million from French visitors). The harvest was good, and it was possible to increase the budget without further taxation, as surplus revenue alone was enough.

Education (1951) Pupils 250,000 (including 75,000 Europeans).

Industry. Production (1951, '000 metric tons) phosphates 4,200, iron 500, manganese 333, lead 81, coal 393, crude oil 75, cement 376, fish 83 Electricity 600 million kwh

Finance and Banking (1951). Note-circulation Fr. 41 million Bank deposits Fr 90 million Monetary unit Moroccan franc = metropolitan franc

Foreign Trade (1951, million francs) Imports 159,000 (incl 101,000 from the French Union and 13,000 from the U S), exports 86,000 (incl 45,000 to the French Union and 12,000 to Great Britain), mainly phosphates (16,877), cereals (10,800), preserved fish (7,500), manganese (3,900), citrus fruits (3,600), lead (2,800)

Transport and Communications (1951) Motor vehicles 63,500. Cargo handled (port of Casablanca) 7,800,000 metric tons

See H Cambon, *Histoire du Maroc* (Paris, 1952), R Montagne, *Naissance du proletariat marocain* (Paris, 1952). (HU. DE.)

MOSCOW. Capital of the Union of Soviet Socialist Republics and of the Russian Soviet Federated Socialist Republic and probably the third largest city of the world. Area (1939): 110·1 sq.mi. Pop.: (1939 census) 4,137,018; (1950 est.) 7,000,000.

Among the public buildings completed during the year were the Moscow State university in the Lenin hills, with accommodation for 6,000 students; 27 schools of standard pattern, each planned for 880 pupils; and the Sovietskaya hotel, the first guests in which were delegates to the Economic conference in April. A 32-storey block of 700 family flats overlooking the Moskva river was the biggest to be completed during the year. Even so, building failed to keep pace with the demand for homes, and Moscow newspapers were outspokenly critical of out-of-date building methods. Four handsome new stations on the Metro, Moscow's underground railway, brought the total length up to 35 mi. and the number of stations to 39. It was uncertain whether the plan to build 700 new retail shops during the year was fulfilled, but many were opened, notably in Gorki street and other thoroughfares running off this main shopping centre. A giant statue of Gogol was unveiled in Arbat square on the centenary of the novelist's death in March.

A long-term programme for beautifying the city provided for the planting during 1952 of about 250,000 trees and 1,500,000 shrubs: the effect was most notable in the gardens of the new State university and the new schools, at the Stalin motor works, the Kirov dynamo works and the Byelorussia railway station. The opening of the Volga-Don canal intensified Moscow's importance as an inland port: loading installations at the Moscow lake were increased, as was the volume of passenger traffic.

During the year the staff of the British embassy was reduced, for economy's sake; the official exchange rate of 11 2 roubles to the pound sterling continuing to make life for foreigners almost prohibitively expensive. The U.S. embassy moved from the building in Mokhovaya street, which had been its home since diplomatic relations were established in 1933, on the expiration of the lease on Dec. 31. New travel restrictions imposed on foreigners during the year affected chiefly the staff of diplomatic missions, and reduced the radius of unsupervised travel from Moscow from some 30 to 25 mi.

The year 1952 will be remembered by Muscovites and foreign residents for at least one thing: temperatures during March fell as low as 28° C. below zero (18° below zero F.), the lowest for a century even in a city noted for its extremes of heat and cold. (C. RY.)

MOSSADEGH, MOHAMMAD, Persian statesman (b. Tehran, 1880 [?]), the son of Mirza Hedayat, for 30 years minister of finance, served his apprenticeship as financial agent in the province of Khurasan. He soon opposed Mohammed Ali, the last shah of the Kajar dynasty, had to leave the country and studied in Paris and later at the University of Neuchâtel, Switzerland, where in 1914 he received his degree of doctor of laws. After his return to Persia he was for a short period minister of justice (1920), of finance (1921) and of foreign affairs (1922), but was not popular with Persian officialdom because he insisted on cutting salaries and dismissing useless office-holders. During 1923-27 he was member of the Majlis for Tehran, but had to retire from public life because of his opposition to Riza Khan Pahlavi who in Dec. 1925 was proclaimed new shah of Persia, with right of succession to his heirs. Mossadegh returned to politics in 1944, was elected to the Majlis and put through a bill forbidding the government to grant an oil concession to anyone without legislative permission. As leader of the small National Front party (with 8 seats out of 136) he succeeded in persuading the Majlis to reject on Nov. 26, 1950, the supplementary oil agreement signed by the government with the Anglo-Iranian Oil company. On March 15, 1951, mainly under his pressure, the Majlis passed the Oil Nationalization act. On April 28 Mossadegh was elected prime minister with the purpose of enforcing the act. On Oct. 8 he arrived at New York to present Persia's case before the U.N. Security council. On Oct. 23 he visited President Harry S. Truman in Washington and remained for a week in the U.S. capital. On June 9, 1952, he personally asked the International Court of Justice at The Hague to declare the A.I.O.C. dispute outside its jurisdiction. He resigned on July 16 but returned to power six days later.

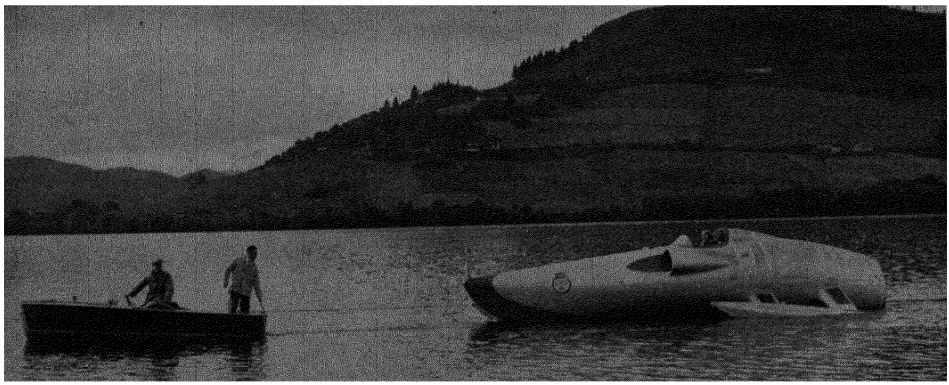
MOTION PICTURES: *see* CINEMA.

MOTOR-BOAT RACING. The outstanding event of 1952 was John Cobb's attack on the world unlimited water speed record, which had been raised to 178 49 m.p.h. on July 7 by Stanley Sayres's U.S. boat "Slo-Mo-Shun IV". Cobb's boat was "Crusader", a jet-driven three-point hydroplane designed and built by Vosper, Ltd., to ideas suggested by Reid Railton, and driven by a De Havilland Ghost engine having a static thrust of 5,000 lb.

On Sept. 19 Cobb made his first attempt, over a measured mile on Loch Ness, Scotland, in not very favourable conditions. He achieved a mean speed of 173·14 m.p.h. Cobb's second attempt was made on Sept. 29, over the same course. Running north-south, he entered the mile at a speed estimated at 240 m.p.h., planing perfectly. But before reaching the end of the mile "Crusader" began to pitch (some witnesses observed a series of small waves across her path), slowed down, and immediately after completing the mile run dug her bow in and suddenly disintegrated. Cobb was flung out and killed. His speed over this single mile run was certified as 206 89 statute miles per hour, so that, although he did not live to break the record, he was the first to cover a mile on water at over 200 m.p h.

During the year motor-boat racing, particularly outboard racing, continued to increase in popularity on the continent of Europe and in England. On July 26, at a meeting run by the British Outboard Racing club on Ruislip lido and televised by the B.B.C., Alan Darby, of the Lowestoft and Oulton Broad Motor Boat club, won the *Motor Boat and Yachting* trophy for outboard hydroplanes. (F. H. S.)

MOTOR CYCLE AND CYCLE INDUSTRY. During 1952, the British motor cycle and cycle industry remained the predominant producer of two-wheeled machines



John Cobb in the cockpit of "Crusader" in which he was killed making an attempt on the world water speed record on Loch Ness on Sept. 29.

and of parts, accessories and tyres for them. Production of motor cycles was 175,000 machines and bicycle production touched the 4 million mark. These figures were about the same as those for 1951. By the end of Oct. 1952 the number and value of motor cycles which had been sent overseas were, respectively, 62,522 and £7,053,190—both lower totals than for the first 10 months of 1951. Cycle export total and value for the 10 months rose substantially to 2,365,922 and £20,031,780 respectively. Export earnings of the industry during 1952 totalled £45 million. Of this about £10 million was for parts and fittings.

Malaya displaced India as the most important market for British bicycles. Brazil was third. Exports of bicycles to dollar markets remained a noteworthy feature of 1952 trading. The United States, for example, took 34,512 bicycles in Oct. 1952—a new monthly record.

Exports of motor cycles to Australia—the most important market in 1951—were greatly reduced by Australian import restrictions. Monthly exports became less than one-fifth of the comparable 1951 totals. An announcement from Australia of a doubled quota, to 40% from 20%, during November, gave a little more encouragement to British motor cycle makers.

A hopeful development in the autumn of 1952 was the rejection by the U.S. Tariff commission of a claim by U.S. makers of motor cycles and bicycles for an increased tariff against imports from Europe. British lightweight bicycles, especially, had become favourites with the young people of the United States.

Limited imports into Britain from Germany, France and Italy did not materially effect the business of British cycle and fittings makers, but there was, however, in the far east an increase in competition from ex-enemy countries. Prewar Japanese policy of using trade-marks that could be taken for British ones was revived in Asia. A warning of this practice was given in November by the British cycle manufacturers.

Home prices of complete motor cycles and bicycles remained stable during 1952. Supplies, especially of bicycles, were more plentiful than at any time since the end of World War II. Business in new bicycles slackened for part of the year and conditions became more competitive. While two-stroke motor cycles of up to 200 c.c. retained their popularity, the introduction late in the year of new 150-c.c. four-strokes provided a further striking example of how the low-powered machine was gaining ground. At the time of the greatest use—during midsummer—the number of motor cycles registered was nearly 900,000. Highest prewar peak was 1929, with 732,000 in use. Use of auxiliary-engined bicycles continued to expand. The number on the roads at the end of Nov. 1952 was estimated at 150,000. The number of makes available numbered 11, divided into friction-, belt- and chain-driven models. The Power Wheel—a rotary-engined unit of 40 c.c.—was not yet on the market at the end of 1952.

Both the steel and finishing positions were better in 1952 than in 1951, although restrictions still applied to the use of chromium-plating on certain motor cycle parts. Comfort and road-holding qualities were again the features of motor cycle improvements. Virtually all models were available with telescopic front- and rear-springing. Cycle design kept to its traditional forms, with the postwar trend towards more attractive coloured finishes maintained.

The fourth postwar London Cycle and Motor Cycle show was again held at Earls Court in mid-November. There were over 160 exhibitors and in its seven days the show attracted 183,082 visitors, the second highest total on record. Price sensation was the introduction of a bicycle to sell at £11 19*s.* 6*d.* including purchase tax—the lowest postwar figure for an adult machine. Several companies introduced coronation models for 1953. (H. BFE.)

MOTOR CYCLING. The 1952 international six days trial was won by Czechoslovakia, in Austria, Sept. 18-23. Czechoslovakia also won the secondary Silver vase competition. The Maudes trophy, for an outstanding achievement by a manufacturer, was awarded to B.S.A. following an observed test run by B. W. Martin, F. M. Rist and N. E. Vanhouse, who covered 5,000 mi. in ten European countries.

In the world road racing championships the British Norton factory won the 350 c.c. solo title and the 500 c.c. sidecar title. The Italian M.V.-Agusta, Moto-Guzzi and Gilera factories won the 125 c.c., 250 c.c. and 500 c.c. solo classes. The individual champions were: 125 c.c., C. C. Sandford; 250 c.c., E. Lorenzetti; 350 c.c., G. E. Duke (second year running); 500 c.c., U. Masetti; 500 c.c. sidecar, C. Smith. The Isle of Man T.T. and the grands prix of Belgium, Germany, Holland, Italy, Spain, Switzerland and Ulster comprised the championship series; the fastest was the Belgian grand prix, won by Masetti (107·13 m.p.h.).

Winners of the international classes in the Isle of Man T.T. races were: 125 c.c., C. C. Sandford; 250 c.c., F. Anderson; 350 c.c., G. E. Duke; 500 c.c., H. R. Armstrong. Duke's 1951 record for the 37·75-mi. lap of 93·83 m.p.h.

remained unbeaten. Also unbeaten were the 180 m.p.h. solo and 154 m.p.h. sidecar " world's fastest " records set up by W. Herz and H. Bohm (Germany) in Oct. 1951.

The U.S. national racing championship at Daytona beach, Florida, was won by R. Klamfoth on a British Norton.

(C. Q.)

MOTOR INDUSTRY. The year 1952 was a critical one for the world's motor industries. The rapid expansion of world output which had been a yearly feature since the end of World War II gave way to a sharp decline, while international competition increased.

From 1942 to 1951 the number of motor vehicles in the the world had increased by 60%. Buses and commercial vehicles had doubled in number and passenger cars had increased by 50%. Towards the end of the decade, however, the rate of increase declined. In 1949 and 1950 total registrations in all countries increased by about 10% but in 1951 the increase fell to 6%. In 1952 the rate of increase again dropped sharply to about 3%, mainly due to the fact that the rate in the United States, where 70% of the world's motor vehicles are registered, fell to about 2·7%.

A sharp cut in the United States' annual output was also responsible for a smaller world total in 1952 despite some increases in other countries. About four-fifths of the cars and two-thirds of the buses and lorries made outside the Soviet bloc are products of the United States' industry. Almost the whole of the remainder are made in the United Kingdom, France, Italy, the German Federal Republic and Canada. In 1952 U.S. output of passenger cars was limited to about 4·5 million units, or 800,000 less than in 1951. In the United Kingdom, total output of passenger cars was running at the rate of 432,000 units a year, as compared with 476,000 in 1951. In France, by contrast, output increased to about 380,000 as compared with 320,000 in 1951, and German and Italian output was also increased.

Despite increasing competition the British motor industry retained its position as the world's largest exporter and as the United Kingdom's leading export industry. About 80% of total output was exported in 1952 and, although the number of vehicles sold overseas declined, total earnings of foreign currency were greater than in 1951 owing to higher prices. The number of passenger cars exported fell to about 312,000 from 369,000 in 1951 but their value was about £120 million as compared with about £100 million in 1951.

The pattern of exports, as revealed by the 1951 figures, showed that about 14% of the free world's motor vehicle output entered into international trade. Of this total slightly more than one quarter each went to Europe and Latin America and a third quarter went to Asia and Africa. Nearly one-fifth were sold in Australia and New Zealand and about 5% went to Canada and the United States.

In these main market groups the United Kingdom supplied a high proportion of Commonwealth requirements, the United States dominated Latin America and Asia outside the Commonwealth and France was the main exporter to French countries overseas. In Europe, there was intense competition between the United Kingdom, France, Italy and Germany.

The United Kingdom's industry suffered a serious setback from the import restrictions introduced by Australia, New Zealand and South Africa during 1952. At the same time German competition became increasingly felt in traditional British markets and the announcement of a subsidy to assist



New British cars. (1) Wolseley Four Forty-Four. (2) Rover experimental gas turbine car which in June 1952 established speed records in Belgium. (3) Humber Super Snipe. (4) The Austin Healey 100. (5) Triumph sports car. (6) Armstrong Siddeley Sapphire.

French car exporters promised growing competition from that quarter.

British manufacturers intensified their sales campaigns, especially in dollar markets. Some groups of manufacturers were able to claim expanding overseas sales but on balance export conditions were becoming increasingly difficult

In these conditions British manufacturers turned their attention towards the home market. The government, too, relaxed its original limit of 80,000 cars to be sold in the home market during 1952 and the final figure was expected to be around 140,000, as compared with 110,000 in 1951. At the end of October, Duncan Sandys, minister of supply, told the House of Commons that "a somewhat larger proportion of the industry's output may, for the time being, have to be sold on the home market."

Parallel with these developments the price of secondhand cars slumped from mid-summer onwards and covenant restrictions on the resale of new cars were progressively removed on almost all models costing more than £1,000. The possibility of more cars for home use aroused public interest. Attendance at the autumn Motor show increased by 70,000 to 463,000 and dealers reported long order-lists for the cheaper ranges of cars.

Setbacks in overseas markets were mainly responsible for the industry's failure to utilize potential capacity to the full. Most manufacturers were operating at 60% to 70% of capacity in the autumn. Increased steel allocations promised to assist this situation, but the high price of steel and other materials obstructed any substantial price reductions. Management and labour alike were for this reason becoming apprehensive about the future of demand.

Early in October a conference of Labour members of parliament and trade union officials viewed with alarm "the increase in unemployment, redundancy and short-time working in the industry," and urged a reduction in the price of steel and reconsideration of the effect of purchase tax on home sales of motor cars. A few weeks later, at a Motor show dinner, A. P. Lord, deputy chairman and managing director of the British Motor corporation, said: "If we do not want the spectre of unemployment to stalk the country we must get rid of the covenants and declarations" and went on to say that the industry could not maintain its sales unless purchase tax was reduced.

There was also evidence that the industry was becoming increasingly concerned with the efficiency of its own management and particularly with production costs. The merger of the former Nuffield and Austin interests into the new British Motor corporation was still too recent an event for the full consequences to be judged It was, however, becoming clear that economies could be effected by standardization of many components, although the constituent companies would continue to have differing body styles and to have the maximum managerial freedom possible within the group.

A partial answer to the problem of redundant capacity was found in an arrangement concluded between two British firms, the Austin Motor company and Fisher and Ludlow, and the American Nash Motors organization to manufacture a light sports car in the United Kingdom for sale in North America This car was planned to achieve production economies by using a standard Austin engine and the projected price was less than $1,000.

A new training plan for management was outlined by Stanley S. Dawes in his presidential address to the Institute of the Motor Industry in September. Starting in Sept. 1953, a number of students, rising eventually to 300 a year, were to be given a three-year course of training for the retail side of the industry. Costs would be about those of a university undergraduate course, and successful students would receive a diploma which the industry would be asked to recognize.

No fundamental changes in the design of British cars appeared during 1952, although all leading makers introduced improved models at the October show British gas-turbine cars, first demonstrated by the Rover company in 1951, were still in the development stage. The first French gas-turbine car was shown at the Salon de l'Automobile in Paris in October. This car was specially prepared for the show and had not run although road tests had been made with a similar car. The makers had no intention of producing a turbine car for sale, but were developing the engine for commercial vehicles.

The Salon de l'Automobile again emphasized continental concentration on light, non-luxury vehicles and this was borne out by the nature of French production. In the first half of 1952, for example, the French industry produced 30% more cars of 5-12 horse power, continental rating, than in the first half of 1951 and 20% less cars of more than 12 h.p. The Italian industry was represented in Paris by a new Fiat incorporating a five-speed gear box and German manufacturers were particularly competitive in lorries and buses.

With the exception of the B.R.M., which failed to fulfil the hopes of its sponsors, British cars were successful in international sporting events. An Allard saloon won the Monte Carlo rally and was the first British car to do so since 1931. For the third year in succession a Jowett won the 1,500 c.c. class in the Le Mans 24-hr. race and in the Alpine rally a team of three Sunbeam-Talbots won Alpine cups and the team prize. In July a privately owned Jaguar won the 224-mi race on the Rheims circuit at an average speed of 98·18 m.p.h. and in October a Morris Minor achieved a

TABLE I. U K EXPORT DESTINATIONS AND NUMBERS OF CARS AND TAXIS (NEW), 11 MONTHS ENDED NOV 1952

Commonwealth and Irish Republic		*Foreign Countries*	
Australia	29,843	Belgium	12,793
New Zealand	23,840	Brazil	7,601
Africa, Brit E	3,573	Denmark	4,188
Africa, Brit W.	3,705	Finland	6,088
S. Rhodesia	3,693	France	2,270
South Africa	17,602	Germany	2,172
Brit W. Indies	3,613	Indonesia	2,603
Canada	20,832	Netherlands	7,041
Ceylon	4,208	Norway	3,116
Hong Kong	1,497	Portugal	2,529
India	6,136	Sweden	13,032
Malaya	9,850	Switzerland	3,007
Pakistan	1,194	Turkey	1,365
Other	7,730	U.S A	28,705
Irish Republic	9,318	Other	17,338
Total	146,634	Total	113,848

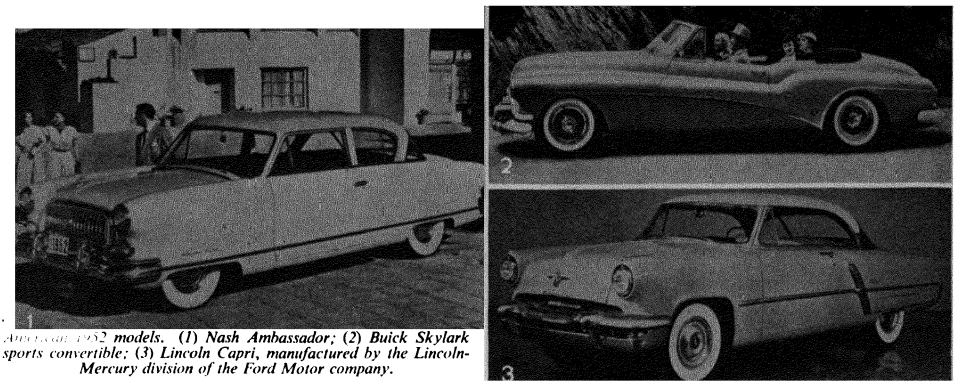
The number of car and taxi chassis exported to the Commonwealth and Irish Republic in the 11 months ended Nov 1952 was 28,142 and the number exported to foreign countries in the same period was 3,614, making a total of 31,756.

SOURCE Based on a table published in the *Monthly Statistical Review* of the Society of Motor Manufacturers and Traders and reproduced by permission

TABLE II U K EXPORT DESTINATIONS AND NUMBERS OF COMMERCIAL VEHICLES (NEW), 11 MONTHS ENDED NOV 1952

Commonwealth and Irish Republic	Complete	Chassis	*Foreign Countries*	Complete	Chassis
Africa, Brit E	2,303	2,164	Belgium	2,556	2,833
Africa, Brit W	1,905	4,958	Brazil	2,280	1,211
S Rhodesia	1,427	605	Denmark	2,027	5,063
South Africa	1,282	4,251	Finland	1,885	2,694
Australia	6,692	9,946	Netherlands	1,186	1,537
Brit W Indies	701	625	Portugal	889	1,186
Canada	1,458	7	Spain	481	857
India	347	1,582	Sweden	1,828	1,762
Malaya	2,290	1,717	Turkey	998	3,998
New Zealand	3,668	4,468	Colombia	440	—
Pakistan	418	589	U S A	446	-
Other	3,581	3,304	Venezuela	554	—
Irish Republic	2,325	763	Other	13,870	5,891
Total	28,397	34,979	Total	29,440	27,032

SOURCE Based on a table published in the *Monthly Statistical Review* of the Society of Motor Manufacturers and Traders and reproduced by permission



American 1952 models. (1) Nash Ambassador; (2) Buick Skylark sports convertible; (3) Lincoln Capri, manufactured by the Lincoln-Mercury division of the Ford Motor company.

10,000-mi. non-stop run on the Goodwood Motor circuit. These successes were doubly welcome to the British industry at a time when the most clearly discernible promise of the future was still more intense international competition.

(W. HAN.)

United States. Many factors hindered production in the motor industry during 1952, the longest stoppage being caused by the nation-wide steel strike in June and July. By October, a total of 3,531,257 cars and 971,120 commercial vehicles had been manufactured, or 24% fewer than in the same period of 1951. In 1951 the industry turned out 6,765,263 cars and lorries. This figure represented 72% of the total world output for that year. The United States exported 478,000 vehicles, while importing 24,413.

The job of stepping up defence production while maintaining a profitable level of civilian output was continued in 1952. Several companies devoted as much as 60% of their work to defence, turning out, in addition to aircraft and parts, tanks and tank cannon, tactical trucks, shells and many other military items.

Shortage of materials was the greatest production problem of the industry. Copper and steel headed the list of scarce materials, with aluminium running a close second. Early in the year, the Defence Production administration (D.P.A.) somewhat alleviated the aluminium situation by allocating an additional 1 million lb. of that metal to the industry out of government reserves. Even with the new stock of aluminium, it was still the supply of materials that set the pace for production rather than the quarterly production quotas decreed by the National Production authority (N.P.A.). Though the second quarter quota of motor cars was pegged at 1,050,000, the producers would have been able to turn out only 800,000, had they put as much copper into each automobile as they had previously done. However, by stretching out their existing supply by substitution and design changes, the car makers produced nearly 1 million cars during the second quarter.

It was announced that air-conditioners would be available as optional equipment on at least three 1953 cars. Power steering, found on only one 1951 automobile, had its use extended to five 1952 cars. Brought out in 1951, power braking was available on two models in 1952. Automatic transmissions were introduced on one line of delivery vehicles.

Prices on new cars climbed in 1952, but taxes rose even higher. By mid-year, it was estimated that of $2,000 paid for a new automobile, $650, or about a third, went into taxes.

The possibilities of mass producing an American sports car were investigated by two manufacturers, the Packard Motor Car company and Buick Motor Division. Both companies showed their versions. While immediate production was not scheduled for either model, the producers exhibited the sports cars to test public reaction and to determine the possible extent of the market for such an automobile.

(C. F. KE.)

MOTOR RACING. In the absence of serious official competition from manufacturers, the Italian Ferrari team dominated the European classics during 1952, and without difficulty captured the world championship. Alberto Ascari was the champion driver.

The majority of race promoters adopted formula 2 (2 litre unsupercharged and 500 c.c. supercharged) for their Grand Prix events, and the French employed eight such races, with invited drivers and cars, to decide their new championship. Apart from the race at Marseilles, where Robert Manzon, in the new 2-litre Gordoni, gained second place, and later at Rheims, where Jean Behra's Gordoni won at 105·33 m.p.h., the carefully prepared Ferraris had it much their own way throughout the season.

The first *grande épreuve*, the Swiss Grand Prix held on Bremgarten Forest course, gave Piero Taruffi a convincing Ferrari victory at 92·78 m.p.h., and then in the European Grand Prix at Francorchamps, near Spa, Belgium, Ascari covered the 315 mi. at an average speed of 103·13 m.p.h.

Ascari went on to win the fifth British Grand Prix, held over a 250-mi. course at Silverstone, at 90·92 m.p.h. with team-mate Taruffi second and J. M. Hawthorn, aged 23, a new British discovery, third in a Cooper-Bristol. There were further Ferrari victories in the German Grand Prix and the Dutch Grand Prix with Ascari leading on each occasion, and it was not until the Italian Grand Prix at Monza was reached late in the year that they were seriously challenged. Ascari won at 109·8 m.p.h. but Froilan Gonzalez, in a Maserati, split the Ferrari ranks to gain second place and share with the winner the honour of the fastest lap of 111·77 m.p.h.

The British Automobile Racing club staged several international race meetings on the Goodwood circuit. At the Easter meeting Hawthorn, in his 2-litre Cooper-Bristol, won two of the major events at 85·43 m.p.h. and 83·18 m.p.h. respectively. The September meeting was notable for the hitherto disappointing 1½-litre supercharged B.R.M.s gaining the first three places in a 36-mi. race and for one of their drivers, Reginald Parnell, establishing a new lap-record of 90·38 m.p.h. A 9-hr. race involving night-driving for the first time in Britain was won by Peter Collins and P. W. C. Griffith who, in a 2½-litre Aston Martin, covered 283 laps at an average speed of 75·42 m.p.h.

The British Racing Drivers' club undertook the control of the Silverstone circuit where a 103-mi. international formula 2 race was won by Lance Macklin (H.W.M.) at 85·41 m.p.h.

Great improvements were carried out to the airfield circuit at Boreham, near Chelmsford. A 200-mi. international *formula libre* race there was won by Luigi Villoresi's Ferrari at 82·83 m.p.h. and Hawthorn's Cooper-Bristol won a formula 2 event over the same distance at 82·21 m.p.h. In the International Ulster Trophy race on the Drundrod circuit, also *formula libre*, Taruffi won in the 4½-litre Ferrari Thin Wall Special at 81·43 m.p.h.

There was increased interest in 500 c.c. racing, and lap-speeds at Brands Hatch, in Kent, where regular meetings were held, exceeded 73 m.p.h.

Felice Bonetto, driving a 2-litre Lancia Aurelia, won the famous Targa Florio race round Sicily at an average speed of 49·7 m.p.h., while in the Mille Miglia race in Italy Giovanni Bracco, in a 2·6-litre Ferrari, headed the general classification by averaging 79·9 m.p.h.

The Monte Carlo Grand Prix was devoted to two days of sports-car racing, the winners being Manzon (Gordoni) at 57·12 m.p.h. and Count Vittorio Marzotto (Ferrari) at 58·2 m.p.h.

The 36th Indianapolis 500-mi. race was won at a record speed of 128·922 m.p.h. by Troy Ruttman, driving a 4-cylinder Agajanian Special, while the best performance in the Le Mans 24-hr. race went to Herman Lang and F. Reiss, whose 2·9-litre Mercedes-Benz covered 2,320 mi. at an average speed of 96·67 m.p.h.

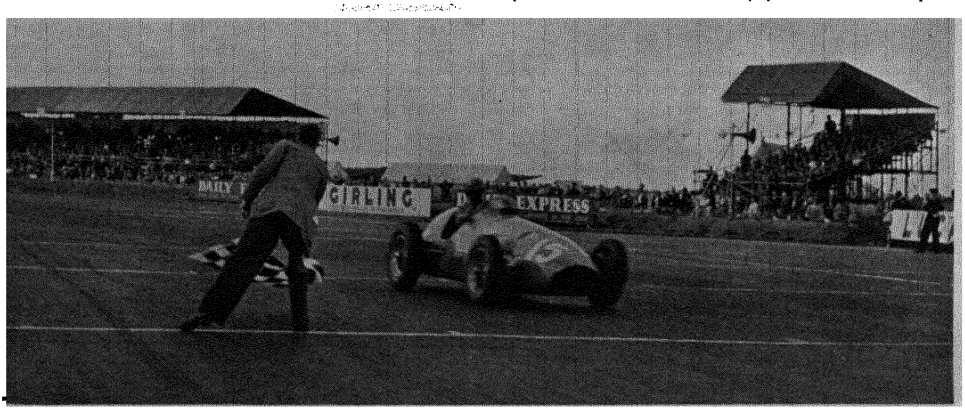
Britain had its first success for 21 years in the Monte Carlo rally when the outright winner was Sidney Allard in a car of his own manufacture. Stirling Moss, in a Sunbeam Talbot, was second. There were five British cars in the first six places. Class winners in the International Rally of Great Britain were G. Imhof (Allard), M. Becquart (Jowett), P. W. S. White (Ford Pilot). Morgans won the team award.

For the third year British hill-climbing champion Ken Wharton won the Tulip rally, this time in a Ford Consul, while in the 2,000-mi. International Alpine rally Ian Appleyard secured a gold trophy for his third successive unpenalized performances and the team award went to Sunbeam Talbots driven by Stirling Moss, G. Murray-Frame and J. M. Hawthorn. The 3,210-mi. Liège-Rome-Liège rally provided a German Porsche success. A 610-c.c. French D. B. Panhard won the 3,500-mi. Tour de France. (CH. FL.)

MOTOR TRANSPORT. Problems connected with motor transport, and in particular the question of public or private ownership, were prominent in the political field and roused a growing volume of public interest and feeling in Great Britain throughout 1952. The Conservative government, elected in Oct. 1951, was pledged to return to private hands that section of the transport industry which had been acquired by the British Transport commission under the Transport act of 1947. Accordingly a white paper outlining the new government's proposals was laid before parliament in May. Although nominally designed to deal with the transport industries as a whole the white paper was in fact mainly concerned with road haulage. All road vehicles owned by the Transport commission were to be offered for sale to any bidder. The unit of sale was to be an " operable unit " and such units were to be put up for public tender. More controversially, a levy to the total value of about £4 million was to be raised on all privately owned road transport, including that owned by traders operating their own vehicles under " C " licences. This sum of money was to be used as part payment for the goodwill lost by the Transport commission with the sale of their vehicles and partly as compensation to the commission for the loss of rail traffic to the roads.

The parliamentary debate on the white paper revealed the immense importance attached by Conservative and Labour parties to private and public ownership respectively. Labour spokesmen indicated that the party would re-nationalize road haulage in the event of its future return to power, but were vague on the question of compensation to be paid to the owners. Independent critics complained that party obsession with ownership obscured the more serious difficulties besetting the transport industries. These were that the rapid growth of motor transport, alongside a railway system that was itself almost potentially equal to the country's total transport needs, had created excess transport capacity. Competition between road and rail was inequitable because the railways had obligations as common carriers, whereas road transport had no such obligations. The real question was therefore not so much one of ownership but of devising methods of working road and rail transport side by side in fair and economically efficient conditions.

The bill that followed the white paper appeared in July. Little in it met the criticisms of those who hoped for a broader approach to transport problems and in the main the proposals of the white paper were reiterated and amplified. The " operable units " of the white paper became " transport



The finish of the fifth British Grand Prix over 250 mi. at the Silverstone circuit, July 19. The winner was Alberto Ascari with a 2-litre works Ferrari at an average speed of 90·92 m.p.h.





Vehicles exhibited in 1952. (Above) Commer-Harrington "Conten der" 41-seater coach; the first passenger coach designed with chassisless construction. (Below) Karrier "Gamecock" municipa vehicle, powered by a 33·8 h.p. engine.

units" in the bill. To protect the interests of the small haulier, transport units offered for sale were not in general to consist of more than 50 vehicles nor was the total unladen weight to exceed 200 tons. These limits were only to be exceeded with the approval of the minister of transport. At the other end of the scale, single vehicles could be disposed of as "transport units". Transport units thus sold were to carry with them the right to a five-year "A" licence, free of mileage restriction. Parallel to this provision the bill proposed that the 25-mi. limit applying to most of the existing "A" and "B" licence holders should be lifted when the minister was satisfied that no further sales of transport units could be made to the public.

The proposed levy remained much as it had appeared in the white paper. An annual charge of 13*s.* 6*d.* for each quarter of a ton unladen weight was to be made on all goods vehicles weighing more than one ton. Extra charges were proposed for vehicles drawing trailers and there was to be a separate scale for tractors. The purpose of the levy remained as before but it was made clear that its use to compensate the railways for lost traffic would be strictly limited. It would not, for example, be used to make good railways losses which might arise from a recession in trade. It was also proposed that the levy should be adjusted at intervals of three years.

Elsewhere the bill provided for the railways to retain their road collection and delivery services and for the Transport commission to retain the equivalent of the interest held by the railways in certain road haulage companies before nationalization. These reservations would cover about 3,500 vehicles out of the 40,000 in public ownership.

A Road Haulage Disposal board of six members was also to be set up. Apart from the chairman and deputy chairman, one member was to be chosen from nominees of the Transport commission and the remaining three after consultation with "A" and "B" licence holders, with "C" licence holders and with trade and industry.

Modified conditions for the issue of haulage licences were also embodied in the bill. Applicants would still be required to demonstrate a public need for the services they proposed to provide. In case of objection based on redundancy, however, the objector himself would be required to prove that suitable facilities already existed, instead of the applicant being required to disprove it, as was previously the case.

Like the white paper, the bill received unqualified approval from very few quarters. The British Transport commission claimed that their road transport organization was efficiently operated and further that five years of nationalization was too short a time for the full benefits of public ownership to make themselves felt. In support of their case the Transport commission's accounts, published in June, showed that British road services had earned a surplus of £3·2 million in 1951 as compared with a deficit of £1·2 million in 1950. The commission claimed that the improvement of £4·4 million was due to successful completion of the first stage of its development, thus implying that further improvements would follow if public ownership were left undisturbed. On the other hand the surplus was not significantly greater in proportion than the £1·4 million earned in 1949 when the Road Haulage executive was much smaller and its gross receipts less than half of those in 1951. It also proved impossible for the 1951 standard of results to be maintained in 1952, and in October the minister of transport, A. T. Lennox-Boyd, announced that the Road Haulage executive was not paying its way. Claims for the increasing efficiency of publicly owned road transport thus remained controversial and so too did the case against the bill based on such claims.

The privately owned section of the haulage industry acclaimed the bill, but not without reservation. The Road Haulage association approved the denationalization of road haulage but urged the minister to abolish the 25-mi. limit immediately and to reconsider the whole question of the proposed levy.

The death of the king prevented the passage of the bill in the summer session of parliament and it was postponed to the autumn session. As the date of the queen's speech approached, Conservative spokesmen indicated that modifications would be introduced to the bill affecting both the 25-mi. limit and the levy. The year closed, therefore, with the return of road haulage to private ownership virtually assured but with a widespread feeling that deeper aspects of the transport problem would require to be faced in the near future.

Public awareness of the issue increased and opinion appeared to favour denationalization. Opposition to the plan nevertheless gained ground relatively. A Gallup poll taken in June showed 43% in favour of denationalization and 32% opposed to it. By October 48% favoured denationalization but those in favour of the existing state of affairs had increased to 39%. More significantly the proportion indifferent to the



A Bedford ½-ton van, exhibited at the Commercial Motor show in London in 1952, which was designed for use as a delivery van.

issue, represented by " don't know " answers, fell from 25% in June to 13% in October.

Statistically the proportion of the road haulage industry in public ownership contrasted sharply with the volume of public and political interest. The Road Haulage executive were operating about 40,000 vehicles in 1951. In the middle of the year 40,000 hauliers holding " A " and " B " licences were operating about 120,000 vehicles and " C " licence holders had about 820,000. The last figure was increasing at the rate of about 4,500 a month. Publicly owned road transport thus accounted for little more than 4% of total capacity. 1952 would therefore be remembered primarily as a year in which principles were at stake. (W. HAN)

United States. Ownership and operation of all types of highway transport continued to increase during 1952. Total registrations by the end of the year were estimated to be in excess of 53,363,000 units, or 3% above the record mark established in 1951. Production of new motor vehicles in 1952, however, showed a decline. Estimated production totalled 5 5 million units, or about 1 2 million units below the 1951 output and over 30% below the industry's peak output in 1950. Included in the year's production totals were 4,350,000 passenger cars and 1,150,000 lorries and buses. About 200,000 units of the motor car output and 165,000 lorry units were allocated by the industry to export markets. This represented a 23% decline from export shipments in 1951.

A survey of motor car ownership and use revealed that nearly two-thirds of U.S families owned a car and that on an average winter day 70% of those citizens who used some form of transport to go to work went by car.

Employment in jobs connected with highway transport continued to grow in 1952, reaching a total of over 9,400,000 persons, or one out of every seven employed in the United States.

U.S. motor transport continued to be taxed progressively higher year by year. In 1951 U.S. motorists paid, directly and indirectly, a record total of $4,700 million into federal, state and local tax coffers, more than double the amount collected ten years earlier

Since 1900 U S. motorists and commercial motor vehicle operators had contributed an accumulative total of more than $50,000 million in special taxes and it was estimated that at least one out of every eight tax dollars collected in the country originated from the use, manufacture and sale of motor vehicles or automotive equipment. The total was $7,500 million in 1950, the latest year for which complete tax data was available.

A significant and encouraging move in highway transport during 1952 was the establishment of what appeared to be a new " good roads movement " in the U.S Representatives of 40 organizations interested in better roads met in Feb. 1952 at the invitation of the National Highway Users conference. P.A.R. (Project—Adequate Roads) resulted. The broad puposes of the P.A.R programme were to stimulate public awareness of highway needs and to unify the efforts of all groups working for good roads. Since 1940 the number of motor vehicles registered in the country had increased about 60%, or from about 32 million to more than 52 million. Meanwhile, total street and road mileage had grown but a small fraction of 1%; there had been only a 25% increase in surfaced rural road mileage; and annual highway expenditures actually were below the pre-World War II rate, after adjusting for higher costs. (H. A. Ws)

MOZAMBIQUE: *see* PORTUGUESE OVERSEAS TERRITORIES.

MUNITIONS OF WAR. Undoubtedly the most important and spectacular event in the war-weapons field in 1952 was the successful detonation of Great Britain's first atomic bomb off the Monte Bello islands, northwestern Australia, on Oct. 3 (*see* ATOMIC ENERGY).

There was no respite in the rearmament programmes of the member-countries of the North Atlantic Treaty organization. The one serious problem remained that of standardization: Great Britain, Canada and the United States had reached only long-term agreements about field and A A. artillery and tanks (It had been agreed in 1951 for instance that the British 25-pounder and the U S. 105-mm. piece should both be replaced by a 110-mm. gun firing a 40-lb. projectile.)

The " off-shore " procurement programme, by which the U.S paid for munitions made in western Europe for either U S. or N.A.T.O. members' use, was expected to amount to more than £250 million in the fiscal year 1952-53. The export of arms from the U.K. to Spain was permitted during 1952.

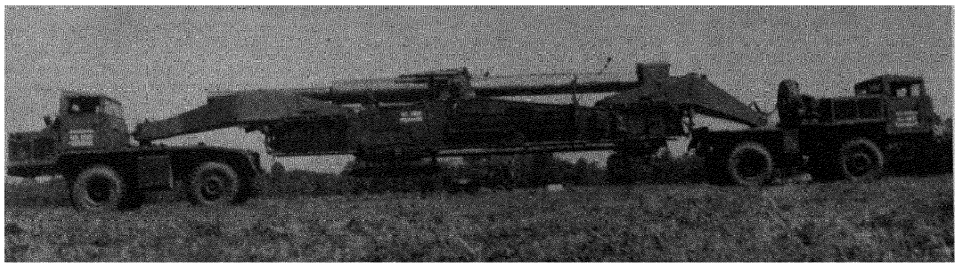
Anti-aircraft Artillery Antony Head, British secretary of state for war, announced in the House of Commons in May that it was proposed to replace the 40-mm. Bofors gun by a new and improved weapon of Swedish design.

Anti-Submarine Equipment. The British destroyer " Daring" demonstrated on March 31 the " Squid " anti-submarine weapon, which had been used during World War II but details of which were only now published The Squid consisted of a triple-barrelled mortar linked through electronic " digesting " and predicting equipment with an Asdic echo-detection set. It could fire a pattern of 500-lb. finned depth-charges well ahead of the ship. The frigate " Rocket " demonstrated anti-submarine devices, including the Squid, to the U S. and Canadian navies during the autumn

Armoured Fighting Vehicles. By the end of the summer of 1952 all British regular armoured units were to be equipped with the Centurion tank. The latest mark of auto-gun stabilizer was tested at the Royal Armoured Corps centre, Bovington, Hampshire: this device, details of whose mechanism were still secret, kept the Centurion's 83-mm. gun on target, once it had been laid, whatever manoeuvres the tank made. The Swiss military authorities made extensive tests on two Centurion IIIs with a view to putting the tank into production in their own country, the United States was negotiating for 500 to distribute to other N A T O. armies; and in December Denmark announced that it would buy Centurions from Great Britain

Other Vehicles. Yet another generation of the British branch of the jeep family appeared: the 5-cwt. Austin " Champ " (strictly the name of the civilian version, but popularly adopted for the military) was a fully waterproofed, four-wheel-drive personnel carrier with a four-cylinder engine developing 78 b.h p. A new vehicle of one-ton capacity (military rating) was developed by the same company from the standard Austin two-ton civilian chassis It had an overhead-valve six-cylinder engine developing 90 b h p., driving through a four-speed gearbox: a second gearbox allowed selection of either high-ratio drive to the back axle only (for normal road conditions) or low-ratio drive to all four wheels for cross-country work.

Guided Missiles. In Great Britain Duncan Sandys, minister of supply, and Lord De L'Isle and Dudley, secretary of state for air, watched firing trials of guided rockets at the Ministry of Supply experimental establishment, Aberporth, Cardiganshire, on July 26. Sandys said that over 100 firms now participated in the " guided rocket industry ". During the year it was disclosed that these included the de Havilland, English Electric, Fairey and Vickers-Armstrong companies, the Bristol Aeroplane company and the General Electric company, which was setting up a research unit at the Long Range Weapons establishment, Salisbury, South Australia. The Australian government's £200 million defence budget for



A 280-mm. gun of the United States army which, it was revealed in Sept. 1952, was capable of firing an atomic shell. As shown above the overall length of the mobile unit is 84 ft. 2 ins. and its weight is 85 tons.

1952-53 provided for a considerable expansion of activities at the establishment's Woomera range.

Small Arms. Winston Churchill's discussions with President Harry S. Truman in January brought no progress towards small arms standardization within the North Atlantic Treaty organization: " In the interest of economy, both in time and money, we have agreed that the United States and the United Kingdom will continue to rely upon rifles and ammunition now in stock and currently being produced," stated a communiqué after the talks. Although the British-U.S.-Canadian conference on infantry equipment, held in Quebec (Nov. 7-10), avoided the ·280 *versus* ·300-calibre controversy, rifle ammunition developed by Canada, and possibly suitable both for British and U.S. rifles, was shown. Meanwhile British policy appeared to be to press for a reduction of the half-dozen or so types of rifles used by N.A.T.O. members to two (the existing U.S. ·300 and the British ·280). (*See* also *Britannica Book of the Year 1952.*)

Uniforms and Protective Clothing. The nylon and fibre-glass types of armoured jacket (*see* under *United States* below) were tested by Professor S. Zuckerman, government consultant on blast-effects (who later had discussions with U.S. experts in New York); by the War Office (against ·280 and ·303-calibre small-arms fire and grenade and mortar-bomb fragmentation); and by the Ministry of Supply Air Research establishment, Farnborough, Hampshire (as possible air-crew protection). Thirty of the nylon type were tested in Korea by 1st Commonwealth divisions patrols: Major-General M.M.A.R. West, the divisional commander, pointed out at a press conference (Nov. 23) that although the jackets had proved effective in keeping down casualties, their weight limited their usefulness.

The main features of the 1950-pattern battledress were approved and prototypes tested: the uniform consisted of a peaked ski-cap and smock, trousers and " Spanish-American " poncho of a tough water-repellent processed cotton gaberdine.

During the Home fleet's Arctic cruise in November-December tests were made of various " survival " suits, including rubberized windproof and inflatable types, a buoyant outfit of " quilted " appearance similar to an existing submarine-escape suit (see *Britannica Book of the Year 1951*) and a new one-piece plastic overall to be worn over a standard life-jacket. (X.)

United States. *Armoured Fighting Vehicles.* The M-47 tank was developed and produced after World War II. It was essentially a combination of a completely new turret, an improved World War II chassis and a post-World War II engine-transmission. It could turn in its own length, and its turret could be traversed manually or with power; it had an automatic compensator to restore the aim of the 90-mm. gun after each shot. The T-48, or Patton-48, was the first new medium tank to be both developed and produced after World War II. It had wider tracks than previous medium vehicles, a 90-mm. high velocity gun with a quick-change tube, and a 50-calibre machine gun on the turret which could be loaded and fired from within. The Patton had a crew of four.

Other Vehicles. The new model M-38-A1 jeep, being produced by Willys-Overland Motors, Inc., was streamlined, had a larger petrol tank, a longer and wider hood and a 72-h.p. F-head engine giving 20% more power than the previous jeep engine. The cruising range was increased from 180 to 300 mi.

Artillery. A new mobile 280-mm. (11-in.) gun, designed to fire atomic shells as well as conventional projectiles, was demonstrated at the Aberdeen proving grounds, Maryland, in September. The 75-ton piece could be transported by road at 35 m.p.h. slung between two 500-h.p. mechanical horses; the front and back drivers communicated on the move by telephone. The shell weighed 750-800 lb. and the breech was closed by a rotating drop-type block. Electrical gear lifted the barrel to a maximum elevation of 55°, giving a range of about 20 mi.

Guided Missiles. The United States Air force spent $300 million on guided missiles in 1952 as compared with $130 million in the previous year, while the navy spent $153 millions as compared with $34 million. Work was virtually completed and production ready to start at the new naval-sponsored guided missile plant of the Consolidated Vultee Aircraft corporation at Pomona, California, and also at a plant built by the Sperry corporation at Bristol, Tennessee. Pratt and Whitney Aircraft took over a special ramjet research laboratory at East Hartford, Connecticut, and Wright Aeronautical expanded its ramjet research facilities at Wood-Ridge, New Jersey. Ramjets in the 40-in. diameter class were being tested, which it was believed might develop as much as 100,000 lb. thrust at high altitudes and high speeds.

Seven new missiles, all scheduled for production, made their appearance during 1952. The air force made the first firings of two " pilotless fighters ", the Boeing XF-99 Bowmarc and the Hughes XF-98 Falcon. The Bowmarc was a ground-to-air missile which would perform all the functions of a piloted interceptor fighter. It was equipped with electronic equipment which would locate an attacking enemy bomber, track it and cause the missile either to collide with it or to explode by proximity. The Falcon had similar electronic equipment and worked in the same way, except that it was to be launched from a new, delta-wing supersonic fighter, the Convair F-102. The navy was undertaking similar development in a missile known as the Sparrow I, which was in production at a Douglas Aircraft company plant.

The air force also introduced two " pilotless bombers ", the Bell XB-63 Rascal and the Northrop XB-62 Snark. The Rascal was a ground-to-air missile launched from a mother plane like the guided bombs of World War II, except that it had electronic homing controls for pinpointing its target.

This obviated the necessity of flying a piloted aircraft into a well-defended target area; the mother plane could release the missile miles from the target. The Snark was a surface-to-surface missile with medium long range. It was an extension in both range and speed of the principle introduced during 1951 in the Martin B-61 Matador, the first pilotless bomber. The navy was developing a missile similar to the Snark. Built by Chance Vought Aircraft, it was known as the Regulus. The other new missile was the Terrier 1, to be used for fleet defence. It was a ship-to-air two-stage missile, similar in principle to the Boeing Bowmarc. A significant development in the guided missile field was the award of a contract for the conversion of two heavy cruisers, the "Boston" and the "Canberra", to guided missiles ships. The addition of these guided missiles ships to the fleet would result in a major increase in naval fire power.

Rockets. Three new interceptor fighters in service were already armed with 2·75-in. "Mighty Mouse" high-velocity rockets carried in the nose, in a retractable "pod" under the fuselage or in wing-tip pods, depending on the type of plane. (The planes concerned were the Lockheed F-94C, the North American F-86D and the Northrop F-89.) The interceptors carried up to 48 rockets.

Uniforms and Protective Clothing. The penetration resistance of a new type of laminated nylon body armour was investigated by the Quartermaster corps. The 7 lb. 8 oz. jacket, made of 12 layers of spot-laminated nylon duck covered with a water-resistant shell, was submitted to field tests, and issue to front-line units in Korea was begun in 1952. Battle experience demonstrated that the jacket, with its resistance to low-velocity missiles, substantially reduced the number and severity of battle wounds.

The Quartermaster corps was developing a single-layer sponge-plastic cold weather combat suit employing the vapour-barrier principle. It was designed to be worn without underclothing and would reduce the number of items and weight of winter combat uniforms. Immersion tests proved that the buoyancy of the garment made a man unsinkable when wearing a 26-lb. pack. On coming out of the water, even in freezing temperature, the moisture on the body was promptly warmed by body heat.

Other Munitions. The new rifle grenade, Energa, was now in limited use in Korea. It weighed 0·1 lb. more than the standard M-9-A1, but its effective range was 100 yd. instead of 40 and its explosive charge constituted 11·6 oz. of the total instead of 4. A flare which illuminated an area several hundred feet in radius and lasted more than five hours was invented in Korea by 1st Lieut. Charles J. Husch. The device contained a mixture of diesel fuel, petrol and napalm.

(M. F. S.; J. J. Hy.; R. S. T.; X.)

MUSEUMS. International Activities. A seminar organized by U.N.E.S.C.O. to discuss the educational role of museums, and lasting four weeks, was held in Brooklyn, New York, in the autumn of 1952. In addition to many valuable contacts between the 45 museum and educational officials from all parts of the world who attended, good progress was made towards a clearer understanding of the educational functions of museums and art galleries. Other U.N.E.S.C.O. activities concerning museums were the drafting of a convention for the protection of cultural property in wartime and the arrangement of a travelling exhibition called "New Materials".

The International Council of Museums organized an exhibition called "The Museum, An Educational Centre" which was sent to the Brooklyn seminar to be modified and improved as a result of discussions there before being circulated throughout the world. Standing committees of I.C.O.M. experts met during the year to consider museum lighting, the availability of type-specimens, the care of paintings and other problems of a specialized nature. Further research indicated that reports on the properties of fluorescent lighting had greatly exaggerated the danger to specimens of this form of museum illumination. Now that it had operated for five years largely by means of subventions from U.N.E.S.C.O. and private funds, it was evident that the time had come for I.C.O.M. to stand on its own feet as the professional association for museum officials throughout the world and for it to enlist their active participation and financial support. Consequently a world-wide membership campaign was launched during the year. In addition to the periodical *ICOM News*, a handbook entitled *Young People in Museums* and a bibliography of museum publications issued during the previous year were published by the council.

The International Institute for the Conservation of Museum Objects produced in Nov. 1952 the first number of a new periodical, *Conservation*, which was expected to appear twice a year in the future.

Great Britain. Controversy arose early in the year in Great Britain from the government's imposition of cuts in the grants to national museums as part of general economies. The restrictions, which were accompanied by staff dismissals, caused a serious curtailment of activities, including the closing of public galleries and the reduction of research and publications—to achieve a saving of £30,000 a year. In response to protests in parliament and the press and by national organizations, the government finally reconsidered the matter and cancelled some of the cuts.

The Wellington museum was opened in Apsley house, London, the former London residence of the first Duke of Wellington. In York an extension of the Castle museum was opened in the old debtors' prison to house a series of ancient craft workshops, English costume displays and a military museum for the Yorkshire regiments, and the extensive



The Waterloo gallery of the Wellington Museum, Apsley House, London. The museum was opened to the public on July 19.

reorganization of the city art gallery was completed. The new Maxwell art gallery was opened in Peterborough. A small local museum was founded at South Queensferry (West Lothian) and the recently established Museum of Leathercraft, which still lacked a permanent home, set up a temporary display at the National Leathersellers' college, London. Extensions and reorganizations were completed at Alton (Hampshire), Birmingham, Campbeltown (Argyll), Keighley (Yorkshire), Nottingham and Scarborough (Yorkshire); and following the award of large grants from the Carnegie United Kingdom trust and the Pilgrim trust, a major scheme of development was begun at the Somerset County museum, Taunton.

During the year three important government committees published their recommendations in *The Report of the Committee on the National Museum of Antiquities of Scotland, The Report of the Committee into the Imperial Institute;* and *The Export of Works of Art,* but no announcement was made of the government's intentions in these matters beyond a general acceptance of the recommendations in the last of these reports.

The Museums association's new constitution, under which the qualifications of museum officials were recognized by the award of fellowships and associateships, came into effect on April 1. The association's conference at Oxford in July was the largest ever held, 367 delegates attending.

Commonwealth. In Canada, a historical museum was established at Fort Penetanguishene, Ontario, and the reconstruction of the Newfoundland museum at St. John's was begun.

Under the auspices of the committee for museums of the U.N.E.S.C.O. National Commission for Australia, a travelling exhibition was produced by museums throughout the country for circulation abroad, to illustrate the way of life of Australian aborigines.

Museums and art galleries in South Africa took a full part in the national celebrations that marked the tercentenary of van Riebeek's landing at the Cape. A new series of dioramas in the South African museum, Capetown, containing life-size reconstructions of extinct reptiles of the Permian-Triassic period and characteristic types of contemporary flora, marked an important advance in display technique in South Africa. The establishment of a new museum at Windhoek, South-West Africa, was planned.

The establishment of four Gandhi memorial museums at Rajghat, Sabarmati Ashram, Sewagram and Madura in India was proposed by the Gandhi Smarak Nidhi (Gandhi national memorial fund). The Indian government presented a suitable site for the Rajghat museum and a worldwide competition for the design of the building was announced.

Europe. Several rooms in the folklore department and important ceramic collections were reopened to the public at the Musées Royaux d'Art et d'Histoire, Brussels, in 1952. At Mariemont, the extensive collection of Tournai porcelain was completely classified and redisplayed.

New museums in France were established at Tourcoing to display ancient costumes, at St Armand les Eaux for local pottery, and in the town hall of Angoulême for local prehistory material.

The work of reconstructing the Greek museums continued vigorously. The museum at Chalcis was reopened and at Delphi all the sculpture was again on show. The reorganization of the museum on the Acropolis was expected to be completed by 1953. Finds from the 1937-40 excavations at Olympia were added to the collection of sculpture from the Temple of Jupiter already on exhibition in the site museum. Postwar restoration of the Heraklion museum in Crete, containing the material from Knossos and Phaestis, was finally completed.

A new museum, the Netherlands Costume museum, was opened at The Hague, and major reorganizations, including rebuilding and rearrangement of displays, were carried out at the Rijksmuseum, Amsterdam, and at Arnhem, Leeuwarden and Maastricht. The 17th International Congress of History of Art was held in Amsterdam during the summer of 1952 and was made the occasion for the organization of important art exhibitions (*see* ART EXHIBITIONS) at the country's main galleries. An outstanding publication, H. E. van Gelder's *Guide to Dutch Art*, containing short reviews of the principal museums and art galleries in the Netherlands, appeared at the same time.

New or rebuilt museums to be opened in Poland included the Lenin museum at Cracow, historical museums in Wrocław, Cracow and Brzeg, a regional museum at Łowicz and a museum of natural and social history at Gorzów. In addition major reorganization schemes were carried out in the galleries of Polish painting in Warsaw and Szczecin, the Czartoryski museum, Cracow, and the archaeological museum in Wrocław. Progress was made in the development of a network of regional museums and of museum educational services. The number of travelling museums, in which Poland had been a pioneer, increased, new subjects covered including Copernicus and sport in art. Preparations had begun for the founding of a Museum of the Workers' Movement and a Lenin museum in Czechoslovakia. The National gallery, Prague, was building up a network of regional galleries.

The International Institute for the Study of Castles established a museum devoted to the study of the history of castles at Rapperswill in Switzerland and issued an appeal for plans and details of castles in all countries. (G. P. G.)

An interesting article (C. Norris, "The Disaster at Flakturm Friedrichshain", *Burlington Magazine*, XCIV: 597, Dec. 1952) described the events leading to the destruction in 1945 of a concrete anti-aircraft tower in which were stored many valuable objects from the Berlin museums. The author gave a list of destroyed paintings from the Kaiser Friedrich and Deutsche museums, including the Hohenzollern Rubenses (ten) and Van Dycks (five) and 402 other pictures. (X)

United States. During 1952 the Chicago Natural History museum obtained many rare examples of early Mexican Indian workmanship from the National Museum of Mexico in exchange for objects of northern Indian and Pacific island peoples. A large collection of Swedish materials was given to the Busch-Reisinger Museum of Germanic Culture at Harvard university. Among new exhibits set up were a series on "Aerology: Weather in Action" at the Buhl Planetarium and Institute of Popular Science, Pittsburgh; the "Gallery of Living Invertebrates" at the American Museum of Natural History, New York; and a history of communications exhibit at the Ohio State museum.

The most princely of gifts to a U.S. museum during 1952 was the $10 million given by John D. Rockefeller, Jr., to the Metropolitan museum in New York for the enrichment of the Cloisters, the building which houses the museum's collection of mediaeval art. The Virginia Museum of Fine Arts received a $4 million fund and collection from the late Mr. and Mrs. A. D. Williams. Among the 42 old masters given were notable canvases by Rembrandt, Hals and Rubens. The Kress foundation presented 32 paintings to the Honolulu Academy of Fine Arts, 27 to the Portland (Oregon) Art museum and 23 to the Seattle Art museum. Among the most important were "St. Jerome" by Lorenzo Lotto, "Madonna and Child with Saints" by Luca Signorelli, and "Portrait of a Man" by Tintoretto (all given to Honolulu). The foundation also gave an important group of paintings to the Birmingham Museum of Art, Alabama.



The Far Eastern court at the Victoria and Albert Museum, London, which was opened to the public in September. The museum celebrated its centenary in 1952: it was founded as the Museum of Ornamental Art from proceeds of the Great Exhibiton, 1851.

One of the most important pictures to enter a U.S. museum in 1952 was "The Musicians" by Caravaggio, purchased for the Metropolitan museum.

The Cleveland Museum of Art acquired for the Hanna fund a group of 16 Egyptian limestone reliefs from the tomb of a nobleman in Upper Thebes dating from the 15th or 16th dynasty (690-650 B.C.). An important Chinese 13th-century scroll, the finest of six surviving paintings by Ma Yüan, was presented to the Cincinnati museum by an anonymous donor. A 9th-century Gospel illuminated at Tours, probably the most outstanding early manuscript now in America, was acquired for the Morgan library, New York. (*See* also ART EXHIBITIONS; ART SALES.) (R. H. Ls.; F. A. Sw.)

MUSIC. In terms of scale and expenditure, though not always in scope, the musical festivals of 1952 surpassed all their predecessors in the postwar years. Operatic activity in particular was on a scale large enough to dispel once and for all the suggestion, prevalent four or five years before, that opera was a dying form. It seemed that many modern composers had come to prefer the opera house to the concert hall in their attempts to attract a contemporary audience; and 1952 brought further evidence to suggest that modern idioms were more easily understood when accompanied by dramatic action and scene. Thus among those works which the Hamburg opera brought to the Edinburgh International Festival of Music and Drama it was not the repertoire operas like Beethoven's *Fidelio*, Wagner's *Meistersinger* and Strauss's *Rosenkavalier* that aroused the greatest interest; the place of honour went to Paul Hindemith's *Mathis der Maler*, previously best known outside Germany by the symphony of the same title which the composer built from the operatic material. No less successful was Richard Strauss's opera *Die Liebe der Danae* which received its first public performance under the direction of Clemens Krauss at the Salzburg festival.

There was produced in Paris an enormous festival devoted to masterpieces of the 20th century, in which the participants included orchestras from the United States, France, Switzerland, Germany and Italy, opera companies from England, France, Austria and the United States, ballet companies from the United States and France, choirs from Italy, the Netherlands and France, and soloists and conductors from all parts of the world. The operatic works performed included Alban Berg's *Wozzeck* (the Vienna opera), Benjamin Britten's *Billy Budd* (the Covent Garden opera under the direction of the composer) and Virgil Thomson's *Four Saints in Three Acts*. The purport of Herman Melville's story on which Britten's opera was based seemed generally to have been misinterpreted by the French, and the work was far from an unqualified success; Thomson's opera was even less favourably received, and was the subject of a most scathing notice in *Le Monde*. But Serghey Prokofiev's opera *The Love of Three Oranges* scored an instant success in Monte Carlo, as did Strauss's *Die Frau ohne Schatten* in a presentation by the Wiesbaden opera at Barcelona.

The Bayreuth festival added *Tristan und Isolde* to the repertoire established in 1951. There was again much discussion on the merits and defects of Wieland Wagner's austere productions, which discarded all spectacular stagecraft in the *Ring* and reduced the settings in *Tristan und Isolde* to a bare minimum. Martha Mödl and Astrid Varnay alternated in the part of Isolde, while Ramon Vinay sang as Tristan and Herbert von Karajan conducted. Musically, these performances—and those of *Parsifal* and *Meistersinger* under Hans Knappertsbusch—were highly praised. The two *Ring* cycles were less successful; the absence of an adequate *heldentenor* and the academic interpretations of Josef Keilberth were regarded as serious limitations by some critics. It was announced that *Meistersinger* would be replaced by *Lohengrin* in the 1953 repertoire.

Four operas were produced at the Glyndebourne festival: Mozart's *Idomeneo* and *Così fan tutte*, Rossini's *La Cenerentola* and Verdi's *Macbeth*. The conductors were Vittorio Gui and John Pritchard. An interesting novelty at the Aldeburgh festival was the first performance of an 18th-century ballad opera called *Love in a Village*, which had been prepared or "realized" by Arthur Oldham.

The various festivals, however, by no means restricted themselves to opera. In Paris, the orchestral honours were shared by Igor Stravinsky, Béla Bartók and Darius Milhaud.

Works by Arnold Schönberg were also played, though many critics felt that the selection was inadequate. During the festival concerts were given by the Boston Symphony orchestra under the direction of Charles Münch and Pierre Monteux; subsequently the orchestra toured many of the major European cities, including London and Amsterdam, and received just recognition for what seemed to be unparalleled and unsurpassable virtuosity. This exceptional brilliance did not however disguise a certain lack of that subtlety or refinement which had long been a secret of the great European orchestras, and which was so well exemplified by the Amsterdam Concertgebouw orchestra and the Royal Philharmonic orchestra during the Edinburgh festival. The conductors included Eduard van Beinum and Rafael Kubelik (for the Concertgebouw); Sir Thomas Beecham, Vittorio Gui and John Pritchard (for the Royal Philharmonic). Concerts on a smaller scale were given at Edinburgh by the Stuttgart Chamber orchestra under Karl Munchinger, and by the Festival quartet whose members were: Joseph Szigeti (violin), William Primrose (viola), Pierre Fournier (violoncello) and Clifford Curzon (piano). Clifford Curzon also appeared as the soloist in a concert by the Royal Philharmonic orchestra.

In May the Philharmonia orchestra of London undertook a large continental tour under the direction of Herbert von Karajan. During a concert in La Scala, Milan, Arturo Toscanini, who was in the audience, expressed a desire to conduct the orchestra at some future date. His wish was fulfilled in September and October when, to the delight of vast audiences in the Royal Festival hall, he conducted the four symphonies of Brahms in the course of two concerts which will long be remembered by those who were present. This was Toscanini's first appearance in England since 1939. Another important event was the series of concerts given in November at the Royal Albert hall, London, by the Vienna Philharmonic orchestra conducted by Clemens Krauss. During the same month, the Munich Philharmonic orchestra also gave two concerts in London. Recitals were presented in many parts of Europe by the Quintetto Chigiano, a remarkable Italian group whose performances of the limited quintet repertoire were acclaimed unanimously by international critics. Among conductors, Karl Rankl was appointed chief conductor of the Scottish National orchestra; and Rudolf Schwarz, conductor of the City of Birmingham orchestra, achieved brilliant results in the course of several broadcast concerts with the B.B.C. Symphony orchestra.

In the United States no less than in Europe the summer season brought much festival activity. The 10th anniversary of the famous Berkshire festival was celebrated at Tanglewood, and included several ambitious programmes played by a student orchestra under Charles Münch. At the Brandeis Festival of Creative Arts, Waltham, Leonard Bernstein conducted the Boston Symphony orchestra in a memorial concert for the late Serge Koussevitsky, while at the Aspen festival (Colorado) a scene from Rachmaninov's little-known opera *The Miser Knight* was performed.

Despite so much hard work by orchestras and instrumentalists, and despite what seemed to be a steadily growing audience for music of all kinds, there was little evidence of significant new music. Salzburg saw the 26th Festival of the International Society for Contemporary Music; but what it heard gave little encouragement for the 27th. The composers represented included Winifred Zillig, Roman Vlad, Hanns Jelinek, Humphrey Searle and Phyllis Tate. In England first performances were given of Franz Reizenstein's *Voices of Night*, Arthur Benjamin's *Piano Concerto*, *String Quartet No. 2*, by Edmund Rubbra (*q.v.*), Howard Ferguson's *Concerto for Piano and Strings*, Sir Arthur Bliss's scena *The Enchantress* and Peter Racine Fricker's *Second Symphony*—the last being played twice in one concert on the occasion of its first London performance. The *Symphony* was enthusiastically welcomed by sections of the press, but the public seemed bewildered by its harsh, unfriendly idiom. Bliss's *Enchantress* made up in warmth and power for what it lacked in originality; it was magnificently sung by Kathleen Ferrier. In an otherwise dull season of Promenade concerts at the Royal Albert hall, London, Ralph Vaughan Williams' *Harmonica Concerto* was both a novelty and a success; Larry Adler was the soloist, and the public on this occasion insisted on an immediate repetition of a work which succeeded in elevating the humble mouth-organ to the status of a genuine musical instrument. At Edinburgh one of the principal new works was Frank Martin's pleasant *Violin Concerto*. The novelty of the London season was Edith Sitwell's poem *The Shadow of Cain* accompanied by music in the twelve-note idiom by Humphrey Searle. Some critics found it impressive as a tract for the times, while others found it both ineffective as a work of art and naïve as a condemnation of the atomic age.



Sir Malcolm Sargent (left) tries the harmonica with Larry Adler, soloist in Ralph Vaughan Williams' "Harmonica Concerto" at a Promenade concert.

1952 was not a vintage year for light music. It appeared that more attention was paid to effective arrangement than to the promotion of new numbers, and many of the "hit" tunes were, in fact, several years old. No new musical show revealed a score so brilliant as *South Pacific*, which continued its run in London and New York. Successful single tunes included the nostalgic "Auf Wiedersehen", the "Blue Tango" and a passionate ditty called "Kiss of Fire". The public seemed to lose taste for those emaciated male crooners who held the stage so successfully in the postwar years, and instead expressed a preference for one or another of two extremes: the *tenore robusto*—with the emphasis on *robusto*—as exemplified by Mario Lanza, or the utter dejection of singers like the American Johnny Ray, whose habit it was to weep copiously during his own performances.

Among the more interesting books on music published during the year were *A Composer's World: Horizons and Limitations*, by Paul Hindemith (London, 1952) and the autobiography of Darius Milhaud (*Notes without Music*, London, 1952). The death occurred of Adolf Busch, the well-known violinist and leader of the Busch quartet; and of Herbert Murrill, a respected British musician and composer who had for some time been director of music at the British Broadcasting corporation.

The general trend of music in 1952 was well synthesized in the programmes of the Paris festival. It consisted mainly of a deeper investigation of the immediate past, not merely for the sake of re-living the pleasures and displeasures of 20 or 30 years ago but in the hope that such study might reveal a

closer link than that which was superficially apparent between the older generation of composers and those of today. With few exceptions, the emphasis was on the works of Stravinsky, Bartók and Schönberg; and it was regrettable that there were no young composers able to challenge the musical world with a force comparable to that of the older masters. The extraordinary aridity of most new music heard in 1952 displeased both critics and public, who watched without enthusiasm the growth of technique at the cost of those intangible qualities of heart and spirit which had always been evident in great music and for whose return the musical world was anxiously waiting. (J. Cw.)

MUTUAL SECURITY PROGRAMME. This was an attempt to unify all the dispensations of military, economic and technical aid by the United States of America to other countries that since World War II had come to be made under such various headings as the European Recovery programme (or Marshall plan), the Military Assistance programme connected with the North Atlantic Treaty organization, the Point Four programme of technical aid to underdeveloped countries, the aid programmes connected with inter-American affairs, the U.S contributions to special causes like Arab refugee relief or Korean reconstruction, and the economic assistance provided to countries under U.S. occupation and control such as Germany, Austria and Japan

A Congressional act signed by President Harry S. Truman on Oct. 10, 1951, established the Mutual Security agency (M.S.A.) as a new U.S. government department charged with the co-ordination and administration of all foreign aid programmes. The act, which provided for the termination of all separate foreign aid programmes after June 30, 1952, also changed the emphasis of U.S. foreign aid from economic recovery to rearmament and laid down that all foreign assistance programmes, except those connected with Point Four and inter-American affairs, should be terminated on June 30, 1952.

The Mutual Security programme became operative on Jan 1, 1952, when the M.S A took over the functions of the former Economic Co-operation administration (which had in the preceding four years dispensed about $12,500 million to Europe under the European Recovery programme) and of a number of other assistance organizations. Its director was W. Averell Harriman, his deputy was the previous acting administrator of E.C.A., Richard M. Bissell; William H. Draper, jr., a former economic adviser to the U S military governor in Germany and under secretary for the army, was appointed U.S. special representative in Europe in charge of all M.S.A. operations there; Paul Porter, hitherto acting special representative of E.C.A. in Europe, was appointed his deputy in charge of the economic aspects of the Mutual Security programme.

The sums appropriated by the U.S. congress to the M S.A. for military and economic assistance in the various areas are shown in the table below.

The Mutual Security programme reversed the previous order of magnitude in military and economic aid given by the United States to the rest of the free world. In 1949-50 and 1950-51 economic aid (especially under the Marshall plan) had made up the bulk of U.S. aid appropriations; military assistance had been a mere trickle by comparison. Now it was to be the other way round. The chief purpose of the Mutual Security programme was to strengthen the defensive power of U.S. allies by direct supplies of arms and ammunition or tools for the making of arms and ammunition. General economic aid to strengthen the balance of payments or the budgetary position of allies or friendly neutrals was only marginally and somewhat grudgingly admitted by congress as "defence support"; and the funds asked for by the administration under this heading were more severely cut by congress than the requests for military aid. The mood of congress was clearly one of readiness to subsidize the rearmament effort of U.S. allies under the common N.A.T.O. programme generously, coupled with growing reluctance to continue propping up their general economies and financing their dollar deficit in current trade

The chief problem of M S.A. during 1952 arose from the fact that the large appropriations of military aid outran both U.S. armaments production and the capacity of recipients to absorb them, while the far smaller appropriations of economic aid were insufficient to bridge the "dollar gap" created by the export surplus of the United States in its trade with the outside world. In relation to need, the appropriations of military aid were too large, those of economic aid too small.

According to official U.S. sources, by the end of Jan. 1952, only $1,208 7 million worth of military equipment had been actually shipped overseas, against an accumulated authorization since the beginning of military assistance in 1949 of $9,452·1 million. The reasons given for this shortfall were shortages of machine tools and certain raw materials, inadequate facilities, unrealistic initial scheduling, design complications, etc. Although military deliveries were stepped up during 1952, much of the military aid appropriations could clearly not be taken up in the time foreseen. On the other hand, considerable difficulties, indirectly delaying European rearmament, arose from the inability of several European allies of the United States to balance their dollar trade accounts without greater additional economic aid.

The problem was mitigated by M.S.A. through the initiation of a large offshore procurement programme, by which armaments orders for general N.A.T O purposes were placed in European countries and paid out of military aid funds About $729 million were thus spent during 1952 on orders for ammunition and explosives, ships, aircraft and electronic equipment from various European countries; further large-scale offshore procurement programmes for fighter aircraft from Great Britain and France, and Centurion tanks from Great Britain, were still under negotiation at the close of the year With this offshore procurement programme M S.A. served the triple purpose of enabling Europe to earn more dollars, of building up productive capacity and of supplying arms for the current N.A.T.O. rearmament programme.

In spite of this ingenious method of coupling military with economic aid, Draper had to recognize in his report to the president of Aug. 22, 1952, that "financial and payments problems of the most serious character continue to trouble western Europe", of which the "huge excess of U S. exports

MUTUAL SECURITY AGENCY'S APPROPRIATIONS

Area	Financial Year 1951-52 Military	Financial Year 1951-52 Economic	Financial Year 1952-53 Military	Financial Year 1952-53 Economic
Europe	$4,818,852,457	$1,022,000,000	$3,128,225,000	$1,282,433,000
Near East and Africa	396,250,000	160,000,000	499,117,000	181,114,000
Asia and the Pacific	535,250,000	237,155,866	540,808,000	270,571,000
Latin America	38,150,000	21,245,653	51,686,000	20,329,000
Other provisions	—	—	—	57,666,000
	$5,788,502,457	$1,440,401,519	$4,219,836,000	$1,812,113,000
Total	$7,328,903,976		$6,031,949,000	

over its imports " was the most difficult. " Unless a balance can be restored," Draper warned, " there is real danger of a deep and perhaps disastrous fissure between the economies of Europe and America." Unless the United States wanted to continue military and economic grant programmes indefinitely, Draper went on, it would have either greatly to increase its imports from Europe and other parts of the world or to increase overseas investments.

Similar statements were in the autumn of 1952 made by other U S. economic bodies, they were strongly echoed by the British chancellor of the exchequer, R. A Butler, when he called for a solution of the dollar problem by " trade, not aid ". Both in the United States and in the countries at the receiving end of U.S. aid, there was towards the end of 1952 a growing feeling that the aid system, now embodied in the Mutual Security programme, could not be regarded as a permanently satisfactory solution of the trade disequilibrium between the United States and its allies and partners in the free world and that a balance had to be looked for by other, more business-like methods. But it was generally realized that the working out of such a solution would be a difficult and lengthy process and that in the meantime the Mutual Security programme would still have an indispensable part to play in maintaining the strength and unity of the free world. When, on Nov 21, 1952, Harold E Stassen was nominated director of M S.A. in succession to Averell Harriman by President-elect Dwight D Eisenhower, he stated that the Mutual Security programme would remain a cornerstone in the foreign policy of the new U.S. administration. (*See* also NORTH ATLANTIC TREATY ORGANIZATION)

(S. HR)

NARCOTICS. The Dangerous Drugs act, 1951, which consolidated existing legislation was brought into operation on Jan. 1, 1952. On Oct. 21 an order in council was made releasing from control one of the phenanthrene alkaloids of opium which, as one of a group of morphine derivatives, had been totally prohibited from manufacture for the purposes of trade. This drug, N-Allylnormorphine (known as nalorphine), was, however, declared by the World Health organization to be a drug of medicinal and scientific value and, furthermore, not habit-forming; but the order in council relaxing the control was necessary before production could commence. Nalorphine had a marked beneficial effect in the treatment of withdrawal symptoms experienced by drug addicts during a cure, without any suggestion of replacing one drug addiction by another.

The survey of the various dangerous drugs regulations was not completed in time for the issue in 1952 of the consolidated regulations, but as negotiations with the numerous interested bodies had been satisfactorily completed it was confidently expected that the regulations would be issued in a consolidated form early in 1953.

The British government's report to the United Nations on the traffic in dangerous drugs during 1951 (transmitted during the latter part of 1952) showed that drug addiction did not present a serious problem in the United Kingdom. This was probably due in part to the very strict administration of the law. There did not seem to be any notable increase in the traffic in dangerous drugs, Indian hemp and opium being again responsible for about the same proportion of prosecutions as in recent years—the percentage being about 50 and 25 respectively. The former drug appeared—with only one notable exception—to be used by coloured men of West African or West Indan origin, whilst the opium users were mainly of Chinese origin. On Dec. 4 an order in council was made applying Part III of the Dangerous Drugs act, 1951, to the three isomers of a new synthetic drug 3 Methoxy-N-methylmorphinan. These three forms of this drug were to be known as Dextromethorphan, Levomethorphan and Racemethorphan.

Nomenclature caused a good deal of difficulty in administration during the year. The drug hitherto known in Britain as amidone was renamed methadone by the World Health organization. The fully authenticated and recognized name of methorphinan for another of the newly controlled synthetic drugs was withdrawn by the special committee of that organization, and three substituted names were alternatively submitted for recognition by all the authorities concerned. This was necessitated by the discovery and use of isomeric forms of the drug and these were to be known as Dextrorphan, Levorphan and Racemorphan. The similarity with the names of the drugs mentioned in the previous paragraph will be noted. (F. R. TN.)

International. During the seventh session of the United Nations Commission on Narcotic Drugs, held in New York city in 1952, facts and figures were presented to the commission indicating that the international illicit traffic in narcotic drugs had increased dangerously. The commission recognized that strong efforts would have to be made immediately to cope with the problem.

The United States representative, H. J. Anslinger, reported that investigations, arrests and seizures in Japan proved conclusively that Chinese Communists had been smuggling heroin from China to Japan and using the proceeds from its sale to finance party activities and obtain strategic materials for China. The source of all heroin seized in Japan was attributed to China, transshipped through Hong Kong or North Korea, and about 50% of the total seized was either definitely labelled with a Chinese address as the source or else marked with well-known brands of Chinese heroin. These facts refuted the statements made by the Soviet representative on the U.N. Commission on Narcotic Drugs and proved that Communist China had been flooding Japan and other countries with opium and heroin.

The representatives of the U.S.S.R. and Poland voted almost invariably against all decisions and recommendations of the commission and made no constructive suggestions.

United States. In 1950 Congressman Hale Boggs of Louisiana introduced in congress a bill to provide increased penalties for violation of the federal narcotic and marihuana laws, particularly for second and subsequent violations. Late in 1951 congress passed the Boggs bill and President Truman signed it on Nov. 2, 1951.

Immediately after passage of the Boggs act, the Bureau of Narcotics started a nation-wide intensified effort aimed at second- and third-time offenders. There were indications during the early part of 1952 that the increase in teen-age drug addiction had been halted. Another effect of the Boggs act was a noticeable shift by narcotic traffickers to other rackets, following the sentencing of a number of second- and third-time offenders to long prison terms. Legislation similar to the Boggs act was enacted by several of the states as an amendment to the uniform state law. In Maryland, where this state legislation had been in effect for some months, the illicit narcotic traffic had been very substantially reduced.

(H. J. A.)

NATIONAL INCOME. In the postwar years estimates of the national income and of related magnitudes, such as the national product and national expenditure, were increasingly used as a guide in governmental economic policy, for example, in determining the allocation of resources between various uses, the level of capital investment, the level of taxes and so on. This practical use gave an impetus towards extending and improving such estimates and by 1952 official or otherwise authoritative estimates of national income were available in most countries of the world.

TABLE I. NATIONAL INCOME AT FACTOR COST 1938-51

	1938	1950	1951
Argentina (P million)	8,857	—	73,000
Australia (£A million)	779	3,116	3,238
Austria (Sch. '000 million)	7 0	—	—
Belgium (Fr. '000 million)	65 2	265 0	296 0
Burma (Rs million)	1,062	2,608	3,166
Canada (C.$ million)	4,018	14,555	17,299
Ceylon (Rs. million)	595	3,840	4,507
Cuba (P million)	488*	1,683	1,860
Denmark (Kr million)	6,385	19,012	21,002
Finland (Fmk '000 million)	29 6	412 4	—
France (Fr '000 million)	360	7,117	9,082
German Fed Rep (DM '000 million)	79 8†	71 7	90 1
Ireland (£ million)	158 2	363 0	—
Italy (L. '000 million)	131	6,619	7,746
Japan (Y '000 million)	19 0	3,230 6	4,564
Mexico (P. million)	6,000*	29,800	—
Netherlands (Fl million guilder)	4,904	15,580	16,940
New Zealand (£NZ million)	194 1	599 6	615
Norway (Kr million)	4,622	12,901	15,504
Philippines (P million)	—	6,228	7,586
Portugal (Es '000 million)	15 5	35 4	—
Sweden (Kr million)	12,060	29,780	36,800
Switzerland (Fr million)	8,702	18,090	19,500
Turkey (£T million)	1,606	8,229	9,607
South Africa (£SA million)	364 8	1,114 0	—
United Kingdom (£ million)	4,716	11,489	12,732
United States ($ '000 million)	67 4	239 0	277 6
Yugoslavia (D '000 million)	46 8	212 0	234 0

* 1939 † 1937 territory

SOURCES U N *Statistics of National Income and Expenditure* (New York, Aug 1952) and U N *Monthly Bulletin of Statistics*

The most convenient source of these estimates were the publications of the United Nations. Indeed their statistical office now published twice yearly detailed data on available estimates. Table I shows changes in the national income at factor cost, *i e*, the aggregate of all incomes earned in the production of goods and services in the course of the year, including net income from abroad In evaluating goods and services produced indirect taxes were deducted from market prices and subsidies added, as it was considered that the contribution to the national income of a given branch of production was, in general, best measured in terms of the rewards of the factors of production which it employed.

Although national income estimates were prepared in a wide range of countries, the concepts, the methods of estimation and the reliability of the data differed. Thus the comparison of the estimates *between* the various nations gave only a rough and ready measure of their relative national income. More reliance could be placed on changes in the national income *within* the various countries over time. Between 1950 and 1951 the national income in money terms increased substantially (by more than 10%) in Belgium, Canada, Denmark, France, Italy, Norway, Sweden and the United States and somewhat less than this in the Netherlands, Switzerland and the United Kingdom. Some proportion of this increase simply reflected an increase in prices (and thus the general inflationary tendencies) and not an increase in the volume of goods and services produced. Moreover there was also an increase in population between these two years which meant that the per head increases in the national incomes were somewhat smaller than the global increases.

TABLE II INDEX NUMBERS OF (a) NATIONAL INCOME AND (b) *per capita* INCOME IN CONSTANT PRICES

		1938	1949	1950	1951
Canada*	(a)	100	185	194	205
	(b)	100	154	158	163
Denmark	(a)	100	121	130	—
	(b)	100	108	115	—
Netherlands	(a)	100	123	128	128
	(b)	100	108	109	108
Norway†	(a)	100	129	135	—
	(b)	100	117	123	—
Switzerland	(a)	100	121	128	—
	(b)	100	110	114	—
United Kingdom‡	(a)	—	100	103	105
	(b)	—	100	103	104
United States*	(a)	100	171	184	198
	(b)	100	149	157	166

* Gross national expenditure and *per capita* gross expenditure respectively. † Volume of production and *per capita* production respectively. ‡ Gross domestic product and *per capita* gross domestic product

SOURCES U N *Statistics of National Income and Expenditure* (New York, Aug 1952) and *National Income and Expenditure, 1946-1951* (H M S O, London, 1952)

For a number of countries further information was available (as shown in Table II) showing the real changes in national income after eliminating price changes both in the global figures and per head. It appeared that in Canada and the United States the real increase was also substantial between 1950 and 1951, less so in Sweden and the Netherlands. Indeed in the latter country per head national income declined. There was hardly any change in the real national product in the United Kingdom and personal consumption slightly declined in the course of 1951, a process which continued in the first half of 1952. Estimates relating to the first nine months of 1952 in the United States indicated that the real national income had continued to move gradually upwards. For the western European countries the outlook was less hopeful. Industrial production, which had made an important contribution to their national incomes, started to decline for the first time since the end of World War II.

TABLE III GROSS NATIONAL EXPENDITURE (Percentages)

		Personal expenditure on consumer goods and services	Government current expenditure on goods and services	Gross public domestic investment	Gross private domestic investment	Net foreign investment
Canada*	1949	66 6	12 9		19 4	1 1
	1950	65 5	12 8		23 3	—1 8
	1951	61 5	14 7		25 7	—2 5
Netherlands	1949	66 3	14 2		21 0	—1 5
	1950	64 5	13 9		26 2	—4 6
	1951	63 3	14 2		22 7	—0 1
Norway	1949	60 4	9 7	2 9	35 3	—8 3
	1950	62 2	8 9	3 8	31 1	—5 2
	1951	56 8	9 4	4 4	30 7	0 4
Sweden	1949	61 2	10 2	9 3	17 9	1 6
	1950	61 9	10 5	9 4	17 9	0 6
	1951	56 4	10 0	9 6	21 7	2 3
United Kingdom	1949	68 9	15 8	14 8		0 5
	1950	68 7	15 2	13 9		2 2
	1951	70 2	17 2	15 7		—3 1
United States	1949	70 0	16 9		12 8	0 2
	1950	68 4	15 0		17 3	—0 8
	1951	62·6	19 2		18 0	0 1

* Components do not add up to 100% because the statistical discrepancy is not here included

SOURCES U.N *Statistics of National Income and Expenditure* (New York, Aug. 1952) and U N *Monthly Bulletin of Statistics*

Distributive shares (the earnings of the various types of factors of production) are determined by structural and institutional factors of the economy and in a number of countries showed hardly any changes from year to year. Income from labour type of earnings accounted in 1951 for 65 4% in the United Kingdom, as against 64 6% in the U.S., and 57·1% in Canada, while income from property type of earnings accounted for 34 6% in the United Kingdom, 35 4% in the United States and 42 9% in Canada.

Considering the various end-uses of the national income (Table III), year to year changes here were found to reflect shifts in the government's economic and fiscal policy. For example, the sharp rise in the government's current expenditure in several countries in 1951 reflected increasing defence expenditure accompanied by a slowing-down or a drop in spending on capital investment or on personal consumption. (*See* COST OF LIVING, PRICES, WEALTH AND INCOME, DISTRIBUTION OF.) (L. Rs.)

TABLE IV NATIONAL INCOME, UNITED STATES, BY DISTRIBUTIVE SHARES ($ '000 million)*

	1939	1950	1951	1952†
National Income	72 5	239 2	277 6	290 5
Compensation of employees	47 8	153 4	178 9	189 7
Wages and salaries, private	37 5	123 4	141 2	148 2
Wages and salaries, government	8 2	22 2	28 7	32 4
Supplement to wages and salaries	2 1	7 8	9 0	9 2
Income of unincorporated enterprises and inventory valuation adjustment	11 3	37 0	41 8	42 7
Business and professional	6 8	23 7	26 2	27 5
Farm	4 5	13 3	15 6	15 3
Rental income of persons	3 5	8 2	8 9	9 7
Corporate profits before tax	6 5	39 6	42 9	41 0
Inventory valuation adjustment	— 7	—4 8	—1 3	4
Net interest	4 2	5 8	6 4	7 0

* Detail will not necessarily add to totals because of rounding † Preliminary estimated, in general, from data for first three quarters
SOURCE U S Department of Commerce (except 1952)

TABLE V GROSS NATIONAL PRODUCT OR EXPENDITURE, UNITED STATES ($ '000 million)*

	1939	1950	1951	1952†
Gross National Product	91 3	284 2	329 2	344 5
Personal consumption expenditures	67 5	194 3	208 0	215 5
Durable goods	6 7	29 2	27 1	25 6
Non-durable goods	35 3	102 8	113 5	118 4
Services	25 5	62 4	67 3	71 5
Gross private domestic investment	9 9	50 3	58 5	51 0
New construction	4 9	22 9	23 3	23·4
Producers' durable equipment	4 6	22 0	24 9	25 7
Change in business inventories	4	5 5	10 3	1 8
Net foreign investment	9	·2 3	0 1	0 1
Government purchases	13 1	41 9	62 6	77 9
Federal	5 2	22 2	40 9	54 8
State and local	7 9	19 7	21 7	23 1

* Detail will not necessarily add to totals because of rounding † Preliminary, estimated from data for first three quarters
SOURCE U S Department of Commerce (except 1952)

NATIONALIZATION. During 1952 the apparent trends of thought about the nationalized industries in Great Britain became clearer. The Labour party, out of office, after a similar motion had been passed by the Trades Union congress, accepted a motion at its party conference instructing the executive to draw up a list of the key and major industries to be taken into public ownership during the next five-year programme. On the other hand the Conservatives, in office, published their bills for the denationalization of the steel and road-haulage industries and towards the end of the year began to pass these through parliament. In fact, however, during the year it looked as if signs of a greater unity had begun to develop. It was plain that the Conservatives intended to leave the major part of the previous Labour government's legislation intact; though the Labour party voted for more nationalization and though its extremists discussed the possibilities of other kinds of public ownership, most serious attention, both within the party and elsewhere, was devoted to the problems of making the existing nationalized industries more efficient.

The main events of the year were the publication of the Conservative party's bills for the denationalization of the steel industry and of road transport. The main provisions of the steel bill were that the steel companies that had been nationalized should be transferred to a disposals board whose task it would be to sell them gradually to private owners; that a new steel board should be set up with statutory powers of control, both over investment, prices and raw materials; and that the sphere over which this control would be operated should include not merely the companies that had previously been nationalized but the whole of the iron and steel industries. The Transport bill in its earlier version included similar provisions for the sale of the Road Haulage executive's 40,000 vehicles; a proposal that the conditions under which the railways were operating should be improved; a proposal for a levy on all road-haulage vehicles, partly to compensate the Transport commission for the capital loss on the sale of its goodwill, partly to compensate the railways for the increased competition; and a promise that at some later date the 25-mi. operating limit would be removed. After considerable criticism had been expressed, especially of the levy, the final version of the bill increased the railways' powers of competition, restricted the purpose of the levy to making good the Transport commission's possible capital loss, and fixed the day for removal of the 25-mi. operating limit at the end of 1954

Besides these two measures the government announced that more freedom would be granted to private air operators to compete with the state-owned corporations. As from the beginning of 1953 the development of new overseas scheduled services was to be opened to private operators and the state corporations alike.

During 1952 reports were published for the operations of the nationalized industries in 1951. These results are summarized in the table.

NATIONALIZED INDUSTRIES IN THE UNITED KINGDOM

Industry	Year	Gross Income £ million	Profit (+) or Loss (—) £ million	Output
National Coal Board	1951	541 1	— 1 8	211 3 million tons
	1950	481 0	+ 8 3	204·1
British Transport Commission	1951	579 1	+ 2·9	Not
	1950	519 2	—14 1	applicable
Airways B O A C	1951-52	33 6	+ 0 3	130 5 million load-ton-miles
	1950-51	24·3	— 4 6	98 1
Airways B E A	1951-52	10 8	— 1 4	36 7
	1950-51	9 0	— 1 0	30 6*
British Electricity Authority	1951-52	262 8	+ 2 9	50 4 million units
	1950-51	236 1	+ 6 3	46 6
Gas Council	1951-52	261·0	+ 1 4	2,513 million therms
	1950-51	233 5	+ 1 5	2,460
Cable and Wireless	1951-52	11 2	+ 1·5	492 million words
	1950-51	11 2	+ 2 2	486
Raw Cotton Commission	1950-51	205 4	+ 0 2	Not
	1949-50	135 4	+ 9 9	applicable
British Iron and Steel Corporation	1951	314 0†	+34·5†	15 6 million tons
	1950	n.a.	n a	16 3

* Revised. † Feb. 15 to Sept. 30

In the first half of 1952 the National Coal board had a deficit of nearly £500,000, after allocating £5·2 million to taxation. Both the National Coal board and the British Transport commission were faced with higher costs, especially wage costs.

Outside Great Britain there was little actual development in the field of nationalization. In Bolivia, following a change of government in April, a law was passed to nationalize the principal foreign-owned tin mines: the Mining Corporation of Bolivia was set up but, with an eye to the need for foreign capital, this was empowered to form companies in association with private capital provided it retained 51% of the equity.

In Persia the oil industry remained at a standstill and the dispute with the Anglo-Iranian Oil company only appeared to become more embittered and more insoluble with each exchange of notes. As in Britain, the most positive action outside the iron curtain countries was aimed at reversing the effects of earlier nationalization. In Yugoslavia the system of state purchase of agricultural products was brought to an end. In New Zealand a petition was presented to parliament, asking for the denationalization of the Bank of New Zealand. In Australia not only did the government sell its shipping line and its 51% holding in the Commonwealth oil refineries, but it was reported to be working on an amendment to the constitution which would prevent any further nationalization without a referendum.

In the iron curtain countries there was little detectable change except that pressure was exerted once again for quicker collectivization of the land. (*See* also EASTERN EUROPEAN ECONOMIC PLANNING)

See W. A. Robson (Ed.), *Problems of Nationalized Industries* (London, 1952). (J. R. AY.)

NATIONAL PARKS. England and Wales. The National Parks commission designated the North York Moors national park in Feb. 1952 and initiated action which would lead to the setting-up of national parks in three further areas—Cornwall, Exmoor and the Yorkshire dales. A new long-distance route (*i.e.*, proposed continuous right of way) was approved by the minister of housing and local government—the Cornish North Coast path (135 mi.), which would be largely within the Cornish national park. A loop route on easier ground was added in the Peak District national park to part of the Pennine Way long-distance route (250 mi.). The commission examined the proposals of the British Electricity authority for the extension of hydro-electric schemes at Dolgarrog and Maentwrog in Snowdonia and secured the inclusion, in the private act of parliament authorizing these extensions, of several important safeguards to the natural beauty of the area and its features of special scientific interest; notably provision for the appointment by the electricity authority, after consultation with the commission, of a landscape consultant to advise on spoil-disposal, land-restoration, etc. The minister of housing and local government confirmed the order designating the North York Moors national park on Nov. 28, 1952.

Australia. *New South Wales.* Approval was given to a proposal to set up Warrumbungle national park (8,900 ac.), part of the Warrumbungle range (4,000 ft.) in the western part of the state. The area has high scenic value and is of geological interest.

Queensland. Three additional national parks were set up: Mt. Spec (Townsville), 18,500 ac. of mountain, forest and jungle; Mt. Aberdeen (Bowen), 4,120 ac., a peak in jungle commanding wide vistas; and Mt. Maria (Innisfail), 800 ac., a high jungle overlooking the sea. The reserved areas now totalled 7,650,000 ac. The total number of visitors to the reservations during the year was 250,000. New graded walking tracks were made (the total now being 210 mi.); protective work and ecological control continued.

Tasmania. Scenic reserves were increased by 6,344 ac., which included a coastal strip of 100 mi. at the fiord of Port Davey and a camping area on the River Derwent at New Norfolk; the total national scenic reserves were thus brought to 527,720 ac. A road was built to open up skiing grounds in the Ben Lomond national park.

Victoria. Legislation was drafted to bring all the national parks in the state under central co-ordination. Victoria had 13 national parks (total area, 313,479 ac.) and 6 native reserves (total area, 2,409 ac.).

Canada. The city of Halifax gave an addition (the clock tower) to the Halifax Citadel historic site. The national parks were visited by 2,115,000 people during the summer, an increase of some 12% over 1951. Roads and tracks were maintained and extended, 226 mi. of highway hard-surfaced, new walks, bridges and fire roads made. Accommodation and recreational facilities were developed, notably sports facilities.

India. Consideration was given to a proposal to set up a central committee, with corresponding committees in the states, to sponsor national parks and to co-ordinate measures for the preservation of wild life. Eleven of India's 27 states had wild-life sanctuaries, which numbered about 50 and ranged in area from a few acres to some hundreds of square miles. Among the species requiring protection were lion, one-horned rhinoceros, pink-headed duck, bison, great Indian bustard, monal pheasant and wild buffalo.

Italy. The directors of the Gran Paradiso national park (243 sq mi.) contested a proposal to erect an overhead cable across part of the park, and secured a suspension of the proposal in order to permit further negotiation. Several special studies in biology, entomology and physiography were carried out in the park by the University of Turin. Plans were made for the establishment in 1953 of an alpine biological station, with laboratory, at Cogne in the park.

Kenya. The outstanding event was the visit of Princess Elizabeth and the Duke of Edinburgh to the Nairobi and Aberdare national parks, a visit broken off on Feb. 6 upon the death of King George VI.

The heavy rains of 1951 caused widespread damage to roads in Kenya's national parks (which total 1,000 mi.) all of which was successfully repaired. More safari lodges were built in the Amboseli and Marsabit national reserves to cater for the increased number of visitors. The trustees of the national parks further developed their methods of preserving game against organized poachers (notably ivory smugglers), *i.e.*, road patrol and aircraft reconnaissance.

Netherlands. The Hoge Veluwe national park had again a record number of visitors (the total for 1952 was expected to be 290,000). It was a good year for the growth of flora and the development of game.

New Zealand. The number of visitors to New Zealand's seven national parks increased during the year. Progress was made with the provision of club huts, rangers' cottages, and winter sport facilities, with broom and gorse control and animal population regulation; and with forest conservation. Routes were repaired and improved, notably between Te Anau and Milford Sound in the Fiordland national park.

Northern Rhodesia. The build up of flora and fauna in the Kafue national park was satisfactory. Bush tracks were made in the southern (Namwala) and northern (Kasempa) sections in preparation for limited opening of those areas in Aug.-Sept. 1953.

Southern Rhodesia. New national parks were proclaimed at Victoria falls (207 sq.mi.), Zimbabwe (3 sq.mi.) and Mtarasi falls (7 sq.mi.), and the Robert McIlwaine national park (22 sq.mi.) was scheduled for proclamation. These additions brought the number of national parks and game reserves to seven, with a total area of 5,649 sq.mi. In the Wankie game reserve (5,249 sq.mi.) facilities for tourists were improved and water supplies for game increased with boreholes and dams.

Tanganyika. Regulations were prepared for the administration of the Serengeti national park (4,880 sq.mi.) which would include arrangements to charge 10*s.* a vehicle and 5*s.* a person for entry permits. (H. M. As.)

United States. About 17 million visitors were recorded at the 28 national parks of the United States in the 12-month period ended Sept. 30, 1952, and another 24 million at other

areas administered by the national park service of the U.S. Department of the Interior.

The largest donation of the year for national park improvement, totalling $1,236,000, was for the acquisition of lands for the Cape Hatteras national seashore recreation area, North Carolina. Half this sum was given by the Avalon and Old Dominion foundations, set up by the children of Andrew W. Mellon, and half by the state of North Carolina. The beautiful Linville falls in western North Carolina, and adjacent land, became part of the Blue Ridge national parkway as a result of a $95,000 donation by John D. Rockefeller, jr. Preservation of the site of Fort Caroline in Florida was virtually assured by the donation of about $40,000 by Charles E. Bennett of Florida and others, to match funds made available by congress. Fort Caroline was the site of a 16th-century French Huguenot settlement.

The Harpers Ferry national monument project in Maryland and West Virginia was brought nearer to completion when the state of West Virginia, with a $350,000 appropriation, began acquiring about 400 ac. within the project-area, and the state of Maryland appropriated funds to buy the 900 ac. comprising its portion of the project.

Three new areas were established during the year—Chicago Portage national historic site, Illinois; Virgin Islands national historic site, Saint Croix; and Shadow Mountain national recreation area, Colorado. The new museum was dedicated at Custer Battlefield national monument, Montana.

(C. L. Wi.)

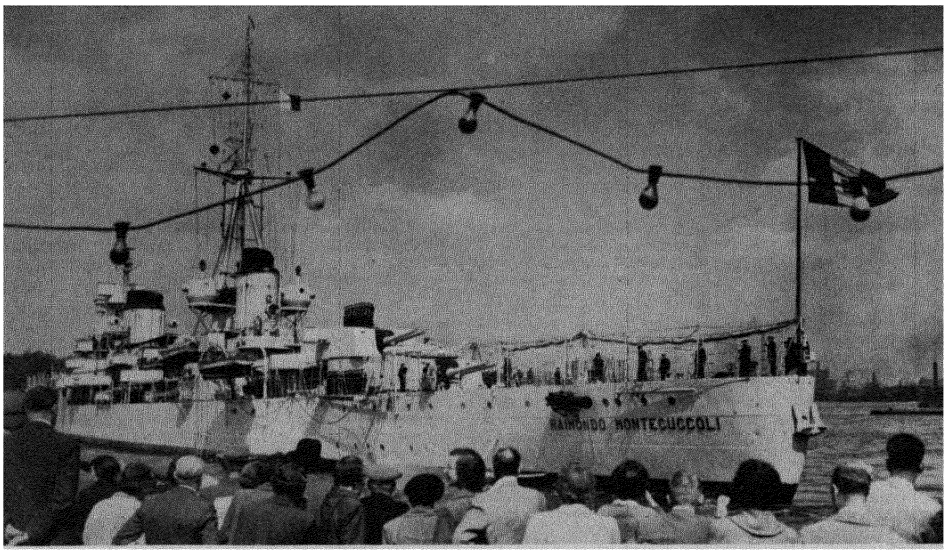
NATIONAL TRUST. Four notable houses came to the Trust in 1952. Powis castle, Welshpool, is a splendid 13th-century castle with fine Caroline plasterwork and woodwork, murals by Lanscroon and beautiful terraced gardens. There are many relics of Robert Clive. Fenton house, Hampstead, is a dignified late 17th-century mansion with furniture of the period and outstanding porcelain. To this house were moved from Chelsea the instruments given in 1938 by Major Benton Fletcher for the study of early keyboard music, and also Handel's harpsichord, lent by Queen Elizabeth the Queen Mother. Oxburgh hall, Swaffham, is a late 15-century house built round a quadrangle, with a gatetower 80 ft. high rising sheer from the moat. It had been the home of the Bedingfeld family for 450 years. Mompesson house (built 1701), one of the finest houses in Salisbury cathedral close, has superb original panelling and plaster. Also acquired by the Trust were Ramsey abbey gatehouse, Huntingdonshire, the picturesque remains of the 15th century; the Moretonhampstead almshouses, Devon, built in 1637 and now let as cottages; and Lanyon Quoit, Penzance, a huge granite capstone on three pillars, a notable Celtic sepulchral monument. It was expected that in 1953 Petworth house, which came into the Trust's hands on the death of the third Lord Leconfield, would, with its magnificent array of pictures, be on view to the public.

Houses (previously given) which were opened to the public in 1952 included Arlington court, Barnstaple, with collections of model ships (many made by French prisoners during the Napoleonic wars), pewter and sea-shells, and its delightful park of 3,500 ac.; Penrhyn castle, Bangor, a colossal mansion in Norman style built in 1827-40; and Old Soar manor, Kent, the unaltered part of a 13th-century knightly dwelling. In Clumber park, Nottinghamshire, a further 400 ac. were opened.

The principal area of land given to the Trust was the Derwent estate of 6,500 ac., 12 mi. west and northwest of Sheffield, mostly in the West Riding but partly in Derbyshire. This consists of deeply undulating moors on the east bank of the River Derwent, rising to 1,775 ft. Also acquired were



The main entrance to Penrhyn castle, Bangor, which the National Trust accepted from the Treasury through the National Land Fund in October. The castle was previously owned by Lady Janet Douglas-Pennant.



The Italian cruiser "Raimondo Montecuccoli" (6,941 tons) seen at Gravesend in August. This was the first Italian warship to visit Britain since World War II. On board were 134 cadets from the naval college at Leghorn.

Bridges farm, Dedham, in the Constable country; and Blelham tarn, Hawkshead, in the Lake District, with adjoining land.

During 1952 the National Trust received cash donations totalling £125,000 (including an anonymous gift of £70,000) and legacies totalling £105,000. The membership of the Trust increased from 28,000 to 36,000 during the year.

The government hoped, if time permitted, to introduce a bill during the 1952-53 session of parliament to assist the preservation of historic houses. (*See* also HISTORIC BUILDINGS.) (E. H. KG.)

NAURU: *see* COMMONWEALTH OF NATIONS; TRUST TERRITORIES.

NAVIES OF THE WORLD. At the end of 1952 there were two great navies, those of the United States and of Great Britain. Other major fleets were those of the U.S.S.R., France and Italy, followed by those of Sweden, the Netherlands, Turkey, Spain, Australia, Canada, Argentina, Brazil and Chile. There were also no fewer than 42 not so well balanced and lesser navies. Several of the smaller countries continued to add to their naval strength by acquiring small warships from the United States and Great Britain. The comparative strengths in ships, of and above the escort vessel categories, of the navies of the world were as shown in the table.

The principal trends in the navies of the larger maritime powers in 1952 were the building of large numbers of coastal and inshore minesweepers, the adaptation of large destroyers as fleet anti-submarine escorts, the conversion of smaller destroyer types into fast anti-submarine frigates, the reconstruction and conversion of aircraft carriers to operate larger and faster aircraft and an increase in the speed and underwater endurance of submarines.

Among the naval events of the year which shocked and stirred the world were the sad loss of 176 officers and men when the United States destroyer minesweeper "Hobson" was cut in halves by the United States aircraft carrier "Wasp" in the Atlantic on April 27; the disappearance of the French submarine "Sibylle" with her crew of 48 on Sept. 24; and the explosion of Britain's first atomic bomb in the Monte Bello islands off Australia in which the British frigate "Plym" was expended on Oct. 3. Several large-scale international naval exercises were carried out by North Atlantic Treaty organization countries, including "Exercise Beehive II" in the Mediterranean and "Exercise Castanets" and "Exercise Mainbrace" in western and northern European waters respectively.

Many British warships were concerned in the Korean campaign and others were called upon to deal with the emergencies in the middle east. Many United States, Australian, Canadian and New Zealand warships were active in the Korean theatre.

United States Naval Strength. A giant aircraft carrier of 59,900 tons was laid down named "Forrestal". Twelve aircraft carriers of the "Essex" class were converted on similar lines to the newly completed "Oriskany" and the recently converted "Essex" to enable them to operate heavier aircraft. At the end of 1952 all four of the "Iowa" class battleships were in commission. Four heavy cruisers and 17 destroyer escorts which had been on the disposal list since the end of World War II were restored to the navy list and placed in the reserve fleet. The United States navy comprised 28 fleet aircraft carriers, 8 light fleet carriers, 66 escort carriers, 15 battleships, 2 battle cruisers, 29 heavy cruisers, 43 light cruisers, 348 destroyers, 269 escort destroyers and frigates, 200 submarines, 219 minelayers and minesweepers, 148 patrol vessels, 950 amphibious craft, 675 fleet auxiliaries and 1,800 service craft, a total of 4,800 vessels.

British Naval Strength. Late in 1952 there were six fleet aircraft carriers, six light carriers and one escort carrier. The newly built large fleet aircraft carrier "Eagle" was finally accepted into the Royal Navy on March 1. Progress was made with the construction of the light fleet carriers "Albion",

" Bulwark " and " Centaur ", but the remaining ship of the class, the " Hermes ", was not launched. The light carriers " Hercules " and " Leviathan " were still suspended. Of the five surviving battleships only one was in commission at the end of the year, the " Vanguard " being flagship of the Home fleet and the four of the " King George V " class relegated to reserve and laid up in a state of preservation. There were 26 cruisers including a cadets' training ship and a trials ship. No building progress was made with the cruisers " Blake ", " Defence " and " Tiger ". Destroyers numbered 93, including 15 under conversion to fast frigates and 4 large destroyers of the " Daring " class being completed. There were 165 frigates and 53 submarines, excluding 4 midget submarines. Other vessels included 3 fast minelayers, 3 aircraft maintenance carriers, 2 monitors, 60 ocean minesweepers and many coastal craft, miscellaneous ships and auxiliaries.

Commonwealth. Australia had a compact navy including 1 light fleet carrier (a sister ship was under construction in Great Britain, and until she was completed the British government was lending a similar ship), 3 cruisers, 5 destroyers (4 more under construction), 5 fast anti-submarine frigates under conversion from destroyers, 14 frigates and 32 fleet minesweepers.

Canada also had a well-balanced navy of 1 light fleet carrier (lent from Britain and to be replaced by a new ship, the " Powerful "), 2 cruisers, 11 destroyers (4 of which were to be converted to fast anti-submarine escorts), 24 frigates (14 more were under construction or projected), 30 fleet minesweepers, and numerous smaller craft.

U.S.S.R. The total available naval strength at the end of 1952 was 3 battleships, 14 cruisers, 3 coast defence ships, 85 destroyers, 38 frigates, 370 submarines, 26 escort vessels and numerous minesweepers, minelayers, patrol vessels, torpedo boats and ancillary ships.

France. Two more destroyers escorts (frigate type) were acquired from the United States. The construction of the anti-aircraft cruiser " De Grasse " was continued. The fleet comprised 2 light aircraft carriers, 1 escort carrier, 2 battleships, 5 cruisers, 9 destroyers, 28 frigates, 12 submarines and numerous patrol vessels, miscellaneous ships and auxiliaries.

Italy. The navy consisted of 2 old battleships, 3 cruisers, 3 destroyers, 15 frigates, 5 torpedo boats, 23 corvettes and a number of minesweepers and auxiliaries, 3 destroyers and 7 torpedo boats having been converted and re-rated as escorts (frigates).

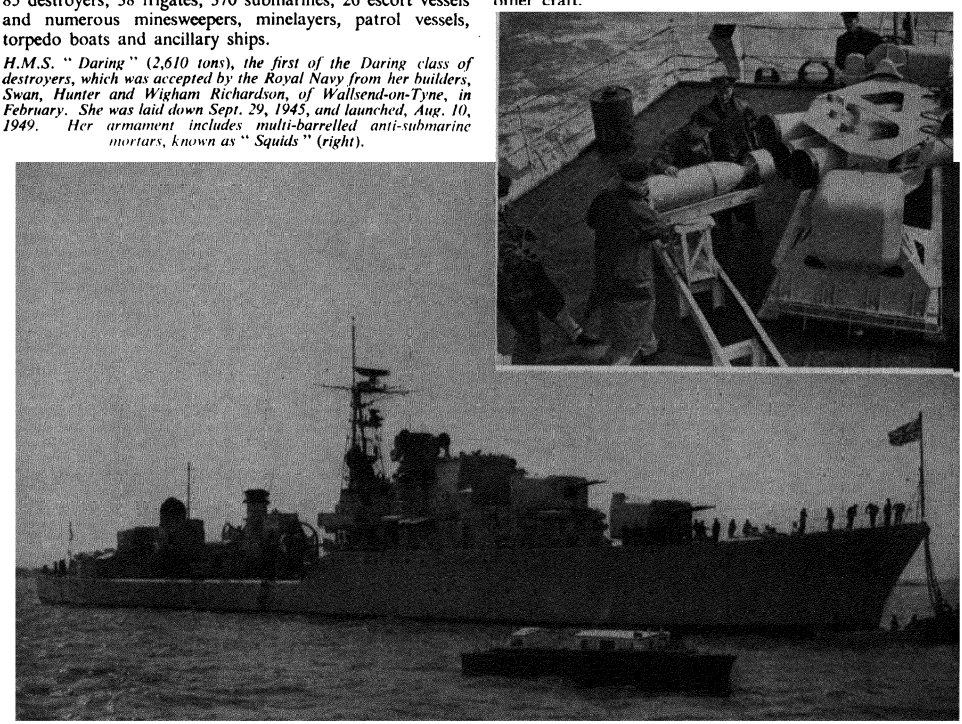
Other European Countries. Sweden had 4 cruisers, 3 coast defence ships (small battleships), 12 destroyers 4 of which were to be converted into frigates, 3 anti-submarine frigates, 6 torpedo boats (small destroyers) all to be converted into frigates, 24 submarines, 2 minelayers and numerous motor torpedo boats, minesweepers and other vessels.

The Netherlands had a well-balanced navy of 1 light fleet aircraft carrier, 2 light cruisers (2 larger cruisers were nearing completion), 6 destroyers, 10 frigates, 7 submarines, 4 escort minesweepers, 1 minelayer and a number of other warships.

Spain had 6 cruisers, 20 destroyers, 12 frigates, 6 submarines, 6 minelayers, 7 fleet minesweepers and many minor warships and auxiliaries. Six corvettes, 4 submarines and 7 fleet minesweepers were being built.

Turkey possessed 1 old battle cruiser now over 40 years old, 10 destroyers, 11 submarines, 13 ocean minesweepers and numerous other warships and auxiliaries.

South America. Argentina had 2 old battleships, 5 cruisers, 1 coast defence ship, 11 destroyers, 4 torpedo boats (smaller destroyers), 7 frigates, 3 submarines, 8 minesweepers and other craft.



H.M.S. " Daring " (2,610 tons), the first of the Daring class of destroyers, which was accepted by the Royal Navy from her builders, Swan, Hunter and Wigham Richardson, of Wallsend-on-Tyne, in February. She was laid down Sept. 29, 1945, and launched, Aug. 10, 1949. Her armament includes multi-barrelled anti-submarine mortars, known as " Squids " (right).

Brazil possessed 1 old battleship, 2 cruisers, 9 destroyers, 8 frigates, 3 submarines, 10 corvettes and numerous smaller craft.

Chile had 1 old battleship, 2 cruisers, 6 destroyers, 6 frigates, 7 submarines and a number of miscellaneous ships.

Modern Types of Warships. The principal types of modern warships in the navies of the world were as follows:

Fleet Aircraft Carriers. "Midway" (U.S.), 45,000 tons, fourteen 5-in. guns, 137 aircraft, 212,000 s.h.p., 33 knots; "Eagle" (British), 36,800 tons, sixteen 4·5-in. guns, 110 aircraft, 152,000 s.h.p., 31½ knots; "Oriskany" (U.S.), 30,800 tons, eight 5-in. guns, 100 aircraft, 150,000 s.h.p., 33 knots; "Implacable" (British), 26,000 tons, sixteen 4·5-in. guns, 148,000 s.h.p., 32½ knots.

Light Fleet Aircraft Carriers. "Saipan" (U.S.), 14,500 tons, 50 aircraft, 120,000 s.h.p., 33 knots; "Theseus" (British), 13,350 tons, 35 aircraft, 40,000 s.h.p., 25 knots; "Belleau Wood" (U.S.), 11,000 tons, 45 aircraft, 100,000 s.h.p., 32 knots.

Battleships. "Iowa" (U.S.), 45,000 tons, nine 16-in. and twenty 5-in. guns, 212,000 s.h.p., 33 knots; "Vanguard" (British), 44,500 tons, eight 15-in. and sixteen 5·25-in. guns, 130,000 s.h.p., 30 knots; "South Dakota" (U.S.), 35,000 tons, nine 16-in. and twenty 5-in. guns, 130,000 s.h.p., 28 knots; "Jean Bart" (French), 38,750 tons, eight 15-in. and nine 6-in. guns, 150,000 s.h.p., 30 knots; "King George V" (British), 35,000 tons, ten 14-in. and sixteen 5·25-in. guns, 110,000 s.h.p., 28½ knots.

Large (Battle) Cruisers. "Alaska" (U.S.), 27,500 tons, nine 12-in. and twelve 5-in. guns, 150,000 s.h.p., 33 knots.

Heavy Cruisers. "Des Moines" (U.S.), 17,000 tons, nine 8-in. and twelve 5-in. guns, 120,000 s.h.p., 33 knots; "Oregon City" (U.S.), 13,700 tons, nine 8-in. and twelve 5-in. guns, 120,000 s.h.p., 33 knots.

Light Cruisers. "Worcester" (U.S.), 14,700 tons, twelve 6-in. and twenty 3-in. guns, 120,000 s.h.p., 32 knots; "Fargo" (U.S.), 10,000 tons, twelve 6-in. and twelve 5-in. guns, 100,000 s.h.p., 32½ knots; "Superb" (British), 8,000 tons, nine 6-in. and ten 4-in. guns, 72,500 s.h.p., 31½ knots; "Tre Kronor" (Swedish), 7,500 tons, seven 6-in. guns, 100,000 s.h.p., 33 knots; "Diadem" (British), 5,900 tons, eight 5·25-in. guns, 62,000 s.h.p., 32 knots.

Destroyers. "Mitscher" (U.S.), 3,675 tons, 5-in. and 3-in. guns; "Daring" (British), 2,610 tons, six 4·5-in. guns, 54,000 s.h.p., 34 knots; "Gearing" (U.S.), 2,425 tons, six 5-in. guns, 60,000 s.h.p., 35 knots; "Jutland" (British), 2,400 tons, five 4·5-in. guns, 50,000 s.h.p., 31 knots; "Öland" (Swedish), 1,880 tons, four 4·7-in. guns, 44,000 s.h.p., 35 knots.

Frigates. "Relentless" (British), 1,705 tons, two 4-in. guns, two 21-in. torpedo tubes, 40,000 s.h.p., 34 knots; "Mounts Bay" (British), 1,580 tons, four 4-in. guns, 5,500 i.h.p., 19½ knots; "Amethyst" (British), 1,490 tons, six 4-in. guns, 4,300 s.h.p., 18½ knots; "Brecon" (British), 1,175 tons, six 4-in. guns, three 21-in. torpedo tubes, 19,000 s.h.p., 25 knots.

Submarines. "Tang" (U.S.), 1,570 tons, six 21-in. tubes, 20 knots; "Amphion" (British), 1,120 tons, ten 21-in. tubes, 4,300 b.h.p., 18 knots; "Créole" (French), 820 tons, ten 21·7-in. tubes, 3,000 b.h.p., 17 knots; "K-1" (Russian), 1,457 tons, ten 21-in. tubes, 22½ knots. (*See* also ROYAL NAVY.)

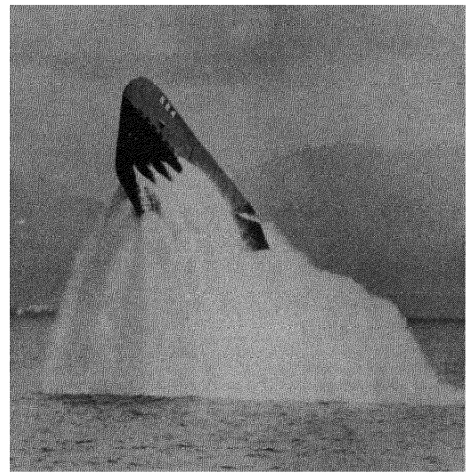
(R. V. B. B.)

NAVIES OF THE WORLD, DEC. 1952

	Fleet Aircraft Carriers	Light Fleet Aircraft Carriers	Escort & Maintenance Carriers	Battleships	Cruisers	Coast Defence Ships & Monitors	Destroyers	Frigates and Escort Vessels	Submarines
UNITED STATES	28	8	66	15	74	1	348	269	200
GREAT BRITAIN	6	6	4	5	26	2	93	165	53
U.S.S.R.	—	—	—	3	14	3	85	64	370
FRANCE	—	2	1	2	5	—	9	28	12
ITALY	—	—	—	2	3	—	3	43	—
SWEDEN	—	—	—	—	4	3	12	9	24
NETHERLANDS	—	1	—	—	2	—	6	10	7
SPAIN	—	—	—	—	6	—	20	12	6
TURKEY	—	—	—	—	1	—	10	—	11
AUSTRALIA	—	1	—	—	3	—	10	14	—
CANADA	—	1	—	—	2	—	11	24	—
ARGENTINA	—	—	—	2	5	1	11	11	3
BRAZIL	—	—	—	1	2	—	9	8	3
CHILE	—	—	—	1	2	—	6	6	7
NEW ZEALAND	—	—	—	—	2	—	—	6	—
PERU	—	—	—	—	2	—	1	6	4
GREECE	—	—	—	—	1	—	3	19	4
INDIA	—	—	—	—	1	—	3	5	—
NORWAY	—	—	—	—	—	—	5	14	9
PORTUGAL	—	—	—	—	—	—	5	8	3
CHINA	—	—	—	—	—	—	7	23	—
JAPAN	—	—	—	—	—	—	—	24	—
PAKISTAN	—	—	—	—	—	—	3	3	—
POLAND	—	—	—	—	—	—	2	—	4
THAILAND	—	—	—	—	—	1	—	4	4
DOMINICAN REP.	—	—	—	—	—	—	2	9	—
RUMANIA	—	—	—	—	—	—	2	—	1
COLOMBIA	—	—	—	—	—	—	2	2	—
SOUTH AFRICA	—	—	—	—	—	—	2	3	—
INDONESIA	—	—	—	—	—	—	1	4	—
EGYPT	—	—	—	—	—	—	—	10	—
DENMARK	—	—	—	—	—	—	—	8	3
YUGOSLAVIA	—	—	—	—	—	—	—	4	3
MEXICO	—	—	—	—	—	—	—	7	—
ISRAEL	—	—	—	—	—	—	—	7	—
VENEZUELA	—	—	—	—	—	—	—	5	—

Other naval forces, including four or fewer escort vessels, are those of Cuba, Belgium, Irish Republic, South Korea, Persia, Uruguay, Ecuador, Burma. Minor naval vessels are possessed by Bulgaria, Ceylon, Finland, Haiti, Honduras, Hungary, Iceland, Iraq, Nicaragua, Panama, Paraguay, Philippines.

E.B.Y.—15



The United States submarine "Pickerel" (1,570 tons) breaking surface at a 48° angle during a training exercise off Hawaii in 1952.

NAZIMUDDIN, KHWAJA, Pakistani statesman (b. Dacca, Bengal, July 19, 1894), became prime minister of Pakistan on Oct. 16, 1951, after the assassination of Liaquat Ali Khan. For his earlier career see *Britannica Book of the Year 1952.*

From Jan. 25 to Feb. 4, 1952, the prime minister toured East Pakistan, and on Jan. 29 laid the foundation stone of the new Broadcasting house in Dacca. Addressing a public

meeting at Dinajpur on Jan. 30, Nazimuddin emphasized that in spite of the geographical barriers separating the two wings of Pakistan, the essential unity of the country was " as real as life itself "; at a Dacca press conference (Feb. 3) he asked for co-operation in fighting " provincialism . . . a greater menace to the state than any threat from outside ". " Provincial autonomy " and " greater autonomy ", he insisted, were " slogans of British days ". Warning against another kind of provincial disunity, that provoked by language differences, he admitted at a Karachi press conference (April 13) that although East Pakistan did not deny that Urdu was the language of the Moslems, feeling there in favour of Bengali was equally strong. On July 3, at a Karachi chamber of commerce dinner, Nazimuddin called on leaders of commerce and industry to take an increasing interest in " nation-building "; by Aug. 29 he had gathered together some of these men as the Economic Appraisal and Development Enquiry committee, and on that day he addressed their first session. On March 24 he had opened the Karachi session of the Colombo Plan consultative committee. On Pakistan day, Aug. 14, he addressed a great public meeting in Karachi, attended a military parade and air force fly-past in the morning, and broadcast to the nation in the afternoon On Sept. 20, the fourth anniversary of M. A. Jinnah's death, Nazimuddin issued a message in his praise. On Oct. 31 he was elected an honorary fellow of his old college, Trinity Hall, Cambridge. He arrived in London on Nov. 24 for the commonwealth prime ministers' conference (Nov. 27-Dec. 11); on Dec. 4 he broadcast on the B B.C. Home service.

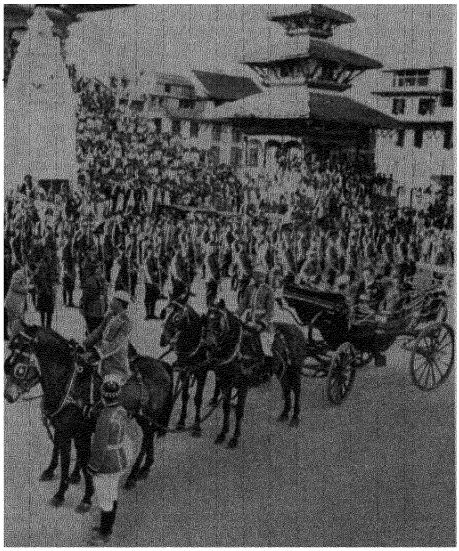
NEGUIB, MOHAMMED, Egyptian soldier and statesman (b. Khartoum, 1901), spent his early years in Wad Medani. He ran away from school to join the Royal Military academy, Cairo, but was rejected because he was not tall enough. One year later he was accepted, and astonished his instructors by his quickness and aptitude. He was commissioned at the age of 19. During World War II Neguib was occupied with administrative duties. More active service followed in the war with Israel when he became a brigadier in command of a machine-gun and infantry regiment and won a reputation for leadership and courage. He was respected by both senior and junior officers for his integrity and when the army's smouldering discontent about corruption in palace and government circles burst into flame in July 1952, Neguib was chosen as leader of the *coup d'état*. He had hoped to shock the king and his ministers into making reforms, but when the protests of the " free officers " (as Neguib and his fellow-officers were called) went unheard more drastic action was decided upon and early on July 23 Farouk's palace was surrounded and all approaches to Cairo were guarded. Within a few hours the king was forced to abdicate and leave the country. Neguib made Ali Maher (*q.v.*) prime minister and announced the army's demands for reform, which were to affect not only political circles—particularly the Wafd, the principal political party—but also itself. He declared that the question of land tenure would receive attention and that the affairs of ministers and high officials would be scrutinized. Immediately he was bitterly opposed by the Wafd. On Sept. 7 Ali Maher resigned and Neguib became prime minister and minister of war and marine. Later in the month he visited workers in the delta district of Cairo and appealed: " Give me another six months without partnership, with faith in God and the motherland, and the enemy will be afraid of us and we shall realize our aims." In Cairo, on Oct. 29, he signed, on behalf of the Egyptian government, the agreement with the Sudanese political parties the text of which implied *de facto* recognition of the 1899 condominium agreement unilaterally abrogated by Egypt in 1951. On Nov. 14 the Egyptian cabinet conferred supreme powers on General Neguib for six months (retrospectively from July 23) in the interests of " the security of the state ". Late in November politicians who had been detained since the *coup d'état*, were released by Neguib. On Dec. 10 he announced the abolition of the 1923 constitution and proposals to form a new one.

NEHRU, JAWAHARLAL, Indian statesman (b. Allahabad, United Provinces, Nov. 14, 1889). For his earlier career see *Encyclopædia Britannica*. Arrested in Aug. 1942, following Congress' call for civil disobedience, Nehru was released in June 1945, and in March 1946 took a leading part in the negotiations with the British cabinet mission on Indian independence. In September of that year he became vice-president of the first all-Indian executive council (*i.e.*, prime minister of the interim government). On Aug. 15, 1947, when the Indian sub-continent was partitioned, he was appointed prime minister and minister for external affairs, posts in which he continued when India became a republic on Jan. 26, 1950. Nehru entered upon his fifth term as Congress president on Sept. 8, 1951, in succession to Purshottamdas Tandon (see *Britannica Book of the Year 1952*).

The Indian prime minister's year began with a brief election tour of West Bengal (Dec. 31, 1951-Jan. 2, 1952) followed by a visit to Bihar. On Feb. 13 it was made known that he himself had been returned with a substantial majority for the Allahabad-East-cum-Jaunpur constituency; on May 13 he re-formed his government. That Nehru intended to maintain his position against the die-hard wing of Congress, formerly led by Tandon, was shown by his retention in the cabinet of such prominent figures in the 1951 anti-Tandon schism as R. A. Kidwai and A. P. Jain; earlier, at the Calcutta session of the Congress committee (March 22), he had called for " new blood in the Congress ". On Sept. 14 he presided over the committee's session at Indore. He addressed a conference of state governors and *rajpramukhs* held in New Delhi on March 14-15. Many of the prime minister's engagements during 1952 emphasized India's quest for material betterment and technical development: he inaugurated the Indian Science congress and opened the Jute Research institute's laboratories in Calcutta (Jan. 2); signed the Indo-American Technical Co-operation fund agreement (Delhi, Jan. 5); laid the foundation stone of Kandla Port, on the Gulf of Kutch (Jan. 10); opened an important chemical and dyestuffs plant at Parnera, Bombay (March 17), opened a community projects conference (Delhi, May 7); and inaugurated the Central Road Research institute near New Delhi (July 16). Nehru twice visited frontier areas in 1952—Ladakh in August and northern Assam in October (during a week's tour of Assam, Tripura and Manipur states). He inaugurated the first Indian rural university at Sevagram, Madhya Pradesh, on Nov. 1. On Nov. 30 he took a leading part in the enshrinement of the sacred relics of Sariputta and Maha Moggallana, chief disciples of Buddha, at Sanchi hill, Bhopal.

NEPAL. Independent kingdom in the Himalayas, lying between India and Tibet. Area: *c.* 54,000 sq.mi. Pop. (1948 est.): 6,910,000. Aboriginal stock is Mongolian, with Hindu admixture. Language: Gorkhalis, or Gurkhas, speak Parbatia, of Sanskrit origin; Bothias use Tibetan; Newars, from southern India, speak Gubhajius, resembling Tibetan but with many Sanskrit words. Religion: Buddhism mixed with Hinduism. Capital, Kathmandu (pop. *c.* 110,000). Ruler, Tribhuvan Bir Bikram Shah Deva.

History. Inaugurating on July 4 the newly constituted 61-member advisory assembly at Kathmandu, King Tribhuvan



The U.S. ambassador to Nepal, Chester Bowles, arriving at the royal palace in Kathmandu to present his credentials on Feb. 23.

said that the establishment of the assembly was another big step towards democracy. He also said that the cordiality between Nepal and Tibet had not been affected by the presence of Chinese in the latter country.

On July 21, however, the new constitutional régime suffered a setback when Bishewar Prasad Koirala, chairman of the Nepali Congress party, ordered his elder brother Matrika Prasad Koirala to resign from the premiership because he had refused to reconstruct the cabinet according to the party's wishes. On Aug. 10, M. P. Koirala resigned from office and, reluctantly, the king took over the administration himself. On Aug. 14 he proclaimed that he would rule through five advisers till an effective and representative council of ministers could be set up.

On Sept. 3 the Nepali Congress party asked the king to put an end to the advisers' régime and to entrust the party with the forming of a new government. The next day King Tribhuvan flew to New Delhi and was greeted at the airport by Jawaharlal Nehru, the Indian prime minister. Shortly after his return to Kathmandu he appointed on Sept. 26 a 15-member commission to investigate land holdings and to suggest reforms.

On July 30, in a northwestern district, 14 Nepali Communists were arrested when they were returning through one of the passes from Tibet. Documents said to be important were seized.

It was announced from Delhi on Aug. 25 that the Indian government had expressed to the British and Nepali governments its desire that the 1947 arrangement under which Gurkha recruits for the British army were attested in special recruiting depots on Indian territory near the Nepali border should be terminated and alternative arrangements made. Under the 1947 arrangement India maintained 12 Gurkha battalions (the old Indian army had had 20) and the British army 8. As some of the latter were serving in Malaya, the Indian Communist party criticized the government for allowing the "recruitment of Gurkhas on Indian soil for the British war against the people of Malaya."

Finance and Banking. Est. gross revenue (1951) N.Rs. 33 million Monetary unit: Nepal *rupee* with an exchange rate (Nov. 1952) o N.Rs. 13·33 to the pound sterling.

Foreign Trade. (Nep. rupees, est. 1951.) Imports from India 6 million; exports to India 130 million. Principal imports: textiles cigarettes, salt, paraffin, sugar, spices, machinery, medicines and boot and shoes. Principal exports: food grains, jute, timber, oilseeds potatoes, hides and skins.

Transport and Communications. Roads (1950): 237 mi. suitable fo motor vehicles. Licensed motor vehicles (Dec. 1950): cars 220; com mercial 80.

NETHERLANDS. Kingdom of northwest Europe bounded N. and W. by the North sea, E. by Germany and S by Belgium. Area: 12,868 sq.mi. (not including the water ways and sheets of water larger than 185 ac.). Pop.: (194 census) 9,625,499; (Oct. 1951 est.) 10,286,250. Language Dutch. Religion (1947): Roman Catholic 38·50%, Dutc Reformed 31·03%, other reformed churches 7·93%, n religion 17·04%. Chief towns (pop., 1951 est.): Amsterdan (cap., 845,266); Rotterdam (684,658); The Hague (571,853) Utrecht (195,121); Haarlem (164,007); Eindhoven (143,965) Groningen (137,719); Tilburg (122,551); Nijmegen (112,799) Ruler, Queen Juliana; prime minister, Willem Drees.

History. The most important event in domestic politic in 1952 was the general election for the Second Chamber tha took place on June 25. During the campaign preceding th election, both Liberal and Anti-Revolutionary (Calvinist parties levelled strong criticism at the postwar governmen policy which was said simply to exemplify the influenc wielded by the Labour party in the government coalition Tendencies of stale socialism, exaggerated bureaucratism stifling taxation, these were counts in the indictment. Th Labour minister of finance, P. Lieftinck, was a favourite but of criticism, although the turn for the better which th country's financial situation had recently taken made som of it less effective. Meanwhile the other chief member of th governing coalition, the Catholic People's party, was obviousl subject to severe internal tension. Conservative element hinted that other partners might be found in place of Labour this tendency towards the right caused a good deal o alarm among the party's left wing and Catholic workin men.

The result of the election afforded clear proof that thousand of these latter were so much disgruntled as to desert the part and to vote on the Labour party list. The proportiona representation system does not allow very sharp changes an those that occurred, although seemingly small, came as a grea surprise (*see* ELECTIONS). For the Labour party the result wa gratifying: in a house of 100 it increased its seats from 27 t 30. The wide popularity of the premier, Willem Drees, was n doubt a factor in the success, but its most important aspec seemed to be that it could be regarded as the first substantia realization of the "break-through", advocated and predicte by Labour since World War II, or, in other words, of re-alignment of parties on issues of practical politics instea of religious principles.

According to custom the cabinet had resigned before th result was known. The formation of a new cabinet proved lengthy and wearisome business. The Catholic leaders insiste on having more parties included and a tussle about th redistribution of portfolios ensued. On Sept. 1 a new Dree cabinet was announced with himself as prime minister L. J. M. Beel (Catholic) as minister of the interior, Corneli Staf (Christian Historical) as minister of defence and J. A. va de Kieft (Labour) as minister of finance. An innovation wa the appointment of two foreign ministers in the persons o J. W. Beyen (non-party) and J. M. A. H. Luns (Catholic)

The favourable trend in the country's financial an economic affairs that had first manifested itself about th

middle of 1951 continued during 1952. Both the movement of prices in the international market and government measures taken in 1951 were responsible for a considerable improvement of the country's balance of payments. While in the first seven months of 1951 only 66% of imports were covered by exports, the proportion in the same period of 1952 was 92%. The stock of gold and foreign currency, which amounted to Fl. 895 million in July 1951, reached the figure of Fl. 2,926 million in July 1952. The deficit in the European Payments union was not only wiped out: Holland became a considerable creditor. The dollar shortage, however, remained. The improved financial position was one factor in making the Netherlands bank decide (Jan. 22) to lower the bank rate from 4% to 3½%. The deflationary policy was partly responsible for an increase of unemployment (165,824 unemployed in Jan. 1952). Measures taken early in the year to raise employment proved insufficient. In the speech from the throne (Sept. 16) the new cabinet gave prominence to a policy of increasing employment; export and home consumption were both to be stimulated to that end.

On Jan. 11 negotiations were set on foot at The Hague between the Netherlands government and delegates of the Indonesian republic about the Netherlands-Indonesian union (dating from the Round Table conference of 1949) and the status of western New Guinea. As regards the first question, the Dutch government declared its readiness to replace the union relationship by a complex of agreements in international law. As regards New Guinea it proved impossible to reach a compromise and the negotiations were broken off in February. (*See* also INDONESIA.)

The improvement of the Dutch balance of payments removed one of the obstacles that stood in the way of a complete economic union of Belgium, the Netherlands and Luxembourg. New difficulties were created when certain interests in Belgium began to complain with increasing violence of the competition they were suffering from Dutch imports. Because the level of wages and prices was lower in the Netherlands, various Dutch products were cheaper than the Belgian equivalents. A clamour arose for measures to protect Belgian products if the Dutch price level were maintained. A raising of that level might however jeopardize the Dutch trading position in the international market. Meanwhile Benelux seemed to be in a precarious position.

In the negotiations held in Paris for the creation of a European Defence community it was Stikker's policy to advocate a close integration of the projected European army into the wider N.A.T.O. framework. He wished to see Federal Germany included somehow in N.A.T.O. On May 27 he put his signature to the agreement for the creation of the E.D.C. According to his statement in the Second Chamber on Feb. 7, the government had come to realize that it was hardly possible to proceed further on the road of functional organization without accepting political federation. In his view the E.D.C. was already to be considered as a partial federation. Now since a European federation seemed the logical and inevitable development, the government was determined to accept the situation and energetically to promote the project. In April Queen Juliana and her consort paid an official visit to the United States, and on April 3 the queen addressed the U.S. congress. (P. GE.)



Queen Juliana in Culemborg in May 1952. She opened an exhibition to commemorate Jan Van Riebeck, who lived there, and who in April 1652 landed at Capetown to found the first European settlement in South Africa.

Education. Schools (1949-50) government infant 294, pupils 48,206, teachers 1,240; private infant 2,720, pupils 267,478, teachers 6,245; government elementary 2,401, pupils 319,680, teachers 9,685, private elementary 4,697, pupils 860,478, teachers 24,939; day secondary 1,281, pupils 209,818, teachers 11,614; evening secondary 126, pupils 15,905, teachers 1,095, agricultural 236, pupils 50,380, technical and housewifery 892, pupils 236,278, teachers 11,405. Teachers' training colleges 89, students 10,545, lecturers 1,152 Universities state 4, students 17,928, professors and lecturers 684, technical 4, students 8,367, professors and lecturers 274, free 2, students 2,271, professors and lecturers 99

Agriculture and Fisheries. Main crops ('000 metric tons, 1951; 1952 in brackets) wheat 270 (348), rye 458 (468), barley 210 (243), oats 491 (450); potatoes 3,796, sugar (raw value) 366 (363), rapeseed 21, linseed 20; dry peas 76; broad beans 9; flax fibre 25 4 Livestock ('000 head, May 1951) cattle 2,882, pigs 1,947, horses used in agriculture (May 1950) 252, sheep 371; poultry 25,460 Meat production ('000 metric tons, 1950; 1951 in brackets) 322 (382), incl beef and veal 129 (166), pork 183 (212). Dairy production ('000 metric tons, 1951; 1952, six months, in brackets) milk delivered ('000 hl) 45,213 (22,551), butter 84 6 (34 8), cheese 140 4 (68 1) Fisheries total catch (1951) 280,000 metric tons, herring exports (1950) 33,860 metric tons, valued at Fl. 17 5 million

Industry. Industrial establishments (1950) 170,690, persons employed 1,641,892 Total working population (1950)· 3,953,000 Fuel and power (1951, 1952, six months, in brackets) coal ('000 metric tons) 12,420 (6,219), lignite 252 (1952, four months, 85), crude oil ('000 metric tons) 714 0 (362 7), manufactured gas (million cu m) 1,680 (872), electricity (million kwh) 5,796 (3,028) Raw materials ('000 metric tons, 1951, 1952, six months, in brackets)· pig iron 524 4 (247 7), crude steel 552 (289 8), zinc (smelter) 22 6 (12 5), aluminium, primary metal (1950, 1951 in brackets) 10 8 (4 3), tin, metal 21 4 (13 2), salt (1950, 1951 in brackets) 419 (226) Manufactured goods ('000 metric tons 1951, 1952, six months in brackets) cement 702 2 (382 0); cotton yarn 62 3 (1952, five months, 23 6); wool yarn 21 1 (1952, four months, 6 8), rayon filament yarn 24 4 (1952, four months, 7 7), rayon staple fibre 11 9 (4 0), paper (1950) 325, leather footwear (1950) 13 million pairs New dwellings completed (1951, 1952, six months, in brackets) 58,668 (24,100)

Finance and Banking (million guilders) Budget (1952 est) revenue 4,701, expenditure 3,801, (1953 est) revenue 5,124, expenditure 5,616 National debt (June 1949, June 1950 in brackets)· 23,353 (26,704) Currency circulation (June 1951, June 1952 in brackets)· 2,853 (2,975) Bank deposits (Aug 1950; Aug 1951 in brackets) 4,197 (3,993) Gold reserve and foreign exchange of central bank (million U S dollars, July 1951, July 1952 in brackets) 511 (764) Monetary unit *guilder* or florin, with an exchange rate of Fl 10 64 to the pound sterling and Fl 3 805 to the U S dollar

Foreign Trade. (Million guilders, 1951, 1952, six months, in brackets) Imports 9,673 (4,416), exports 7,431 (4,116) Main sources of imports (1951) Belgium-Luxembourg 18%, Germany 12%, U S 11%, U K 8% Main destinations of exports U K 16%, Belgium-Luxembourg 15%, Germany 14%, Indonesia 5% Main imports textiles, fibres and manufactures 13%, coal, petroleum and products 11%, iron and steel manufactures 9%, grain 6% Main domestic exports milk, dairy products and eggs 12%, textile fabrics incl garments 8%, machinery and apparatus 8%, chemicals and related products 7%

Transport and Communications. Roads (Jan 1950) main 1,724 mi , secondary 2,694 mi , third class and unclassified, over 10,713 mi Licensed motor vehicles (Dec. 1950) cars 138,625, commercial vehicles 88,126 Railways (1950) 1,925 mi , of which 555 mi electrified, passenger-mi 3,802 million, goods, tonnage carried 21 2 million, ton-mi 1,870 million Inland waterways 4,335 mi , of which *c* 1,000 mi. for ships of over 1,000 gross tons Shipping merchant vessels of 100 gross tons and over (July 1951) 1,602, total tonnage 3,237,333 Air transport (1950) passenger-mi 469 million, goods ton-mi 19 5 million Telephones (1951) 781,678 Wireless receiving sets (1951) 1,600,000

NETHERLANDS OVERSEAS TERRITORIES.

Under this heading are grouped the overseas territories of Dutch New Guinea, Dutch Guiana or Surinam and the Netherlands Antilles. Their total area is approximately 206,794 sq.mi and the total population over 1,074,000.

Dutch New Guinea. The western part of this second largest island of the world, with smaller adjacent islands, forms part of the territory of the kingdom of the Netherlands. Area: *c.* 152,100 sq.mi. Pop.: *c.* 700,000 of whom (1951 est.) 339,787 in districts under regular Dutch administration; Europeans, 9,869; Indonesians 11,013; other Asiatics (mainly Chinese) 3,027. The Papuans form the principal native stock. Principal towns: Hollandia (cap., pop. 1951 est., 32,059), Manokwari, Sorong and Merauke. Governor, S. L. J. van Waardenburg.

History. The budgets for 1950, 1951 and 1952 were finally submitted to parliament in Holland for approval, together with a bill covering a Fl. 40 million New Guinea development loan. The 1952 budget called for ordinary expenditure of Fl. 59 million; the capital budget amounted to Fl. 8,533,000. The annual report on the administration in 1951 was presented to the United Nations in August.

Under the auspices of the South Pacific commission (representing the joint interests in the area of Australia, Great Britain, France, the Netherlands and the United States) an experimental community project was started in the Nimboran plain, south of Hollandia; it aimed at raising the economic level of the Papuan population through adapting them to agriculture on the basis of co-operation by several clans. The same commission sponsored an investigation into the depopulation process, threatening New Guinea as other primitive societies exposed to contact with modern civilization. Sir Brian Freeston secretary-general of the South Pacific commission, visited the territory in November.

In June a geological and mining reconnaissance expedition under the auspices of the Technical University of Delft (Holland) started operations in the Cyclops range of mountains on the north coast The New Guinea Petroleum company continued to exploit the Klamono field on the western tip of the island (approx 5,000 bbl a day) and prepared the discovered fields near Mogoy and Wasian, farther east near the MacCluer gulf, for regular development. Apart from crude oil, exports of products like copra and resins marketed by the indigenous population also began to rise.

The general picture thus showed increasing activity, but the administration and the impetus towards development of this primitive territory continued to be hampered to some extent by uncertainties regarding the future status of New Guinea, in view of Indonesian annexation ambitions (*see* INDONESIA). In Holland, on the other hand, determination to carry on the task, based on article 73 of the U.N. charter, and to make adequate finances from Dutch treasury funds available for a long-term development plan was becoming more positive. After a new cabinet had taken office in Holland these intentions were confirmed in the speech with which the queen opened the sessions of parliament on Sept. 16, and endorsed by parliament itself in the debates which followed in December (W. G P)

See B Lasker, "Western New Guinea, past and future", *Far Eastern Survey* (New York, April 1952), *Report* on Netherlands New Guinea 1951, presented to the secretary-general of the U N (New York, 1952)

Netherlands Antilles. Group of six islands in the West Indies. Total area: 403 sq mi. Total pop (1951 est)· 166,000, of which more than one quarter are aliens Three islands lie near Venezuela, Curaçao (210 sq mi), Bonaire (95 sq mi.) and Aruba (69 sq mi.), three others, sparsely populated, lie 500 mi. to the northeast—the southern portion of St. Martin (17 sq.mi), St. Eustatius (7 sq mi) and Saba (5 sq.mi). The official language is Dutch, but a local *patois* (known as *papiamento*) of diverse origin is equally widespread Religion: mainly Roman Catholic. Capital and largest city, Willemstad, Curaçao (pop., 1950 est., 48,000). Governor, A. A M Struycken; premier, M. F. da Costa Gomez.

History. Constitutional relationships between the parliament, set up in 1950, and the imperial government had not been settled in 1952. Repeated conferences took place during 1952, as they had in 1951, in the Ministry of Overseas Territories in The Hague.

The effort to bring about the organization of labour employed in the oil refineries on Curaçao and Aruba, so as to exert more influence on the policy of the companies, continued during 1952, and late in the year the Oil Workers

International union of the United States consented to send one of its officials to look into the situation.

The future economic relations of the Netherlands Antilles with Venezuela continued to preoccupy the authorities both at The Hague and at Willemstad. Early in 1952 a counsellor for Caribbean affairs was appointed to the Netherlandish embassy in Caracas and a person selected by the cabinet at Willemstad was designated to the post, becoming virtually the first diplomatic representative of the Antilles in Venezuela (C. McG.)

Education. Schools (1951) elementary 48, pupils 15,912, higher elementary 31, pupils 11,765, secondary 3, pupils 417.

Oil Production. ('000 metric tons, 1950) Refined petroleum products 39,300, incl heavy oils 29,300, petrol 5,500, diesel oil 2,100

Finance. The monetary unit is the Netherlands Antilles *guilder* or *florin*, valued at U S $0 53 Budget (1951 est) revenue F 55,362,515, expenditure F 55,273,236 Public debt (Jan. 1, 1952). F. 8,450,500, notes in circulation F 35,217,000, gold reserves F 35,217,000

Foreign Trade. Exports (1951). F 1,324,800,000, imports F 1,447,200,000 Chief export petroleum products *c* 98% Chief import crude petroleum (from Venezuela) *c* 80%

Transport and Communications. Highways (1950) 417 mi Motor vehicles (Jan 1, 1951). cars 8,387, lorries 2,775 Telephones (Jan 1952) 6,456

Surinam. (DUTCH GUIANA). Lying in northeastern South America between French Guiana to the E. and British Guiana to the W. Surinam occupies 54,291 sq.mi. Pop. (1951 est.): 223,000 including about 85,000 indigenous and mixtures of indigenous and European elements, about 20,000 Afro-Americans, 35,000 Javanese and more than 50,000 who were either born in India or descended from persons born there. Barely 2,000 of the inhabitants were born in Europe. The official language is Dutch, but other languages and dialects are widely used. Capital, Paramaribo (pop , 1951 est., 78,000). Governor, J. Klaasesz; premier, J. A. E. Buiskool.

History. During 1952 extensive studies were undertaken for the purpose of carrying out the long-range programme of development proposed by the International Bank for Reconstruction and Development. The difficulty in working out a legislative programme acceptable to foreign investors as well as to the majority of the legislative council became more apparent as the year proceeded. Foreign trade continued to increase slightly during 1952 Connection by air, as well as by maritime facilities with the Netherlands, was improved by new services, and migration of Dutch people to Surinam was encouraged by credit and other assistance. (C. McG.)

Education. Schools (1951) elementary 120, pupils 31,000, teachers 783, higher elementary 6, pupils 2,250, teachers 90, secondary 1, pupils 81, technical 1, students 99 There was also a law school and a medical college

Industrial Production (1951) Bauxite 2,715,195 metric tons; gold 6,494 troy oz , balata 272 tons

Finance. Budget (1951 est): revenue F 27,895,000, expenditure F. 27,863,000 Monetary unit Surinam *guilder* or *florin* valued at U S $0 53

Foreign Trade (1951). Exports F 39,708,758, imports F. 45,833,093. Main destinations of exports (1951) U S 76%, Netherlands 6% Main sources of supply U S 37%, Netherlands 29% Chief exports bauxite (*c* 70%), rice, citrus fruit, timber, gold, balata and coffee

Transport and Communications (1951) Roads 250 mi. Railways 83 mi Motor vehicles (1950) cars 1,096, lorries 499, buses 115 Telephones (1948) 1,505.

NEW CALEDONIA: *see* PACIFIC ISLANDS, FRENCH.

NEWFOUNDLAND: *see* CANADA.

NEW GUINEA: *see* INDONESIA; NETHERLANDS OVERSEAS TERRITORIES; PAPUA-NEW GUINEA, TRUST TERRITORIES.

NEW HEBRIDES. Anglo-French condominium; group of *c.* 30 islands and many islets in the western Pacific. Area: *c.* 5,700 sq.mi. Pop. (1946 census, partly est., native pop only): 45,000; (Dec. 1949 est., non-native pop.) British 436, French 1,230, Asiatics 1,828, (1950 est. total pop.) 49,000. Native pop. is Melanesian with Polynesian admixture. Religion: mainly pagan. Capital, Vila (pop. 1,200). Resident commissioners: British, H. J. M. Flaxman; French, P. Anthonioz.

History. The New Hebrides suffered severely from a cyclone early in Dec. 1951: the death-roll was 110, some 4,000 people were made homeless and many small craft were wrecked. The condominium estimates for 1952 made provision for a programme of port, road and bridge improvement, but the heavy demands of reconstruction after the cyclone absorbed most of the available labour, and it seemed improbable that the programme could be started before the end of the year. (K. G. B.)

Education. Government primary schools (1951): 2 British, 3 French, 3 aided Melanesian mission; various other mission schools

Finance and Trade. Currency. sterling and French Budget (1952 est) revenue £363,000, expenditure £324,000 Foreign trade (1950) imports £528,000; exports £1,419,000. Principal exports copra, kauri pine

NEWSPAPERS AND MAGAZINES. The year 1952, which opened with the menace of ever-rising costs overshadowing the newspaper industry, saw the virtual end in Britain of the newsprint famine, but ironically enough when better supplies of paper were at last forthcoming some of the newspapers were prevented by its excessively high price from taking full advantage of the permitted increase in their size. The revenue gained by increasing their selling-prices by a halfpenny in 1951 had been absorbed by wage and salary increases and the rise in the price of newsprint. Figures indicated, however, that the downward trend of circulations resulting from the rise in prices had been arrested. It was significant that since 1938 the total weekly sale of all newspapers in the United Kingdom had risen from 138 million copies a week to 228 million

The Times, which had resisted the general rise in selling-prices in 1951, advanced its price from 3*d.* to 4*d.*, the first increase since 1941. The *Daily Graphic*, owned by Kemsley Newspapers, Ltd., raised its price by a further halfpenny to 2*d.* This newspaper was sold in December to Associated Newspapers, Ltd. which controls the *Daily Mail* and other newspapers. Continuing heavy costs caused many weekly newspapers, particularly in the provinces, to increase their prices, and there were several amalgamations of local newspapers. Many smaller newspapers and periodicals were forced to close down

The equalized price of newsprint was increased on Jan. 1, 1952, by £1 to £66 a ton, which proved to be the highest peak reached. In February the Ministry of Materials decided to fix a ceiling price for pulp imported from Scandinavia. The equalized price was reduced at the beginning of March to £63 2*s.* 6*d.* and again at the end of June to £55 15*s.* Criticism was levelled, in parliament and elsewhere, at the "staggering" increases in the profits of some of the paper-making companies.

The general easing in the newsprint supply position turned the sellers' market into a buyers' market almost overnight. The tonnage ration, which could be used by newspapers to maintain size or sales, was increased by 10% from May 4. From Aug. 24 freedom of consumption was restored, subject to a limitation on the number of pages. Owing to the continued high price of newsprint the newspapers were slow to take advantage of these improvements in supply. Several national dailies made larger spaces available to advertisers; the first postwar full-page advertisements were printed; and split editions for classified advertisements were ended by some newspapers.

In spite of the tragic suddenness of the death of King George VI, the British press rose to the occasion and recorded the subsequent ceremonies with dignity and, on the whole,

good taste. Extra newsprint was granted for the period and both London and provincial newspapers reported increased circulations.

In the House of Commons a private member's bill to establish a general council of the press as recommended by the Royal Commission on the Press in 1949 failed to secure a second reading.

The *Manchester Guardian* began to print news on its front page, giving as its main reason that the newspaper had developed a considerable national sale which made the local nature of its front-page advertisements inappropriate.

Brendan Bracken, chairman of the *Financial Times*, received a viscountcy and became Viscount Bracken, of Christchurch; J. B. Morton, "Beachcomber" of the *Daily Express*, and H. A. Taylor, former president of the Institute of Journalists, became C.B.E.s; S. R. Littlewood, the oldest of the regular dramatic critics in London, who had noticed some 10,000 plays, retired at the age of 78. Sir William John Haley (*q.v.*), director-general of the British Broadcasting corporation since 1944, was appointed editor of *The Times* on the retirement of W. F. Casey, who had served the newspaper for 39 years, including four as editor. Sir William Haley had formerly edited the *Manchester Evening News* and had served as a director of the *Manchester Guardian*. Hugh Cudlipp resigned the managing editorship of the *Sunday Express* and returned to the editorship of the *Sunday Pictorial* from which he had resigned in 1949. Harold Keeble was appointed editor of the *Sunday Express*, John Gordon remaining as editor-in-chief in an advisory capacity. L. G. G. Ramsey succeeded H. Granville Fell as editor of the *Connoisseur*, and Frank Dowling relinquished the managing editorship of *Picture Post*, of which he had been the third editor in less than two years. Malcolm Muggeridge was appointed editor of *Punch* in succession to Kenneth Bird ("Fougasse").

Many noted journalists and newspapermen died during the year, among them Viscount Astor, proprietor of the *Observer*; Sir Desmond MacCarthy, the distinguished literary and dramatic critic; Sir Harold Harmsworth, a nephew of the late Lord Northcliffe and chairman of *Western Morning News* and other west country publications; Reeves Shaw, a former editor of the *Strand Magazine*; H. G. Daniels, who had represented *The Times* in Berlin, Paris and Geneva, Dr. Mario Borsa, for long its correspondent in Milan; Lieut.-Col F. G. Macaskie, the same newspaper's representative in Greece and Ralph Deakin, for many years its foreign news editor; Alexander Clifford, chief European correspondent of the *Daily Mail*, who was twice mentioned in despatches as a war correspondent in World War II; A. Croxton Smith, writer on dogs for a very large number of journals; Henri Bourassa, for long a noted figure in politics and journalism in Canada, and C. G. McCullagh, president and publisher of the Toronto *Globe and Mail*, Sir Keith Murdoch, a prominent figure in Australian journalism; Emile Buré, founder and editor-in-chief of the newspaper *L'Ordre*, and Louis Lévy, of the Paris *Populaire* and the Brussels *Peuple*.

At the beginning of 1952 restrictions on deliveries of mechanical printing paper deprived publishers of periodicals of from 15% to 20% of their paper supplies. The restrictions were withdrawn in June and the only limiting factor to supplies of paper was the amount of wood-pulp imported, this being governed by the amount of currency made available by the Treasury and the price of the wood-pulp in Scandinavia. The periodical press was hampered also by advances in the price of paper, rises in wages and salaries and printing charges; the Amalgamated press estimated their increased costs at a weekly average of £19,000 or nearly £1 million a year. In spite of this the trend of sales of periodicals and magazines showed that a number were getting back sales lost in 1951 owing to selling-price increases. Competition for circulations, like that of the newspapers, was intensified. *Picture Post* reduced its selling price from 6*d.* to 4*d.* and guaranteed a million circulation; *Time and Tide* appeared in a new format; *Go*, the travel magazine, was re-acquired by its founders from Kemsley Newspapers, Ltd.; *Tribune* reverted from fortnightly to weekly publication. Among new publications were the *Jewish Observer and Middle East Review*, to succeed the *Zionist Review*; *Amateur Pilot*, a monthly flying magazine; *Scottish Journal*, appealing to those with Scottish interests; *Past and Present*, "a journal of scientific history"; *The Times Weekly Review*, intended especially for readers overseas.

The *Journal of the Royal Society of Arts* celebrated its centenary; the *Isis*, the Oxford undergraduate journal, had a diamond jubilee; and *The Times Literary Supplement* on its 50th anniversary reprinted in a special number earlier reviews and criticisms from its pages.

The *Jewish Monthly* and *The Times Law Reports* ceased publication. The latter's function was taken over by a new periodical issued under the auspices of the profession.

Commonwealth. From South Africa was reported the disappearance of what have been described as the "last two liberal and progressive journals in South Africa" the weekly *Forum* and the monthly *Common Sense*, both over ten years old. The Capetown weekly newspaper, the *Guardian*, was banned under the new Suppression of Communism act, which empowered the government to ban publications after considering a factual report by three persons, one of whom must be a magistrate. *Die Volksblad*, a Bloemfontein newspaper, was fined for contempt of the appellate division of the South African Supreme court. The newspaper published a letter commenting on the judgment of the court in the case of the Separate Representation of Voters act.

A press commission with very wide terms of reference was appointed in India with G. S. Rajadhyaksha, a judge of the Bombay High court, as chairman. Indian newspapers flown by B.O.A.C. Comet jet airliner reached London little more than 24 hr. after publication. A law was passed in Pakistan by which newspapers were required to tell the government the source of news. The act empowered the government to ban news items and close newspapers.

The Bermuda assembly barred the newspaper *Royal Gazette* from the house for reporting a public debate on foreign exchange which it had ruled should not be reported. A select committee censured the newspaper for "breach of privilege and contempt of the House" and its reporter was readmitted.

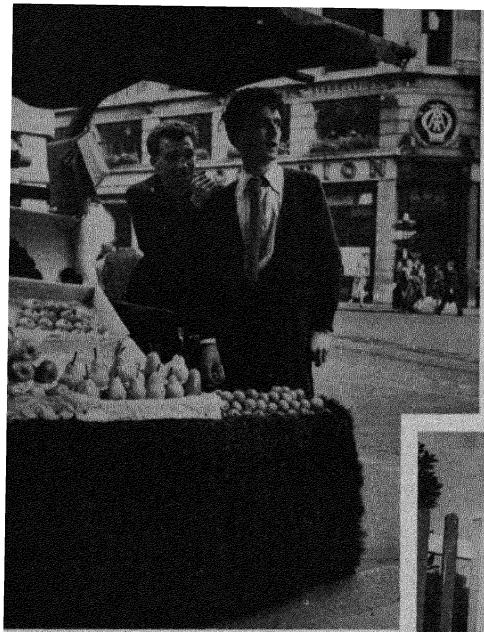
In Sydney, Australia, police raided the offices of the Communist newspaper *Tribune;* the *Melbourne Argus* introduced fast-action pictures in full colour

The Supreme court of Hong Kong fined the proprietor and editor of the Chinese daily newspaper *Ta Kung Pao* on charges of seditious publication. The newspaper had reproduced a leading article from the Peking *People's Daily* commenting upon the Kowloon disturbances of March 1.

Europe. The easing of the newsprint supply situation fortunately made it unnecessary to proceed with the scheme fostered by the International Materials conference of 28 nations for the allocation of newsprint to various countries in Europe. A report of the United Nations Educational, Scientific and Cultural organization showed that France published 164 daily newspapers, Britain 121, Switzerland 117 and Belgium 76. But the highest proportion of readers was in Britain where 600 newspapers were sold daily to every 1,000 people.

The International Press institute, an organization of editors of the free world, held its first general assembly in

(*Continued on page 426*)



BRITISH PRESS PICTURES OF THE YEAR

The pictures appearing on these facing pages received awards in the fifth annual "British Press Pictures of the Year" competition sponsored by the "Britannica Book of the Year". 1,576 photographs were submitted by nearly 180 photographers and the competition was judged by Percy W. Harris, Hon. F.R.P.S., Geoffrey White, British press photographer of 1951, T. H. MacArthur, London News Agency, H. J. Deverson, lately picture editor of "Picture Post" (London) and John Armitage, London editor of "Encyclopædia Britannica". The first prize for colour entries (not illustrated) was awarded to Reuben Saidman of "Illustrated" (London) for his photograph of a jet night fighter. The photograph chosen as the best of the News category was of Queen Elizabeth II, entitled "Happy and Glorious", which was taken by Charles Dawson of Planet News and is reproduced as the frontispiece of this "Britannica Book of the Year".



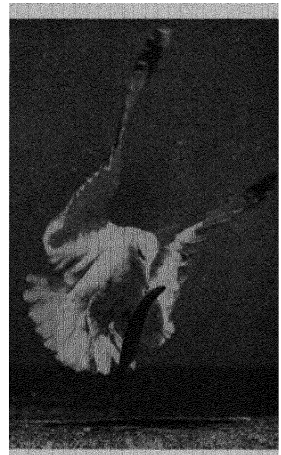


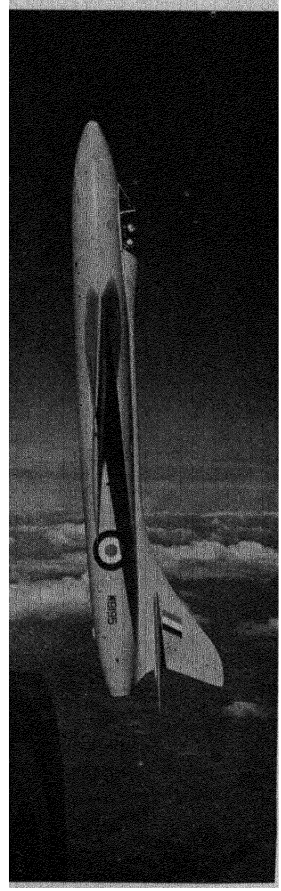
SEQUENCE. (Top left) One of the 36 pictures in the winning sequence entitled "Piccadilly Roundabout" submitted by Bert Hardy of "Picture Post" (London). This was the third time that Bert Hardy had taken first place in the sequence category. In 1948 his subject was "The Gorbals Story" and in 1950 he submitted 21 photographs of the Inchon invasion in Korea. This category is for a series of black and white pictures built around a single narrative or theme.

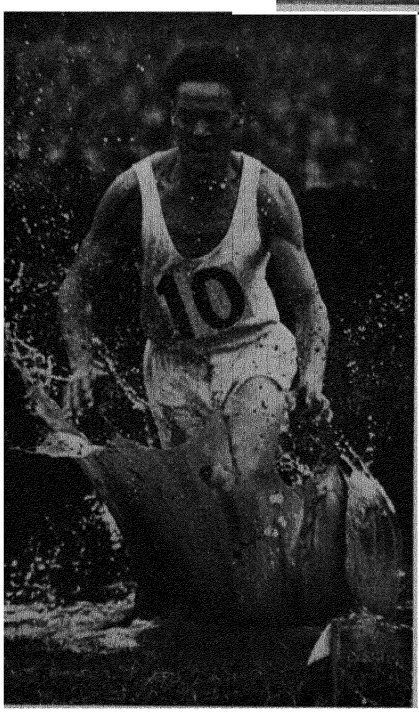
PORTFOLIO. For the first time since the competition was inaugurated the judges were unable to reach a clear cut decision in this category and awarded a first place to L. C. Laking of London News Agency and William Barrett of the "Daily Graphic" (London) for their portfolios of 10 pictures. These two therefore became joint holders of the title "British Press Photographer of 1952". The picture of Winston Churchill's birthday (left) is from L. C. Laking's portfolio and Wendy Miller on "Tangerine" is selected from William Barrett's entry. Another photograph from Laking's portfolio is reproduced on page 280.

FEATURE and SPORT. "*Sprint for Sunshine*" (*right*) *the winning photograph of the Feature category was taken by Malcolm McNeill of the* "*Sunday Pictorial*" (*London*), *who also won a first in the Sports section for his photograph* (*below*) *of a steeplechase runner entitled* "*Woosh!*" *Feature pictures are those in which a human interest theme is the dominant factor apart from immediate news value. Malcolm McNeill had previously received two third prizes and one second prize in the sport and feature categories.*









HIGH SPEED and DESCRIPTIVE. Stanley Devon of the "*Daily Graphic*" (*London*) *won a first prize in the high speed section with his photograph of a seagull* "*Making a catch*" (*top right*) *and Russell Adams of the Gloster Aircraft Company was awarded a first prize for his picture of a Gloster Meteor jet aircraft,* "*Vertical Climb*" (*right*) *in the Descriptive category. This was the first year in which these two categories were included in the competition. High speed pictures were those in which movement was represented, and the descriptive photographs included industrial pictures with a trade or technical angle, editorial pictures of merchandise, or landscape, architecture and still life.*

(Continued from page 423)

Paris. In a survey the institute noted a "growing tendency towards government restriction of legitimate news sources, even in democratic countries with a strong tradition of a free press." An International Federation of Journalists was launched at a conference in Brussels. Its constitution restricted membership to those national organizations of trade unions "dedicated to the freedom of the press".

Protests were made at a meeting of the Allied council in Austria against the action of the Soviet element who had unilaterally banned over 100 newspapers in the towns and villages and confiscated thousands of copies of newspapers and magazines. Under a press decree passed in 1945 the Allied council was the only agency competent to confiscate, or prohibit the publication, circulation or distribution of newspapers and periodicals in Austria.

In France, a newsvendors' strike against reduced commission closed the Paris kiosks. The circulation of most French Communist and pro-Communist daily newspapers had been declining steadily for some years and an appeal was made during the year for Fr.200 million "for the defence of the Communist and democratic press". The pro-Communist weekly *Action*, founded as an underground periodical in 1943, ceased publication owing to financial difficulties. André Stil, editor of the Communist newspaper *Humanité*, was arrested and imprisoned for nearly two months under a law of 1848 on demonstrations. His newspaper had published an article calling on people to protest against the arrival of General Ridgway and had given instructions about protest meetings.

Draft proposals for new press laws to safeguard the freedom of the press and to ensure accuracy of news reported were published in the German Federal Republic. In May, west Berlin was without newspapers during a two-day strike of printers directed against the proposed new constitution of the works councils. Publication of the *Berliner Morgenpost* suppressed by Hitler was resumed after an interval of nearly 20 years; it absorbed the *Berliner Anzeiger*.

In Greece the left-wing newspaper *Dimokratiki* was forbidden publication and the editor arrested. Evidence was found showing that the outlawed Greek Communist party had financed and directed the policy of the newspaper.

A bill introduced into the Italian parliament set forth the government proposals for the control of the press. These empowered the police to sequestrate offending periodicals in certain cases; established that copies of all publications should be deposited with the authorities before sale; and provided for penalties for those who prevented by threats or violence the publication and sale of approved periodicals. A 24-hr. national strike, called in support of wage claims, deprived the Italians of all newspapers. The Rome correspondent of the Moscow *Pravda* was expelled from Italy and the head of the Polish news agency in Rome was also requested to leave. These were the first expulsions of foreign journalists since the end of the Fascist régime.

A faculty of journalism was set up at Moscow university. The publication of the Russian-language magazine *Amerika*, produced by U.S. authorities for distribution in Russia, was suspended because of progressive restrictions on distribution and on the free sale of the periodical. At the same time the U.S.S.R. was asked to suspend Soviet embassy publications issued in the United States. (D. HN.)

United States. Coverage of an exciting presidential campaign, with the Korean war in the background, monopolized the news in U.S. newspapers during 1952. Hundreds of newsmen reporting the two presidential conventions in Chicago faced the new competition of television. Campaign surveys showed newspaper editorial pages preponderantly supporting the Republican candidate.

Teletypesetter and wire delivery of news on tape to operate typesetting machines, which started in 1951, continued to be the leading innovation. The end of the year was expected to see teletypesetter circuits in all states and half the daily newspapers using the service. Already the International Typographical union had become concerned over the labour-saving aspects and had signed its first compromise contracts in Rockford, Illinois, on May 8—after a seven-week strike—and in Harrisburg, Pennsylvania, on July 1. These agreements limited use of tape to spot news. The C.I.O. American Newspaper guild in July voted to study the effect of the teletypesetter on reporters. On Aug. 5 Associated Press started radio-teletype news service linking all South America. The effect of television on newspaper circulation led to concern, but surveys showed no serious result so far.

A $10 increase in June took the price of newsprint to an average of $126 a ton—the second rise in a year, which meant a 26% increase in 19 months and a rise of $50 million a year in newspaper costs. For the sixth year, costs increased faster than income. The profit margin of the average daily was down 17% from that of 1951, and narrower than in any year since 1945. Circulation totals, which reached the record-breaking figure of 54 million in 1951, seemed to be levelling off. Street sale and subscription prices were increased everywhere. Advertising volume tended to be slightly above 1951 and advertising rates were increased. The number of weekly newspapers was reported to be down to 8,892, with an average circulation of 1,943 per newspaper and a total circulation of 17,269,183.

The longest strike of the year was on the Tacoma *News Tribune* (Washington) when A.F. of L. pressmen and C.I.O. guildmen tied up the newspaper for 17 weeks, ending Aug. 12.

The most notable newspaper lawsuit in 1952 was the prosecution of the *New Orleans Times-Picayune* and *States* by the federal Department of Justice for violation of the Sherman Anti-trust act with their "unit advertising rate"; on May 17, a Louisiana federal court found the newspapers guilty of unfair competition with the *New Orleans Item*, but an appeal was to be lodged against the decision. The Department of Justice also began investigating the advertising practices of the *Kansas City Star* and *Times*, and newspaper publishers were concerned because these decisions would become a pattern for 170 morning-evening newspaper combinations elsewhere. Another notable case was the trial in Lake Charles, Louisiana, of five newspapermen on the charge of defaming 16 public officials and 3 gamblers in an anti-gambling crusade; the newsmen were acquitted in April after a long trial.

The United Nations Sub-commission on Freedom of Information resumed in March its discussion of an international code of ethics for journalists, when 12 news experts revived a plan first launched in 1950; again the U.S. members opposed the plan proposed by a majority of "controlled" journalists.

There was a boom in men's magazines during 1952. Comic books, with more than 300 titles, continued to be the biggest business on the news-stands; rising costs reduced their size and threatened to raise their price. Paper became more plentiful and dropped to an average of $180 a ton. Advertising increased sharply early in the year but suffered a mid-year slump; earlier, a total for the year of $550 million, 11% over 1951, was forecast, as magazine advertising was rising faster than either newspaper or radio advertising. Circulation went up as much as 6% early in the year but later declined; *Life* led with 5,358,000, followed closely by *Ladies' Home Journal*, *Woman's Home Companion*, *Saturday Evening Post* and *McCall's*, all far above 4 million each.

The federal anti-trust division began prosecution of the American News company as a monopoly that handled half

the news-stand business; congress increased the power of the postmaster to restrain "obscene" and "fraudulent" magazines. The most stable and prosperous of all the nearly 1,500 magazines were the business and trade periodicals; Sunday supplements were down but one store-circulated magazine reached 4 million copies. (G. M. Hy.)

See Harold Herd, *The March of Journalism. The Story of the British Press from 1622 to the Present Day*, (London, 1952); *The History of The Times*, vol. iv: *The 150th Anniversary and Beyond 1912-1948*, in two parts (London, 1952); Sir Philip Gibbs, *The Journalists' London* (London, 1952).

NEW YORK CITY. Largest city in the United States and second largest in the world. Pop. (1950 census): 7,891,967; (mid-1952 est.) over 8,000,000. Mayor, Vincent R. Impellitteri.

Statistics furnished by official sources reported continued business expansion in the city during 1952, with an increase in manufacturing plants to about 42,250, having an annual production volume in excess of $15,500 million. The assignment of $1,500 million in federal defence contracts to New York city firms during the first ten months of the year aided the industrial advancement. About 237,500 business establishments of all types were in operation, employing 3,850,000 persons and carrying an annual pay-roll load of $14,000 million. The clothing industry continued to be the city's largest. It was reported during 1952 that 41 of the country's largest corporations maintained headquarters in the metropolis; that nearly 50% of the nation's bank clearings were made in New York city; that nearly 20% of the country's income tax collections were paid by New York city corporations and individuals; and that retail sales were estimated to exceed $15,000 million over the 12-month period, representing nearly one-fifth of the country's total retail spending. New York city suffered a slight recession in overseas shipping during 1952, losing a percentage of its export tonnage to competing Atlantic coast ports. However, nearly $10,000 million in export-import transactions was handled by local trade firms.

On July 1, 1952, the beginning of the municipal fiscal year, the city's taxable real estate was given an assessed valuation of $19,425,499,087, the highest assessment for tax purposes since 1932. Actual or market value of the community's 833,646 real estate parcels, including structures and exempt properties, was estimated to be in the neighbourhood of $30,000 million.



The mayor of New York (holding scroll, right), receiving greetings sent by the Lord Mayor of London, at City Hall, New York. The London buses toured the United States and Canada.

Outstanding civic developments during the year included the integration of the 15½-mi. Rockaway division in the city's "rapid transit" (underground railway) system; beginning of work for the construction of a new convention hall and auditorium at Columbus Circle, Manhattan; and the reconstruction of the 67-year-old Brooklyn bridge to permit greater traffic loads. (F. L. Do.)

NEW ZEALAND. Self-governing member of the Commonwealth of Nations, consisting of two large and several small islands in the south Pacific. Area: dominion proper, 103,416 sq.mi.; other islands, 523 sq.mi. Pop., dominion proper: (1945 census) 1,747,679, incl. forces overseas and 98,744 Maoris; (April 17, 1951, census) 1,939,472, including 115,676 Maoris (which represented a 250% increase in the previous 50 years). Cook and other Pacific islands (pop., 1951 census): 21,232. Western Samoa, a trusteeship, has an area of 1,133 sq.mi.; pop. (1951 census) 82,493. Language: English. Religion: mainly Christian (Anglican 37·5%, Presbyterian 23·4%, Roman Catholic 13·5%). Chief cities (1951 census, urban area only): Wellington (cap. 133,400); Auckland (329,000); Christchurch (174,100); Dunedin (95,500); Hutt (74,900); Palmerston North (32,900). Governor-generals in 1952, Lieut.-General Lord Freyberg and (from Dec. 2) Lieut.-General Sir Willoughby Norrie (*q.v.*); prime minister, Sidney George Holland (*q.v.*).

History. The centenary of constitutional government in New Zealand was celebrated on June 30, the anniversary of the New Zealand Constitution act. The governor-general, Lord Freyberg, relinquished his office in August after a distinguished term of service. Lieut.-General Sir Willoughby Norrie, governor of South Australia, was appointed to succeed him.

An economic survey issued by the government in Aug. 1952 maintained that the New Zealand economy was in first-class order, with record production, no unemployment, greater variety and quantity of goods available, more industrial harmony and a balanced budget. On a population basis the country had the largest overseas trade in the world —£230 a head.

Early in the year Sidney Holland, the prime minister, attended a conference of Commonwealth finance ministers in London. In March decisions taken in New Zealand following that conference resulted in the suspension of all trading licences for dollar countries, licences being introduced for the importing of motor vehicles and general measures being taken to increase production. New exchange regulations to safeguard overseas reserves followed the fall in price of wool, hides and skins. Production remained at a high level. For the season ended July 31, 1952, more than 240,000 tons of butter and cheese were exported to Great Britain (40% of all the butter consumed there) and 340,000 tons of meat (over 40% of meat imported by Great Britain). Although wool prices had fallen considerably as compared with the previous year, the annual clip was worth over £70 million. Aerial top dressing of hill pastures continued to be expanded and 93,000 tons of fertilizer were dropped from the air on over a million acres. A trial shipment of quick-freeze beef to Great Britain was highly successful and gave encouragement to beef producers.

External trade in the previous trading year (1951) showed a healthy increase: the value of exports was £248,131,000 as compared with £183,753,000 in 1950. Imports in 1951 were £206,463,000 (£157,896,000 in 1950). The reserves in the dairy and meat stabilization accounts slightly increased to £25·5 million for dairy produce and to £38·75 million for meat, while the gross national produce figure rose in 1950-51 to £681 million. A provisional figure for 1951-52 showed an



Lieut.-General Lord Freyberg, governor-general of New Zealand, 1946-52 (left), and Lieut.-General Sir Willoughby Norrie, who succeeded him in December.

increase to £709 million. Average wage per head in those industries coming under the jurisdiction of the Arbitration court rose from £9 15*s.* 0*d.* in April 1951 to £10 7*s.* 10*d.* in April 1952. The prime minister again visited London in November for a Commonwealth conference on economic matters.

The Murupara project for the development of the paper pulp industry was further advanced as a joint state and commercial project. A board of directors was set up, consisting of three government nominees and three from private industry. Further steps were taken in another important project, the Auckland harbour bridge, involving an expenditure of just over £4 million. A railway commission set up earlier recommended that the nationally owned railways should be run by a corporation in the same way as the air lines. This was later enacted by parliament.

An important land measure was a notable feature of parliamentary legislation. The Land Settlement bill reimposed the principle of compulsory acquisition of land for closer settlement, required a purchaser of developed land to reside on the farm for at least three years and prevented undue aggregation. New Zealand reached 2 million in population during the year. Assisted migration continued from Great Britain and the Netherlands. A reduction in the quota of assisted immigrants was announced although the basis of selection remained the same; *i.e.* with the emphasis upon skilled tradesmen and other operatives. In 1953 only 5,000 British and 1,500 Dutch migrants were to arrive. New Zealand showed her continued interest in the Colombo plan by direct grants for Asian projects and by providing experts.

In international affairs, New Zealand continued to support the United Nations in Korea. Replacements by drafts were made to the New Zealand contingent of the Commonwealth division. An air force squadron was sent to the middle east. The defence of the country was gradually strengthened, particularly by the ANZUS pact. A meeting of the representatives of the three powers concerned was held at Honolulu in August.

In the field of sport an All Black rugby team drew with Australia, each country winning one test; and in the Olympic Games by the success of Yvette Williams in the women's long jump New Zealand won its first gold medal since J. E. Lovelock's win in the mile at the Berlin games; two bronze medals were also won. (A. T. CL.)

Education. Schools (Dec. 1950): primary 1,908, pupils 254,081, teachers 6,948; Maori village schools 159, pupils 13,426, teachers 540; Maori missions schools 10, pupils 826; secondary 47, pupils 22,824, teachers 1,102; private secondary 83, pupils 10,154, teachers 545; Maori secondary 11, pupils 817, teachers 28; district high schools 110, pupils 6,992; technical 29, pupils 13,859, teachers 786; teachers' training colls. 5, students, 2,302. Univ. of New Zealand (four constituent colls. and two associated agricultural colls.), full and part-time students 10,956.

Agriculture. Main crops ('000 metric tons, 1950; 1951 in brackets): wheat 161 (110); barley 43 (43); oats 38 (38); maize 6; potatoes 110 (86); linseed 8; tobacco 2·5. Livestock ('000 head, 1951): cattle 5,060, of which dairy cows 1,898; sheep 34,786; pigs 564; horses 183. Livestock products ('000 tons, 1950; 1951 in brackets): meat 577·4 (530·0), of which beef and veal 185·4 (117·2), pork 11·4 (11·4), mutton and lamb 331·8 (292·4); wool, clean basis, (1951) 119; factory butter (1951; 1952, six months, in brackets); 184·8 (79·8), factory cheese 116·3 (39·6). Fisheries: total catch (1950) 32,385 metric tons.

Industry. Industrial establishments (April 1951): 37,420; persons employed 491,204. Fuel and power (1951; 1952, six months, in brackets): coal ('000 metric tons) 688 (339); lignite ('000 metric tons) 1,778 (761); manufactured gas (million cu.m.) 138 (71·8); electricity, *c.* 87% of total generation (million kwh.) 2,892 (1,458). Industrial products ('000 metric tons, 1951): cement 202·8; superphosphates 131·96.

Finance and Banking (£NZ million). Budget (consolidated fund and social security fund, excluding war expenses account): (1951-52 actual) revenue 180·7, expenditure 168·1; (1952-53 est.) revenue 170, expenditure 167·3. Gross national debt (March 1951; March 1952 in brackets): 693·4 (679·9). Currency circulation (Sept. 1951; Sept. 1952 in brackets) 60,566 (59,331). Bank deposits (May 1951; May 1952 in brackets) 215·5 (194·0). Gold and foreign exchange (million U.S. dollars, July 1951; July 1952 in brackets): 402 (255). Monetary unit: New Zealand *pound*, with an exchange rate of £NZ1·00375 to the pound sterling and £NZ 0·362 to the U.S. dollar.

Foreign Trade. (£NZ million, 1951; 1952, first three months, in brackets). Imports 206·5 (74·4), exports 248·1 (66·9). Main sources of imports (1951): U.K. 54%; Australia 10%; U.S. 9%; Canada 3%. Main destinations of exports (1951): U.K. 58%; U.S. 12%; France 7%. Main imports (1951) machinery, metals and manufactures 54%; textiles and clothing 48%; vehicles 20%. Main exports (1951): wool 52%; dairy produce 26%; meat 13%.

Transport and Communications. Roads (1949) 76,859 mi., of which arterial roads 12,470 mi. Licensed motor vehicles (Dec. 1951); cars 272,733, commercial 95,154. Railways (March 1951): 3,531 mi.; traffic (March 1952): passenger journeys, including railways motor services 45,957,000; goods carried 9,829,000 tons; goods ton-mi. 1,069·2 million. Shipping: merchant vessels, 100 gross tons and over (July 1951) 164; total tonnage 232,427. Air transport, domestic (March 1950): passenger-mi. 59,745,000; cargo net ton-mi. 1,833·3 thousand. Telephones (1951) subscribers 271,935. Radio receiving licences (March 1951): 465,609.

NEW ZEALAND LITERATURE. The 1951-52 season was marked by a notable increase in the quantity of prose fiction published. Outstanding among the new works was Janet Frame's *The Lagoon* (1951), a group of short stories, apparently in part autobiographical, by a new author; and Frank Sargeson's *I, For One*, a short epistolary novel published as part of an issue of the quarterly *Landfall*. The full-length novels that appeared were nearly all set in the 1920s. James Courage's *Fires in the Distance* described the impact of a handsome youth of 19, about to leave for England to further his studies, on an English family of five settled on a lonely Canterbury (New Zealand) sheep-station. Ruth Park's *The Witch's Thorn* told the story of an illegitimate small girl who is handed from family to family until she is rescued from "poor whites" by a Maori family. John Guthrie's *Paradise Bay* had affinities with his earlier *The Little Country*. The same author also wrote *The Seekers*, a story about Maoris and early English settlers in New Zealand. Guthrie Wilson, author of a successful war novel, *Brave Company* (1950), published *Julien Ware*, the story of a man of humble origin and boundless ambition. G. R. Gilbert's *Glass Sharp and Poisonous* was an allegorical short novel. Other fiction included Nelle Scanlan's *The Young Summer* and Rosemary Rees's *She Who Loves*.

Sings Harry (1951) was a collection of old and new poems by Denis Glover in which "Harry" is a shrewd, ironic observer of New Zealand and New Zealanders. In the new Pegasus Poets series—published in a cheap and attractive format—there appeared Pat Wilson's *The Bright Sea*, Hubert Witheford's *The Falcon Mask*, Louis Johnson's *Roughshod Among the Lilies*, and Alistair Campbell's *Mine Eyes Dazzle* (a re-issue). Other verse collections included Anton Vogt's *Love Poems*; *Poems Unpleasant* by James Baxter, Louis

Johnson and Anton Vogt; and the second *New Zealand Poetry Yearbook* edited by Louis Johnson. Allen Curnow published an enlarged version of his anthology *A Book of New Zealand Verse*, now covering the years 1923-50 (1951). The *Arts Year Book* (no. 7; 1951)—unhappily because of publishing costs the final number—included in its poetry section a fine set of *Penitential Sonnets* by James Baxter.

The quarterly *Landfall*, edited by Charles Brasch, kept up its high quality; among the best items in it were Phillip Wilson's short story "The Wedding" and the last episode of Frank Sargeson's "Up Onto the Roof and Down Again".

Miscellaneous works included a revised, and probably definitive, translation of the Bible into the Maori language, *Peter Fraser*, James Thorn's biography of New Zealand's former prime minister, and George Clifton's *The Happy Hunted*, an exciting account of the author's wartime escapes.

(R. W. B.)

NICARAGUA. Republic in Central America, situated between Honduras (N.) and Costa Rica (S.) with a coastline of over 300 mi. on the Atlantic and over 200 mi. on the Pacific. Area: 57,145 sq.mi. Pop (1950 census, prelim. fig.): 1,053,189. The population of the eastern half is mainly Indian or Negro, and of the western part is of mixed Spanish and Indian extraction, with some of pure Spanish descent. Language: Spanish. Religion: Roman Catholic. Chief towns (pop., 1948 est.): Managua (cap., 146,819); Léon (53,277); Matagalpa (53,118). President, General Anastasio Somoza.

History. Politically, 1952 was an uneventful year for Nicaraguans. Administrative reforms following the adoption of the constitution of 1950 continued to occupy the attention of government officials As Somoza's position moved toward further consolidation, his political opposition became less articulate. Diplomatic relations with the other Central American states—including Guatemala, with which Nicaraguan relations had been strained since 1948—appeared to improve during the year. (G. I. B.)

Education (1951-52) Schools primary, state schools 1,035, pupils 65,305, teachers 2,129, private 91, pupils 10,663, teachers 431; municipal 63, pupils 2,738, teachers 77 Secondary, state 13, pupils 1,575, private 24, pupils 2,077 Teachers' colleges 3, pupils 462. Commercial 32, pupils 3,944 The National university (León) had 620 students in 7 faculties

Agriculture and Mineral Production. Coffee production (1951-52) 357,000 bags of 132 lb each, of which 295,020 bags were exported, 273,370 bags to the U S Exports (1950, metric tons) sesame 7,466, cotton 3,307, bananas 661,645 stems Livestock (1951) 1,103,000 cattle Mineral exports (1951 troy oz) gold 250,534; silver 209,898

Finance. (Million córdobas) Budget (1950-51 actual) revenue 121 7, expenditure 116 1, (1952-53 est) balanced at 132 9 Public debt (June 1952) 45 7, incl external 13 2 Currency circulation (Sept 30, 1952). 78 4, demand deposits 81 4 Gold reserves U S $2,760,000, foreign exchange reserves U S $14,290,000 Monetary unit: *córdoba*, with an official exchange rate of 7 05 to the U S dollar, and 14 10 to the pound sterling

Foreign Trade. ('000 U S $) Exports (1951) 36,750 (excl gold exports valued at $8,770), imports $29,960 Chief exports (1951) coffee 51%, cotton 15%, sesame 7%, cattle 3% Main destinations of exports. U.S 60%; U K 19%, Japan 6% Main sources of supply U.S. 72%; Germany 5%; Netherlands Antilles 5%. Chief imports textiles, iron and steel and manufactures, cotton manufactures and machinery.

Transport and Communications. Roads (1949) 417 mi. surfaced Railways (1951) 268 mi. Registered motor vehicles (Jan. 1949) cars 1,443, trucks 672, buses 151.

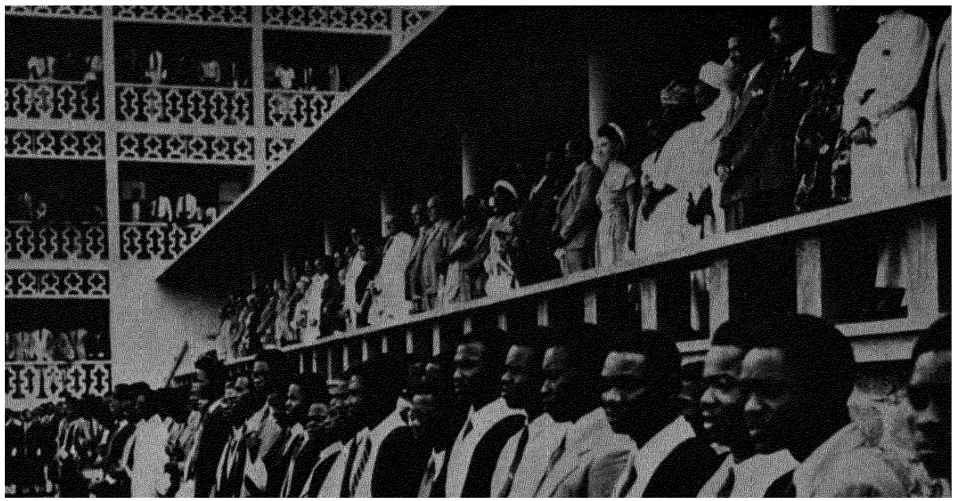
NIGER: *see* FRENCH WEST AFRICA.

NIGERIA. British colony and protectorate on the W. coast of Africa bounded W., N. and E. by the French territories of Dahomey, Sudan and Cameroun. Cameroons under U.K. trusteeship (E. part of former German colony of Kamerun) is administered with Nigeria. Area: Nigeria 339,176 sq.mi.; Cameroons 34,080 sq.mi. Pop. (1951 est.): Nigeria 25,000,000; Cameroons 1,000,000. Language: tribal dialects; Hausa and Yoruba. Religion: mainly Moslem in the north; mainly pagan in the south; Christianity widespread among the educated classes. Chief towns (African pop., 1949 est.): Lagos (cap., 230,000); Ibadan (335,500); Kano (102,000). Administration, *central*: governor; council of ministers, 6 *ex-officio* and 12 other ministers; House of Representatives, 6 *ex-officio* members, 6 community representatives and 136 members elected by regional legislatures. Administration, *in three regions*: lieutenant-governor; executive council; House of Chiefs (except Eastern); House of Assembly, members indirectly elected. Governor, Sir John Macpherson.

History. The general election was not complete by the end of 1951 and it took some time for the final pattern to emerge. In the Northern region House of Assembly the Northern People's congress, mainly traditional and conservative in outlook, had an overwhelming majority. In the Eastern region the National Council of Nigeria and the Cameroons was able to attract a sufficient number of independents to give it control of the assembly of 80. In the central "federal" House of Representatives all the Eastern region members were N.C.N.C. supporters; but, although the Action group dominated the Western region House of Assembly, the western group in the House of Representatives included three seats allotted to members of the House of Chiefs and two to representatives of Lagos where only N.C.N.C. members were returned. Azikiwe however was not chosen as one of the Lagos representatives in the central house and Awolowo, leader of the Action group, elected to lead his party in the western ministry instead of accepting a central ministry. The central council of ministers was appointed in January and the three regional houses completed their budget sessions by March 3. The budget session of the House of Representatives opened in Lagos on March 11.

In June the western Action group presented demands for constitutional changes, but in the event they were not pressed owing to opposition by the eastern and northern groups. In August, a motion put forward in the House of Representatives demanding the separation of Lagos from the Western region was ruled undebateable on constitutional grounds. A statement by the council of ministers declared that Lagos had a dual function under the constitution, being merged in the Western region and being at the same time the capital and principal port of Nigeria. In view of the problems of finance and administration which thus arose the council decided to seek expert opinion on arrangements in other federal capitals, and would consider this in relation to Lagos within the framework of the constitution.

The principal development in the local government field was the introduction of a bill in the Western region House of Assembly providing for the creation of divisional councils and for local government inspectors whose duties would be performed by the former residents and district officers. British officers were also to be seconded as clerks of the councils. The general effect of this legislation was to bring the system of local government in the Western region more or less into line with the system on the British model already operating in the Eastern region. In Lagos controversy arose over a proposal by the Western regional government to reform the Lagos town council, under this proposal the mayoralty was to be abolished and the council placed under the presidency of the Oba of Lagos. However, a commission was appointed to enquire into the charges of corruption and inefficiency which had been made against the council, and the reorganization of the council would be considered in the light of the commission's report. The Niger County council in the Eastern region was inaugurated on April 10.



African graduates outside the new buildings of University College, Ibadan, Nigeria, which were opened by Lord Tedder, chancellor of Cambridge University, on Nov. 17. The University College was established in 1948. In June 1952-53 there were 368 students.

Among other important events of the year were the visit in May of the secretary of state for the colonies, Oliver Lyttelton; and the award of a £315,000 contract to Dorman, Long for the construction of a 590-ft. suspension bridge over the Cross river. At Bonny, in April, the Rt. Rev. E. Dimerari was enthroned as the first bishop of the new Niger Delta diocese. In July Nwapa, Nigerian minister of commerce and industry, paid a successful visit to the United Kingdom. The main purpose was to exchange views with the textile industry on the importation of Lancashire textiles into Nigeria. (W. H. Is.)

Education. Schools (1951): primary 9,000, pupils 970,768; secondary 239, pupils 28,430; vocational 8, pupils 1,330. Teachers' training colleges 129, students 6,702. Higher educational institutions 2, students 327 (in 1952-53 there were 368 students at University college, Ibadan, which had 89 professors and lecturers).

Finance and Trade. Monetary unit: West African pound (£WA 1 = £1 sterling). Budget (1952-53 est.): revenue £42,582,410; expenditure £42,041,460. Foreign trade (1951 provisional): imports £83,201,000; exports £130,238,000. Principal exports: cocoa, palm products, groundnuts, hides and skins, tin ore.

NIXON, RICHARD MILHOUS, U.S. politician (b. Yorba Linda, near Los Angeles, Jan. 9, 1913) was awarded his law degree from Duke university, Durham, North Carolina, in 1937; he then practised law for five years at Whittier, California. After a few months in Washington as attorney for the Office for Emergency Management (Jan.-Aug. 1942), he joined the U.S. navy as lieutenant, junior grade. He saw service in the South Pacific and by the time of his discharge in 1946 had been promoted to lieutenant commander. In Nov. 1946 he was elected to the U.S. House of Representatives as a Republican from California and was re-elected in 1948. In the House he was appointed to the Un-American Activities committee and figured prominently in the investigations that led to the Alger Hiss trial. In Nov. 1950 he was elected senator from California. At the 1952 Republican convention in Chicago, Nixon was nominated candidate to the vice-presidency on July 11 and immediately began a vigorous campaign as the running mate of Dwight D. Eisenhower (*q.v.*). His candidacy seemed jeopardized in September when the U.S. press published reports that a fund of $18,235 had been raised in California to help defray Nixon's political expenses as a senator. In a national broadcast by television on Sept. 23, however, Nixon disclosed his personal finances in detail and declared that he had not profited at all as an individual from the fund. Eisenhower promptly declared his faith in Nixon, as did the Republican national committee, and Nixon remained as candidate. On Nov. 4 he was elected vice-president.

NOBEL PRIZES. In 1901 the first awards were made from the Nobel foundation, a fund established under the will of the Swedish chemist and engineer, Alfred Bernhard Nobel (1833-96). The value of each prize awarded in 1952 was about 171,000 Swedish *kronor* (£11,400).

The 1952 prize for chemistry was divided between the British scientists A. J. P. Martin, of the National Institute for Medical Research, London, and R. L. M. Synge, of the Rowett Research institute, Bucksburn, Scotland, for their work on filter-paper chromatography, a method of chemical analysis. They had worked together at Cambridge university and at the Wool Industries Research association's laboratories at Leeds. The prize for physics was shared between two U.S. professors, E. Purcell, of Harvard university, and F. Bloch, of Stanford university, California, for their work on nuclear physics. Professor S. A. Waksman, the U.S. discoverer of streptomycin, received the prize for medicine. The prize for literature was awarded to François Mauriac, the French novelist. No peace prize was awarded during 1952.

Biographies of the Nobel prizewinners will be found in the *Britannica Book of the Year*.

NORFOLK, BERNARD MARMADUKE FITZ-ALAN-HOWARD, 16th Duke of, premier duke and earl of the English peerage (b. May 30, 1908), represents a family that existed in Saxon times. The dukedom was created in 1483. The Duke of Norfolk holds the offices of earl marshal and hereditary marshal and chief butler of England. In male precedence of the realm the earl marshal follows the

lord great chamberlain and precedes the lord steward. As earl marshal he is responsible for coronation arrangements, but in the ceremony itself he plays no part. In April 1952 the earl marshal was appointed a member of the coronation commission under the chairmanship of the Duke of Edinburgh and was made chairman of the coronation joint committee. The Duke of Norfolk was educated at the Oratory school. In 1937 he married the Hon. Lavinia Mary Strutt, the eldest daughter of the third Baron Belper, and there are four daughters of the marriage. His heir is Viscount FitzAlan of Derwent, his cousin, and the family seats are at Arundel castle in Sussex and at Beech hill, Sheffield. The duke was mayor of Arundel 1935-36. In 1939 he was appointed special ambassador of George VI at the coronation of Pope Pius XII. He is president of the Catholic Union of Great Britain, and patron of five livings but, being a Roman Catholic, cannot present. During World War II he was joint parliamentary secretary to the ministry of agriculture, 1941-45. The Duke of Norfolk has been lord lieutenant of Sussex since 1949.

NORRIE, SIR (CHARLES) WILLOUGHBY MOKE, British soldier (b. London, Sept. 26, 1893), was educated at Eton and at Sandhurst. He joined the 11th Hussars in 1913 and in World War I was wounded four times and won the D.S.O. and M.C. and bar. Later he commanded the 10th Royal Hussars, 1931-35, the 1st Cavalry brigade, 1936-38, and the 1st Armoured brigade, 1938-40. In 1940, after some months as inspector of the Royal Armoured corps, he became commander of the 1st Armoured division and in the following year commander of the XXX corps which fought in the western desert. In Dec. 1944 Norrie succeeded Sir Malcolm Barclay-Harvey as governor of the state of South Australia, and in 1952 was appointed governor-general of New Zealand in succession to Lieut.-General Lord Freyberg, V.C. He was sworn in at Wellington on Dec. 2. He was created C.B. in 1942 and K.C.M.G. in 1944.

NORTH ATLANTIC TREATY ORGANIZATION. The North Atlantic treaty had been signed on April 4, 1949, as a defensive alliance by 12 North Atlantic and European nations: Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom and the United States. These had been joined in 1951 by Turkey and Greece. The chief undertakings of the treaty were for the signatories:

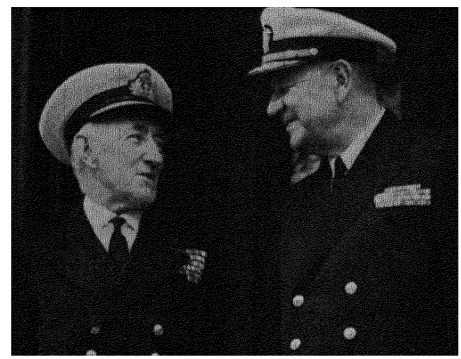
(1) to consider an attack against any one of them in Europe or North America as an attack against them all, and

(2) 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.

Since the outbreak of war in Korea in 1950, serious practical measures had been taken to implement that latter pledge. During 1951, a Supreme Headquarters of the Allied Powers in Europe (S.H.A.P.E.) had been established at Rocquencourt, near Paris, under General Dwight D. Eisenhower (*q.v.*), of the U.S. army, as supreme commander; subordinate joint commands, under S.H.A.P.E., had been established for central Europe, northern Europe, and southern Europe, and negotiations had begun for the establishment of further commands, side by side with S.H.A.P.E. or under S.H.A.P.E., for the Atlantic, the Mediterranean, and the middle east. Large rearmament and remobilization programmes had been undertaken by the majority of the N.A.T.O. members, and a serious effort had been made to co-ordinate these programmes, to share the burden between the Allies in an equitable manner, and to strike an agreed balance between the defensive needs and the economic capabilities of the Allied nations. These efforts of 1951 proved the need for a structural strengthening of N.A.T.O. itself, so as to enable it to cope with its ever-growing tasks.

Agreement about this structural reorganization of N.A.T.O. was reached at the North Atlantic council meeting held at Lisbon from Feb. 20 to 25, 1952, which was generally regarded as the most important and most successful meeting in the history of N.A.T.O. during its first three years. Apart from the reorganization of N.A.T.O. which it brought about, the Lisbon meeting was noteworthy for the agreement it achieved on the military programmes to be carried out by the 14 member nations during 1952, and on the method by which future military programmes were to be co-ordinated among them.

With the aim of "adapting the organization to the needs arising from the development of its activities from the planning to the operational stage," it was decided that the North Atlantic council, while continuing to hold periodic ministerial meetings, should from now on be in permanent session, attended by permanent representatives; that it should take over the functions hitherto performed by the council of deputies, the defence production board, the financial and economic board, and the Atlantic community committee; that a unified international secretariat, under a secretary-general, should be created to "assist the council in the fulfilment of its increasing responsibilities"; and that all civilian activities of N.A.T.O. should be concentrated in one geographical area. This new headquarters of N.A.T.O. was afterwards established in Paris, and the office of secretary-general was filled by Lord Ismay (*q.v.*), up to then secretary for Commonwealth relations in the British cabinet. The new organization began to function in Paris in April 1952.



Admiral Sir Rhoderick McGrigor, first sea lord, with Admiral W. M. Fechteler, U.S. chief of naval operations, in London in May.

The second important agreement reached at Lisbon concerned the exact requirements of the Allies in their remobilization and rearmament efforts during 1952. It was agreed that the 12 original N.A.T.O. nations, leaving aside the contributions of Turkey and Greece, should during 1952 provide "approximately 50 divisions in appropriate conditions of combat readiness and 4,000 operational aircraft in western Europe, as well as strong naval forces." It was understood that of the 50 divisions about half were to be active divisions, the other half reserve divisions available within a month from mobilization. Beyond these "firm goals" for 1952, "provisional goals" were agreed for 1953, and "planning goals" for 1954.

The third important agreement reached at Lisbon was to perpetuate the method, improvised by the temporary council committee of 1951, of deciding jointly on the

individual contributions of each member nation to the joint forces and to the burden of maintaining them, as well as to the creation and maintenance of their " infra-structure " of airfields, communications, etc. In conformity with this agreement, in July 1952 the secretariat submitted questionnaires to each member state with more than 300 " schedules " relating to national resources, defence programmes for 1953 and competing claims on the national economies, questionnaires which were duly answered and jointly studied during the second half of the year. It was widely observed that the unflinching way in which the N.A.T.O. members accepted this mutual scrutiny of what formerly used to be state secrets, and submitted to comparison, criticism, and adjustment of their military and general production programmes and financial estimates, was without precedent in the history of alliances and constituted in itself something of a revolution in international affaires.

Finally, the N.A.T.O. council at Lisbon endorsed the proposed formation of a European Defence community (*q.v.*), merging the armed forces of five N.A.T.O. members with the prospective armed forces of the German Federal Republic. Since the treaty establishing this E.D.C. was only signed, but not ratified, during 1952 no practical consequences flowed from this decision.

The following were the chief changes and developments in the N.A.T.O. command structure during 1952:

A Supreme Allied command, Atlantic (SACLANT), was established, by the side of S.H.A.P.E., in Norfolk, Virginia, U.S., on April 11, under Admiral Lynde D. McCormick, U.S. navy, with a number of sub-area commands under U.S., British, Canadian, and French admirals.

A regional allied command for the Mediterranean was set up under S.H.A.P.E., by the side of the Central, Northern and Southern European commands, on Dec. 15, under Admiral Earl Mountbatten of Burma, of the Royal Navy. This command was to be responsible for the security of sea communications, the protection of shipping and convoys, the co-ordination of logistic support, and the support of adjacent commands, with the exception of the support of land campaigns in southern Europe, for which the heavy carriers, amphibious and support forces of the U.S. Sixth fleet would remain under the commander-in-chief, southern Europe (Admiral Robert B. Carney, U.S. navy).

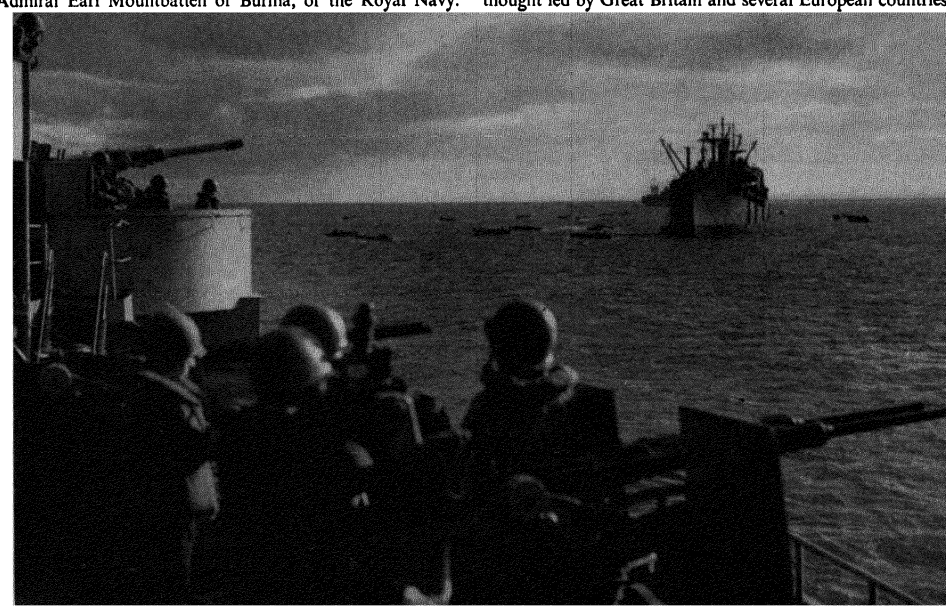
A separate Allied land command for southeastern Europe, co-ordinating the Greek and Turkish forces, was set up under the c.-in-c., south, side by side with the existing land command in southern Europe.

No progress was made with the project of a middle-eastern command.

Among changes of personnel, the most important was the resignation of General Dwight D. Eisenhower and his replacement by General Matthew B. Ridgway (*q.v.*), U.S. army, as supreme allied commander, Europe, on June 1.

Good progress was made during the year 1952 with the recruitment, training, and equipment of the N.A.T.O. forces in Europe, which were tested in various large manoeuvres during the autumn, and it was understood by the end of the year that the Lisbon requirements for 1952 were approximately being met. However, both General Eisenhower in his report in April 1952, and General Ridgway in repeated public statements towards the end of the year, insisted that nothing that had so far been achieved was sufficient to make western Europe invasion-proof, and that further great efforts, roughly on the lines of the tentative programmes for 1953-54, which were reportedly aiming at an ultimate front-line strength of 96 divisions and 7,000 aircraft in western Europe, would be necessary to establish conditions of reasonable security.

At the same time, these further programmes became a matter of controversy in the N.A.T.O. councils. A school of thought led by Great Britain and several European countries



A scene off the coast of Jutland, Denmark, during the N.A.T.O. " Exercise Mainbrace " in which naval forces of eight nations were engaged in September. The exercise was the largest combined naval operation in peacetime.

argued in favour of taking a calculated risk in 1953-54 and scaling down the tentative programmes for these two years in order to strengthen the economic basis of the long-term rearmament effort in the European countries and prepare for the changes in weapons and tactics to be expected from the later introduction of supersonic aircraft, guided missiles and tactical atomic weapons. Against this it was argued, especially by the United States, that a let-up now would extend the period of Soviet superiority in Europe, increase the danger of aggression again and undermine the morale of the Western European peoples which had just begun to recover.

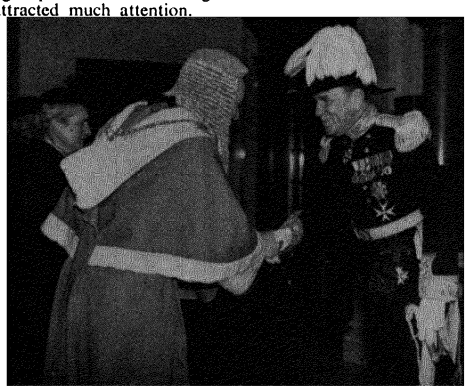
A ministerial meeting of the North Atlantic council held in Paris from Dec. 14 to 18, 1952, discussed these questions but deferred decisions till spring 1953, so as to give the new U.S. administration under President Eisenhower a chance to form a judgment on the matter. (*See* also EUROPEAN DEFENCE COMMUNITY.) (S. HR.)

See Drew Middleton, *The Defense of Western Europe* (New York, 1952); Royal Institute of International Affairs, *Atlantic Alliance: N.A.T.O.'s Role in the Free World* (London, 1952).

NORTHERN IRELAND. The six counties of Antrim, Armagh, Down, Fermanagh, Londonderry and Tyrone together form a part of the United Kingdom of Great Britain and Northern Ireland. Northern Ireland has its own parliament and executive (with limited powers for local purposes) and is represented in the United Kingdom parliament by 12 members. Area: 5,451 sq.mi. Pop.: (1937 census) 1,279,745; (1951 census) 1,370,709. Language: English. Religion (1951 census): Roman Catholic 471,329 (34·39%), Presbyterian 410,259 (29·93%), Anglican 353,025 (25·75%), Methodist 66,544 (4·86%), other (or not stated) denominations 69,552 (5·07%). Chief towns (pop.; first figure, 1937 census; second figure, 1951 census): Belfast (cap., 438,086; 443,670); Londonderry (47,813; 50,099); Bangor (16,284; 20,615). Governors in 1952, the Earl Granville and (from Dec. 1) Lord Wakehurst (*q.v.*); prime minister, Viscount Brookeborough of Colebrooke (formerly Sir Basil Brooke).

History. The death of George VI in Feb. 1952 was mourned throughout the province and the accession of Elizabeth II was proclaimed.

The Earl Granville resigned from the office of governor of Northern Ireland in September and Lord Wakehurst was appointed as from Dec. 1, 1952. The year was politically uneventful, local government elections in May showing a light poll and little change, but the economic situation attracted much attention.



Lord MacDermott, lord chief justice (left), welcoming Lord Wakehurst when he was sworn in as governor of Northern Ireland.

Recession in textile industries caused rising unemployment, reaching 53,154 workless in February, the highest figure since the end of World War II, and the Ministry of Supply placed shirt orders worth £1,200,000 with 23 Northern Ireland firms in an attempt to reduce it. In March four Northern Ireland cabinet ministers and six United Kingdom ministers discussed in London "problems of production, raw materials and employment" affecting Northern Ireland; as a result further government textile contracts were placed. Peak unemployment was 60,353 in July, falling to 45,648 in December. In August an improvement was reported in the linen industry: estimated 1951 linen exports were 51,492,000 yd., the greatest since 1939.

Insufficiency of steel allocation was the subject of official talks in January. The Belfast shipbuilding industry had produced in 1951 a total tonnage of 118,534 tons and total engine output of 85,595 h.p., taking second place in the world for tonnage output of a single shipbuilding yard. Several big vessels were launched in 1952, including the 28,500-ton tanker "British Skill", the 17,000-ton Union Castle liner "Braemar Castle" and the 18,500-ton oil tanker "Janova". Several smaller ships were launched and work was begun on a 32,000-ton tanker and other vessels. On a decision of the Admiralty, work began on making three additional shipbuilding slips in Belfast for the construction of minesweepers and other naval craft. Work on the production of Comet jet bombers in Belfast made much progress and plans were put in operation for production of Comet jet air liners.

Agricultural production fell during 1951. The number of cattle, sheep and poultry fell, but pigs increased. The area under tillage decreased. Total visible exports for 1951 were £217,071,000 and imports were £261,467,000. The chief exports were linen and rayon goods valued at £47,000,000, cotton goods £15,816,000, livestock £15,412,000, machinery £12,590,000. The 1952 budget provided for an increased "imperial contribution" of £20,500,000 to the U.K. exchequer. Legislation was passed providing for the same new allowances, benefits and charges in health and social services as in Great Britain. There was acute controversy over the government's proposal to restrict press reporting of preliminary court hearings of cases which might later come before a jury. The government deferred this for further consideration.

An inquiry into the operation of the Ulster Transport authority opened in March under the chairmanship of Sir Anthony Babington, Q.C., and reported in November, finding little to criticize in the work of the authority. A new system of one-way streets was applied to congested traffic areas in Belfast. Extensive new buildings were begun for Queen's university, Belfast. Heavy rain in August helped to prevent serious water shortage in some towns but flooded 2,000 houses in Belfast. Increased Belfast water supply from Silent valley was opened. In August a Canberra bomber crossed the Atlantic from Aldergrove to Gander and back in 10 hr. 3 min. 29·28 sec. In September the British Association met in Belfast, under its new president, Professor A. V. Hill. (H. SN.)

Education. Schools (1951): nursery 23, pupils 709; primary 1,629, pupils 192,736; special (including hospital special schools) 13, pupils 776; secondary intermediate 12, pupils 6,785; secondary grammar 80, pupils 29,536; technical intermediate 29, pupils 4,901; institutions of further education 120, pupils 27,024. Queen's university of Belfast, students 2,686.

Agriculture. Main crops ('000 metric tons, 1950; 1951 in brackets): oats 313·0 (299); potatoes 1,364 (1,216); wheat 2·0 (1·4); barley 4·1 (3·3); dredge corn 5·7 (4·4); hay 601 (758); turnips 176·8 (180); mangels 11·7 (14·9); flax fibre 3·8 (4·0). Livestock ('000 head, mid-1952): cattle 941; sheep 795; pigs 676; goats and kids 8; horses 35; asses 5; poultry 16,456. Food sales (1951-52): milk 86 million gal.; eggs 55 million dozen; pigmeat 970,000 cwt. Number of animals sold to the ministry for slaughter ('000 head): cattle (incl. calves) 345; sheep

and lambs 352. Shipments of food to Great Britain (1952): milk 4 million gal.; eggs 39 million dozen; poultry 6,037 tons; bacon and ham 25,000 tons.

Industry. Electricity sales (million kwh., 1950; 1951 in brackets): 623 (684). Merchant vessels launched (1950; 1951 in brackets): 11 (10), gross tonnage 130,720 (118,174). Exports of yarns ('000 cwt., 1951): linen 95, woollen 22, cotton 8, hemp 15.

Finance and Banking. Budget: (1951-52 actual) revenue £46,568,698 incl. £36·7 million from U.K. exchequer, expenditure £46,454,419 excl. contribution of £19 million to U.K. exchequer; (1952-53) revenue £75,715,000 incl. £42 million from U.K. exchequer, expenditure £75,651,000 incl. contribution of £20·5 million to U.K. exchequer. National debt (March 1951; March 1952 in brackets): £25,962,007 (£29,000,000).

Foreign Trade. (Million £, 1950; 1951 in brackets.) Imports 219·3 (261) of which 175·7 (205) from and through Great Britain; exports 183·0 (217) of which 172·6 (206) to and through Great Britain. Main direct sources of imports, excluding Great Britain (1951): Irish republic 24·3%; Belgium 15·7%; Canada 8·7%; U.S.S.R. 8·4%. Main direct destinations of exports, excluding Great Britain: Irish republic 35·5%; Norway 26·6%; U.S. 4·3%; Italy 2·9%. Main imports (1951): cotton goods, including goods sent for finishing, etc. 9·0%; machinery 5·7%; coal 5·6%; tobacco 3·2%. Main exports: linen and rayon piece goods 21·7%; apparel 7·1%; cotton goods, including goods sent for finishing, etc. 7·3%; livestock 7·1%.

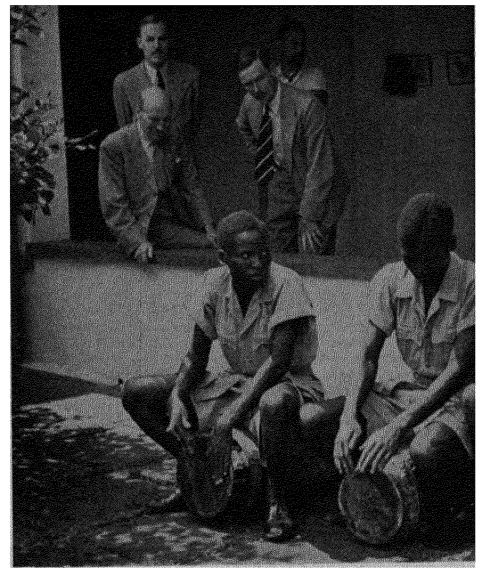
Transport and Communications. Roads (1951): 13,255 mi. Licensed motor vehicles (Sept. 1950): cars and cycles 59,268, commercial incl. tractors and hackneys 43,135. Railways (1951): 743 mi.; passengers carried (1950-51) 18,787,441; livestock transported (1950-51) 678,772 head; merchandise carried (1950-51) 1,740,752 tons. Telephones: stations (Oct. 1951) 76,611; (Sept. 1952) 80,016.

NORTHERN RHODESIA. British protectorate in central Africa. Area: 288,130 sq.mi. Pop. (1951 est.): 1,947,000, incl. 39,842 Europeans (May census). Religion: pagan (*c.* 80%) and Christian. Chief towns (European pop. 1950): Lusaka (cap. 4,615), Nkana-Kitwe (5,234), Luanshya (4,685), Mufulira (3,322), Ndola (2,962). Administration: governor; executive council, 6 *ex-officio*, 1 nominated official and 4 unofficial members; legislative council, 6 *ex-officio*, 3 nominated official members and 14 unofficial (10 elected European, 2 nominated African and two nominated to represent African interests). Governor, Sir Gilbert Rennie.

History. The protectorate's favourable trade balance for 1951 of about £31·6 million—a new record—was the result of an increase in world prices for base metals, which formed more than 95% of the territory's exports. The increase in copper prices doubled Northern Rhodesian revenue in the period 1950-52. During 1952 the development plan was again reviewed and its cost was now estimated to be £36 million (previous estimate £19 million); £3,140,000 was earmarked for urban African housing. The number of houses built was almost up to schedule but still far short of needs. Plans for hydro-electric schemes at the Kafue and Kariba gorges were under consideration during the year, but no decision was reached.

On April 8 the government issued a draft statement on partnership, containing proposals for more representatives of African interests in the next legislative council: this statement emphasized that both Europeans and Africans must recognize each other's rights to a permanent home in Northern Rhodesia. It was intended that Africans should have equal representation with Europeans in the legislative and executive councils. The repeal of all differential legislation would not be in the Africans' best interests, but the government would propose amendments from time to time.

Henry Hopkinson, the British minister of state for colonial affairs, visited Northern Rhodesia in August in the course of an enquiry about the proposed central African federation. He informed the Barotse tribe that the word "protectorate" would be added to the name of their country. C. R. Attlee, leader of the opposition, also visited Northern Rhodesia in August by invitation of the European unofficial members of the legislative council. Also in connection with federation, the Northern Rhodesian African congress announced that a small delegation would go to London at the end of the year.



Clement Attlee at the Rhodes-Livingstone Museum at Livingstone, Northern Rhodesia. Mr. and Mrs. Attlee visited Southern and Northern Rhodesia, Aug. 18-Sept. 1.

A strike of all African copper-mine workers began on Oct. 20. The demand was for another 2*s.* 8*d.* a shift, but many more complex issues were involved. The strike ended on Nov. 10, and the workers agreed to go to arbitration. (*See* also CENTRAL AFRICAN FEDERATION.) (W. H. Is.)

Education. Schools (1951): government primary 55, pupils 25,641; government secondary 2, pupils 468; independent secondary, pupils 550.

Finance and Trade. Monetary unit: Southern Rhodesian pound (£SR 1 = £1 sterling). Budget (1952 est.): revenue £23,661,863; expenditure £23,437,946. Foreign trade (1951): imports £35·4 million; exports £67 million. Principal exports (1951 values): copper (blister and electrolytic) £35,036,423; lead £1,926,210; zinc £5,699,444; tobacco £1,638,523.

NORWAY. Constitutional monarchy of northern Europe, bounded N. by the Arctic ocean, E. by the U.S.S.R., Finland and Sweden and S. and W. by the North sea. Area (excl. Svalbard archipelago*): 125,182 sq.mi. Pop.: (1946 census) 3,156,950; (mid-1951 est.) 3,294,000. Languages: Norwegian and Lappish (20,000). Religion: Lutheran. Chief towns: Oslo (cap., pop., 1950 est., 435,163); Bergen (1948 est., 108,933); Trondheim (1948 est., 56,444); Stavanger (1948 est., 42,218). Ruler, King Haakon VII; prime minister, Oscar Torp.

History. The favourable payments position established in 1951 was more difficult to maintain in 1952. The price of some principal exports—pulp, paper, whale oil and shipping services—fell steeply. Great Britain and certain continental countries took steps to force down the price of pulp and Norway demanded a meeting of the Anglo-Scandinavian Economic committee to discuss the matter. The meeting, held from March 24 to 26, produced no noteworthy result. Norwegian whaling companies, after selling whale oil at

* Svalbard archipelago (Spitsbergen and Baer Island): area, 24,295 sq.mi. The population, largely miners, shifts seasonally; in 1951 it was estimated at 3,400, including 2,387 Russians.

£120 a ton in Dec. 1951, were forced to accept £72 10*s.* by mid-1952. They decided to cut participation in the next whaling season in the antarctic (opening on Jan. 2, 1953) from ten to seven expeditions. The substantial fall in freight rates was serious for owners of small tramp freighters but owners of time-chartered tankers and cargo-liners were not so immediately affected. The merchant fleet continued to expand and passed the 6 million gross-ton mark for the first time.

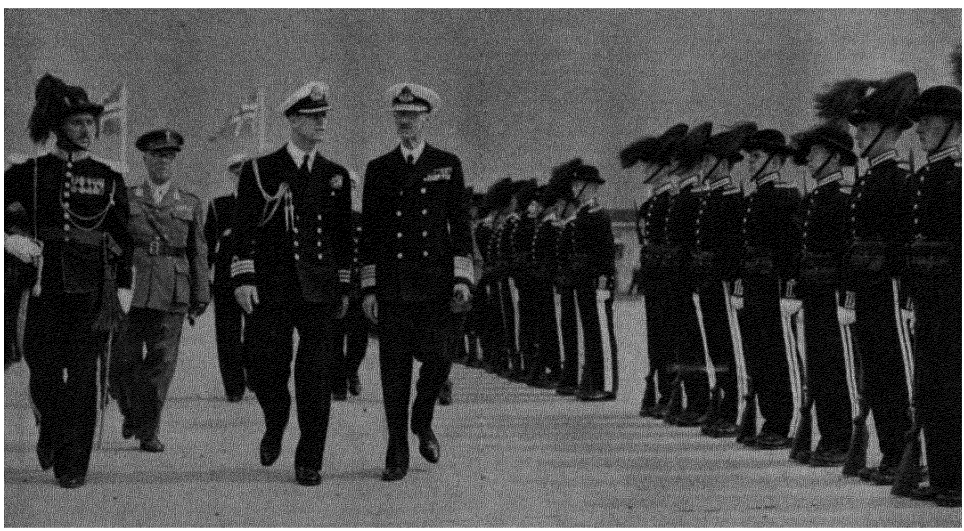
On the domestic front prices and wages continued to rise for most of the year. The cost of living index (100 in 1949) was 129 in January and 134·5 in August. To compensate for rising costs new collective agreements were negotiated for most categories of workers during the year and wages rose on an average about 6%. A few points were added to the price index when subsidies were abolished or reduced following the ending of rationing of cheese (July 1), coffee and sugar (Sept. 1) and newsprint (Oct. 1). Living was eased too by acceleration of the housing programme. In the first six months 15,000 new homes were completed, almost twice the number for the same period of 1951.

Production continued to make headway. The amount of timber cut for sale was bigger than for many years and comfortably exceeded the 7 million cu.m. target. There was an excellent haul of fish, particularly herring. Industrial production remained at about the 1951 level. An important event was the restarting of production at the annual rate of 1 million tons at the Syd-Varanger iron ore mines after the completion of rebuilding at a cost of £8·75 million. Tourism flourished with 391,700 foreign visitors, a record number, during June-August. The travel allowance for Norwegians visiting European Payments union countries was increased from £15 to £25 a year. The plan for the economic development of north Norway won the support of all parties when debated by parliament, and a development fund, headed by former fisheries minister Reidar Carlsen, was set up with funds of £10 million.

Military requirements made increasing inroads on national resources during 1952. A new defence programme for the period to July 1, 1954, was announced: it would cost £170 million, or £45 million more than the previous estimate made just before Christmas 1951. The new programme assumed foreign aid amounting to £32·5 million. It was decided to lengthen military training from 12 to 18 months from mid-1952 for the navy and air force, and from mid-1953 for the army. A big programme for building and extending military airfields was announced under N.A.T.O.'s " infra-structure " scheme. N.A.T.O.'s " Exercise Mainbrace " in the autumn brought allied warships and aircraft to Norway, and Norwegian forces participated actively. There was no change, however, in the Norwegian government's policy of excluding foreign military bases from Norway unless an attack or threat of attack developed.

The minister of defence since Nov. 1945, Jens Christian Hauge, retired in January to take up a post with the Labour party. He was succeeded by the minister of communications, Nils Langhelle, and Jakob Pettersen was appointed the new communications minister. The prime minister, Oscar Torp, paid an unofficial visit to the United States in September. The year was quiet politically, the general agreement among all five parties in parliament about foreign and defence policy being maintained. The government's proposals for a permanent price law did, however, provoke strong criticism in right-wing free-enterprise quarters. The proposals involved far-reaching economic controls. Presenting his budget proposals for the 1952-53 financial year finance minister Trygve Bratteli estimated income and expenditure on current and capital accounts combined to balance at £186·75 million, an increase of almost £25 million compared with the 1951-52 appropriations.

A significant event in Scandinavian relations was the agreement to form a Scandinavian council of representatives from the national parliaments of Denmark, Iceland, Norway and Sweden. Although opposition and misgiving were voiced in some Norwegian quarters, parliament voted by 75 against 39 to join the council. It was to meet once a year



The Duke of Edinburgh, with King Haakon of Norway, inspecting the royal guard at Fornebu airport, Oslo, in July. The Duke of Edinburgh visited Norway and Sweden on his way to the Olympic Games at Helsinki, Finland.

to discuss measures for closer co-operation. Ministers as well as members of parliament would attend but the council's powers would be confined to making recommendations. A concrete measure for closer intercourse was the decision to abolish passports for inter-Scandinavian travel from July 12.

A government scheme to give economic and technical assistance to a region of India won parliament's support, and £500,000 was voted for a development fund. Plans were made to raise another £500,000 by a nation-wide campaign Delegates flew to India to discuss the aid scheme with the Indian authorities.

The VIth Olympic Winter Games were held in Oslo in February. Thirty nations, more than ever before, took part and the number of spectators was a record.

King Haakon's 80th birthday was celebrated on Aug. 3 amid great enthusiasm. A banquet given by the government at Akershus fortress was attended by many royal guests from abroad. In February King Haakon attended the funeral of King George VI in London.

Johan Nygaardsvold, prime minister from 1935 to 1945, died on March 13 The state funeral was attended by King Haakon and the crown prince. Knut Hamsun, novelist and Nobel literature prize winner, died on Feb. 19, aged 92. (For these *see* OBITUARIES.) The noted actor David Knudsen died in July. Seventy-eight sealhunters lost their lives in a storm in Arctic waters near Greenland just before Easter. The Nobel Committee of Parliament decided not to award the peace prize for 1952. (O. F. K.)

Education. Schools (1948-49) rural elementary 5,497, pupils 226,284, urban elementary, pupils 73,890, secondary 306, pupils 39,921 Universities (1950) 2, students 4,046, other institutions of higher education (excl teachers' training colleges) 6, students 1,723

Agriculture and Fisheries. Main crops ('000 metric tons, 1950-51, 1951-52 in brackets) wheat 66 (40), barley 99 (130), oats 180 (180), rye 2 (1), potatoes 1,116 (1,015) Livestock ('000 head, June 1951) cattle 1,231, sheep 1,929, pigs 386, goats 118, horses 184, chickens 4,689 Food production ('000 metric tons, 1951, 1952, six months, in brackets): milk delivered ('000 hectolitres) 9,657 (5,134), butter (factory production) 11 2 (5 7), cheese (factory production) 28 9 (16 7), meat 97, incl beef and veal 47, mutton and lamb 15, pork (excl lard) 35 Wool production (clean basis, '000 metric tons, 1950-51; 1951-52 in brackets) 2 (2) Fisheries (1950, 1951 in brackets) total catch (metric tons) 1,467,712 (1,818,680), value (million kroner) 346 (480) Whale oil production ('000 metric tons, 1950, 1951 in brackets) 189 2 (190 9), total value (million kroner) 292 (358)

Industry. Industrial establishments employing 5 workers or more, excl electrical plants and construction and building industries (1950) 6,166, persons employed, 38,134 salaried staff and 219,265 workers, gross value of production Kr 8,883 million Fuel and power (1951, 1952, six months, in brackets) coal ('000 metric tons) 470 4 (268 3), manufactured gas (million cu m.) 47 5 (27 2), electricity (million kwh) 17,216 (1952, five months, 7,945) Timber production ('000 cu m, 1950, 1951 in brackets) sawn softwood 1,227 Raw materials ('000 metric tons, 1951, 1952, six months, in brackets) iron ore (65% metal content) 438 (316), pig iron 241 2 (1952, five months, 111 6), copper (smelter) 8 64 (5 0), zinc (smelter) 40 2 (16 8), aluminium (smelter) 51·2 (25 4), nickel 11 (5 3), ferro-silicon (calculated, 45% basis) 72·1 (41 1), sulphur 98 4 (53 6), pyrites 692 9 (370 2); nitrogen 168 4 (86 9); woodpulp (dry basis) 353 9 (261 6) Manufactured goods cellulose (dry basis) 529 3 (269 8), newsprint 169, other paper and board 340; cement 720 (362) Merchant vessels launched, 100 gross tons and upwards (1951; 1952, six months, in brackets) total tonnage 73,107 (52,408). Index of industrial production (1951; 1952, six months, in brackets [1948—100]): general index 119 (124); producers' goods 119 (126), consumers' goods 119 (121)

Finance and Banking (million kroner). Budget (1951-52 est) revenue 3,668, expenditure 3,230; (1952-53 est) revenue 4,053, expenditure 3,715 National debt (Dec. 1950; Dec 1951 in brackets). 4,770 (4,873), incl. balance of occupation account 6,202 (6,202) and foreign debt 1,035 (1,173). Currency circulation (Aug. 1951, Aug 1952 in brackets): 2,373 (2,569). Deposit money (July 1951; July 1952 in brackets). 5,230 (6,082) Gold and foreign exchange (million U.S. dollars, Aug. 1951; Aug 1952 in brackets) 149 0 (146 5) Monetary unit. *krone* (plural *kroner*), with an exchange rate (Nov. 1952) of Kr 20 00 to the pound and Kr. 7 15 to the U S dollar.

Foreign Trade. (Million kroner, 1951; 1952, six months, in brackets.) Imports 6,256 (3,141), exports 4,423 (2,167). Main sources of imports (1951): U.K 23%, Sweden 12%, U S. 13%, Germany 8% Main destinations of exports: U K. 20%, Germany 9%, Sweden 8%; U.S. 7%. Main imports ships and boats 14%, textiles 13%, coal, petroleum and products 11%, machinery 9%. Main exports: woodpulp and paper 30%, fish and products 14%, fats and oils 11%; non-ferrous metals and manufactures 9%.

Transport and Communications. Roads (1951) 45,128 km Licensed motor vehicles (Dec 1951) cars 73,507, trucks 60,392 Railways (1951). 4,472 km, incl state railways 4,392 km., traffic on state railways (1951; 1952, six months, in brackets): passenger-km 1,519 (733) million; freight net ton-km 1,457 (756) million Shipping merchant vessels of 100 gross tons and over (July 1952) 2,217; total tonnage 5,924,805 Air transport (1951) km. flown 8 9 million, passenger-km 199 7 million, freight net and mail ton-km 8 5 million Telephones (1951): 781,678 Wireless licences (1952) 818,750

NUTRITION. It had been known for years that soil fertility was important to human welfare because of its influence on the production of crops. Conflicting claims had appeared regarding the influence of soil fertility on the nutritional quality of crops or animal products. A long-term study was initiated at the Michigan Agricultural Experiment station in 1945 and was planned for continuation for at least a ten-year period The study was designed to answer the following question: Does the fertility of the soil affect the nutritive value of the crops, the nutrition of the cow, the nutritive value of the milk and, ultimately, the health of the consumer?

Ten pairs of heifers (from cows bred to the same bull) were selected for the experiment One of each pair received feeds grown on well-fertilized soil; the other received feeds grown on soil of the same type, which was, however, severely depleted and unproductive. The crops selected to serve as feed were those that were most likely to grow satisfactorily on both the fertile and the depleted soil. Brome grass and timothy were grown as the hay component of the ration and soya beans were grown as a protein supplement. Corn, wheat and oats were grown as the grain components of the ration. Yields per acre from the depleted soil were only about one-half those from the fertilized soil.

Both groups of cows were managed identically, were maintained on the same plan of nutrition for full milk production and consumed about the same amounts of digestible protein and total digestible nutrients. The heifer calves were being retained in the respective herds as replacement stock and provided a means of ascertaining the cumulative effects on later generations of the continued use of feeds grown on depleted as well as on fertile soil.

The essential amino acid content of colostrum and milk proteins from the animals in the two herds was reported. The essential amino acid content of the colostrum and milk proteins and also the protein content were not affected by the level of soil fertility. The Michigan workers concluded that the amount and kinds of amino acids in milk proteins remain rather constant irrespective of the soil fertility conditions under which the cow's feed is grown. The conclusion, based on data accumulated over a five-year period, was drawn that there is no justification for assuming that the level of soil fertility can influence the quality of cow's milk.

A study was made of the effect of the " poor rice diet " of south India on the growth of rats, and the results from supplementation with egg yolk, egg yolk extracts, casein and riboflavin. The investigations were designed to show whether the fat-soluble or non-fat-soluble nutrients of egg yolk were effective to account for the known nutritive value of whole egg yolk in animals maintained on this rice diet. It was found that the animals fed the basal rice diet from the beginning with a supplement of 30% egg yolk gained weight well, and that the addition of the other supplements and also cod-liver oil did not increase the rate of gain in weight.

Many of the antibiotics such as penicillin, streptomycin, terramycin and aureomycin had been found to improve

growth when they were added in small amounts to the ration of experimental animals. Aureomycin was one of the first antibiotics for which growth-promoting activity was suggested. The mechanism of this growth-stimulating activity of aureomycin or other antibiotics was unknown. Possible explanations might be inhibition of toxin-producing vitamin B_{12} or other nutrients, or reduction of competition between host and flora for certain nutrients. It was also reported that aureomycin may have marked effects on the metabolism of mammalian tissues and in particular on phosphorylation reactions. Recalling the fact that the majority of positive reports on the action of aureomycin on growth were obtained with diets containing plant proteins (soya bean and cottonseed), it was postulated that antibiotics may promote the development of a microflora which enhances the availability or the intestinal synthesis of critical amino acids. When proteins of high biological value are provided, as is the case with diets containing peanut protein, or the mixture of proteins found in calf meal or casein, these amino acids are not limiting factors for growth and the favourable effect of aureomycin cannot be observed. This conclusion appeared to be a reasonable hypothesis, which could eventually be tested experimentally by adding the pure amino acids likely to be the least available to the diets showing the aureomycin effect and seeing whether one or a mixture of these supplements does, in fact, cancel the aureomycin effect.

After vitamin B_{12}, the anti-pernicious anaemia and growth vitamin, was isolated in 1948, a number of forms of the vitamin were described. Two anti-pernicious anaemia pigments, described separately as vitamin B_{12a} and vitamin B_{12b}, were later shown to be identical and to differ from vitamin B_{12} by a slight chemical change There had been indications that one or more other vitamin B_{12}-like factors might be required for the growth of chicks. Comparing the action of certain preparations with vitamin B_{12}, it was found that unidentified factors affected the growth of chicks relatively more than they did that of micro-organisms and it was postulated that they represented new " animal protein factors ".

A vitamin B_{12}-like material (B_{12m}) was also isolated from pig manure and was shown to be different from any of the known forms of vitamin B_{12}. Nothing was known, however, of its growth-promoting ability. In 1952, a report from the University of Wisconsin, Madison, by U. J Lewis, D. V Tappan and C. A. Elvehjem brought conclusive evidence of the existence in the faecal matter of rats of a vitamin B_{12}-like material which not only differs from vitamin B_{12} in its chemical characteristics but also presents different biological properties. It was believed that the discovery of a new vitamin B_{12} with different biological properties from those of the classic forms might constitute an important step in the advance of existing knowledge of blood-forming processes and of the aetiology of various forms of anaemias.

(F. J. S ; M. F. T.)

NUTS. There were signs during 1952 of increasing interest in several walnut-growing countries in improving the production of walnuts. This was not surprising considering the steady, keen demand existing in many markets for good quality walnuts and the universal popularity of the walnut. During the year some good consignments reached the United Kingdom from Pakistan, some nuts having even been despatched by air freight. It was a new departure for Pakistan to be supplying walnuts to Europe, but not surprising when it is remembered that some parts of Pakistan are well suited for growing walnuts and that the country is within the natural range of distribution of the walnut tree (*Juglans regia*), which extends from southeastern Europe through Asia Minor to Afghanistan, Pakistan or northern India, and on into China. As most nuts are perishable commodities and soon go rancid under warm conditions, transportation for long distances by sea, especially under tropical conditions, is liable to cause deterioration, and it seemed likely that this early enterprise of transporting walnuts from Pakistan to the United Kingdom by air freight might be a forerunner of more extensive developments.

The Macadamia or Queensland nut was another of the better-known edible or dessert nuts that claimed increasing attention during the year, especially in Hawaii, where this Australian tree had been established for many years. In some parts of the islands it grew particularly well. The horticultural department of the University of Hawaii was actively engaged in producing new or superior varieties of Macadamia nut that were likely to lead to greatly increased yields in time. Several of these varieties were fully described during the year with their relative merits and demerits. Two of the best were considered to be *Wailua* and *Ikaiki*. The latter derives its name from a Hawaiian word expressing strength and vigour. This variety was the hardiest and most wind-resistant so far tried. It also thrived better than other varieties in poor and shallow soils. As much of the land likely to be considered for new Macadamia orchards in Hawaii was not ideal for growing Macadamia trees, this new hardy variety was expected to prove very useful.

The variety *Wailua* is notable for its high yield and the early age at which it comes into bearing That known as *Kakea* also gives heavy crops of nuts and is hardy and productive. Since 1937 it had performed well in Hawaii (*see* R. A. Hamilton, W. B. Storey and E. I. Fukunaga, "Two New Macadamia Nut Varieties", *Univ. of Hawaii Agric. Exp. Stn. Circ. 36*, 1952) (F. N. H.)

NYASALAND. British protectorate in central Africa Area: (incl. lakes) 48,444 sq.mi., (land only) 37,928 sq.mi Pop : (1945 census) 2,049,914, incl 1,948 Europeans, (1951 est.) 2,400,000, incl. *c* 4,000 Europeans and *c* 5,000 Asians Religion: pagan, Christian minority. Chief towns: Zomba (cap , pop. 1949, 7,434), Blantyre, Limbe. Administration governor; executive council, 3 *ex-officio* and 4 nominated members; legislative council, 3 *ex-officio*, 6 official and 9 unofficial nominated members (6 European, 2 Asian and 1 African). Governor, Sir Geoffrey Colby.

History. Repayment of £2 million in Nyasaland government 4½% stock was made at par on April 1, 1952. A new issue of £2,060,000 in government 4½% stock, redeemable in 1971-78, was put on the market in August and considerably over-subscribed.

A two-year survey of the Shire valley had been started in May 1951, at an estimated cost of £300,000, of which £150,000 would come from Colonial Development and Welfare funds The object was to investigate the possibility of stabilizing the level of Lake Nyasa and controlling the waters of the Shire river, with a view to hydro-electrical, land reclamation and irrigation development. A new hospital for Blantyre and Limbe costing £530,000 was begun in August.

Henry Hopkinson, minister of state for colonial affairs, visited the protectorate in August. (*See* CENTRAL AFRICAN FEDERATION.) (W. H Is)

Education. Schools (1951) European 5, pupils 683, Asian and coloured 9, pupils 645, African 4,600, pupils 241,941

Finance and Trade. Currency sterling, with Rhodesian silver coinage Budget (1951 revised est) revenue £4,095,854, expenditure £4,143,300, (1952 est.) revenue £3,964,593, expenditure £4,157,187 Foreign trade (1951). imports £7,293,756, exports £6,028,296 Principal exports (1951) tobacco £2,733,431, tea £2,028,866

Transport and Communications. Roads (1951) 4,765 mi , railways 316 mi.

NYLON: *see* RAYON AND SYNTHETIC FIBRES.

OATS: *see* GRAIN CROPS.

OBITUARIES. The following is a selected list of prominent men and women who died during 1952:—

Alton, Ernest Henry, Irish college principal (b Martinstown, Westmeath, Sept 21, 1873—d Dublin, Feb 18), after achieving distinction as an undergraduate at the University of Dublin, Trinity college, became a fellow and lecturer in classics and Hebrew in 1905 In 1927 he became professor of Latin and in 1937-38 he was senior proctor From 1923 until 1937 he represented the university in the *Dáil Eireann* and in 1938 became a senator In 1942 he was appointed provost of Trinity college Editor of *Hermathena*, 1921-37, he was also a contributor to many classical reviews

Alexandrine, queen mother of Denmark (b. Schwerin, Dec 24, 1879—d. Copenhagen, Dec 28), was born the Duchess Alexandrine-Augustine, elder daughter of the Grand Duke Friedrich-Franz III of Mecklenburg-Schwerin She was married at Cannes on April 26, 1898, to Crown Prince Christian, eldest son of King Frederik VIII of Denmark He succeeded his father on May 14, 1913, as King Christian X and died on April 20, 1947 Queen Alexandrine was notable for her sense of duty and for her love of music which her son, King Frederik IX, inherited from her

Astor, Waldorf Astor, 2nd Viscount, of Hever castle, Kent, British newspaper publisher and politician (b New York, May 19, 1879—d Cliveden, Buckinghamshire, Sept 30), was educated at Eton and at New college, Oxford He was Unionist M P for Plymouth, 1910-18, and for the Sutton division of Plymouth from 1918 to 1919 when he vacated his seat on succeeding to his father's peerage He was inspector, quartermaster-general services, 1914-17, and parliamentary secretary to the prime minister, 1918, to the Ministry of Food, 1918, and to the Ministry of Health, 1919-21. In 1915 he had become proprietor of the *Observer* and was active on behalf of many causes, particularly temperance reform He was also a keen agriculturalist who deplored the concentration on arable cultivation at the expense of livestock, and in 1936 he was appointed chairman of the League of Nations committee on nutrition. A freeman of Plymouth, 1936, and its lord mayor, 1939-44, Lord Astor was associated with many schemes beneficial to that city including the Astor playing field, the Mount Gold institute and the Astor housing estate He was chairman of the Royal Institute of International Affairs, 1935-49 He was a well-known racehorse breeder and owner, and his horses won 11 classic races, the Derby alone eluding his grasp His published works include *The Planning of Agriculture* (1933), *British Agriculture* (with B Seebohm Rowntree and others, 1938) and *Mixed Farming and Muddled Thinking* (1946).

Austin, Frederic, British singer and composer (b London, March 30, 1872—d. London, April 10), was a leading baritone at Covent Garden under Hans Richter in 1908 and in Sir Thomas Beecham's opera company in 1915 In 1920 he edited the Playfair production of *The Beggar's Opera*. His compositions include *Spring* (an orchestral rhapsody, 1907), a cantata, *Pervigilum Veneris* (1931), some song settings and music for various plays

Banks, Leslie James, British actor (b West Derby, Liverpool, June 9, 1890—d. London, April 21), made his first stage appearance in 1911 as Old Gobbo in *The Merchant of Venice*. He toured in England, Canada and the United States during 1911-14, appearing first in London in May 1914. After World War I, throughout which he served in the Essex regiment, he became a leading actor in London and New York; he appeared in such successes as *Service*, *Clive of India*, *The Taming of the Shrew*, *Peter Pan* and *Emma Hamilton*. During 1939-45 he played in London and the provinces, appearing as Mr. Tattle in Congreve's *Love for Love* and joining John Gielgud for a successful repertory season He then toured among Allied troops in Germany. His best known later parts include Father in *Life with Father* (1947) and Aubrey Tanqueray in *The Second Mrs Tanqueray* (1950) Banks also appeared in many films and produced both plays and films

Bell, Sir Thomas, British shipbuilder (b Sirsawa, British India, 1865—d. Helensburgh, Dumbartonshire, Jan 9), was, during 1909-1935, resident director of Clydebank, a shipyard owned by James and George Thomson, to which he had gone as a draughtsman in 1886. An outstanding designer and engineer, he helped to build the "Lusitania", "Aquitania", "Queen Mary", H.M.S "Repulse" and H M S "Hood". He was a deputy controller of dockyards and shipbuilding during World War I, and was knighted in 1917

Benians, Ernest Alfred, British college principal (b Goudhurst, Kent, Oct. 23, 1880—d Cambridge, Feb 13), was educated at Bethany House school, Goudhurst, and St John's college, Cambridge, of which he became a fellow in 1906, tutor in 1918 and senior tutor in 1927. In 1933 he was elected master of the college, and was vice-chancellor of the university, 1939-41 He also became an honorary fellow of Trinity college, Dublin, in 1947. A historian of distinction, Benians was joint editor of the *Cambridge History of the British Empire* (1929-36). His published works include chapters in the *Cambridge Modern History*, *The United States an historical sketch* (1943) and *Race and Nation in the United States* (1946).

Birley, Sir Oswald Hornby Joseph, British painter (b. Auckland, New Zealand, March 31, 1880—d. London, May 6), was educated in England and studied painting in Dresden, Florence and under Marcel Baschet in Paris. He became famous as a portrait painter, particularly of presentation portraits, exhibiting at the Royal Academy, the Royal Society of Portrait Painters (of which he was vice-president) and the Royal Institute of Oil Painters. Among his sitters were the queen when she was Princess Elizabeth, King George V and Queen Mary (for Windsor castle), King George VI, Winston Churchill and General Dwight Eisenhower. He was knighted in 1949.

Bjornsson, Sveinn, Icelandic statesman (b Copenhagen, Feb. 27, 1881—d Reykjavik, Jan 25), after graduating at Copenhagen university in 1907, went to Reykjavik and practised in the Superior court and later in the Supreme court. He was active in the Independence (Conservative) party and was a member of the Althing in 1914-16 and in 1920 Iceland being from Dec 1, 1918, a sovereign state united with the Danish crown, he was minister to Copenhagen from 1920 to 1924 and again from 1926 to 1941. When the Germans invaded Denmark he returned to Iceland and, on June 17, 1941, was elected regent by the Althing. On June 17, 1944, Bjornsson was elected first president of the Icelandic republic He was re-elected in 1945 and 1949

Bowen, Marjorie (MARGARET GABRIELLE LONG, *née* CAMPBELL), British writer (b Hayling Island, Hampshire, Oct 29, 1886—d London, Dec 23), studied art in London and Paris and published her first novel at the age of 16 Thereafter she was the author of more than 100 novels, historical studies, plays and biographies She wrote under her maiden name and under the pseudonyms of Joseph Shearing, George R Preedy and (the most familiar) Marjorie Bowen Particularly successful in her treatment of Dutch and Italian backgrounds, her best-known novel is probably *The Viper of Milan* (1917), her other published works include *General Crack* (1928), *The Golden Roof*, *The Triumphant Beast* and *Trumpets at Rome* (a trilogy on the Renaissance, 1934), *My Tattered Loving* (1937), *The Debate Continues* (autobiography, 1939), *The Circle in the Water* (1939), *John Knox* (1941), *The Abode of Love* (1944), *Within the Bubble* (1950), and *In the Steps of Mary Queen of Scots* (1952)

Breadner, Lloyd Samuel, Canadian air force officer (b Carleton Place, near Ottawa, July 14, 1894 d Boston, Massachusetts, March 14), joined the Royal Naval Air Service in 1915 and after serving in World War I, during which he commanded a squadron in Flanders in 1917, transferred to the Royal Air Force in 1918. He joined the newly formed Royal Canadian Air Force, 1924, and was commandant of the R C A F station, Camp Borden, Ontario, 1925 He was acting director, R C A F, 1928-32, and commandant of the R C A F station, Trenton, Ontario, 1932-35 Breadner was appointed air staff officer at the National Defence headquarters, 1936, and in 1940 he became chief of the Canadian air staff, retaining the position until 1943 when he became air officer commanding-in-chief, R C A F. overseas, with the rank of air chief marshal He retired in 1945.

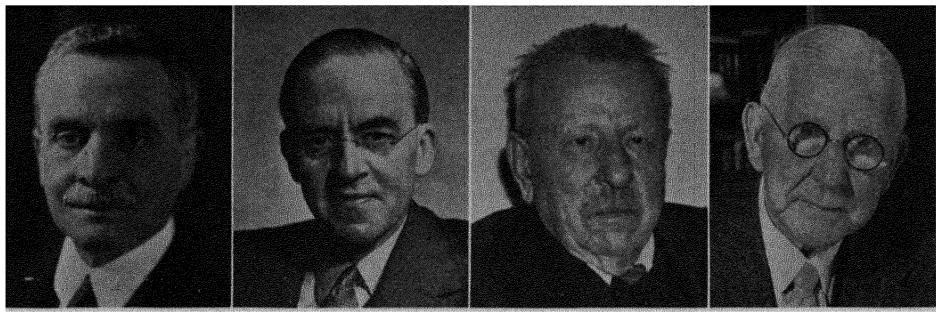
Broadbridge, George Thomas Broadbridge, 1st Baron, of Brighton, Sussex, British industrialist and former lord mayor of London (b. Brighton, Feb 13, 1869—d Cornwall [on holiday], April 16), after studying to be a chartered secretary, rose to great heights in the tin industry and was at one time chairman of 14 companies concerned with tin Retiring in 1928 he spent his time and money on good works, serving as chairman of the National Hospital for Nervous Diseases and many charitable organizations. Elected alderman of the City of London in 1930 and senior sheriff in 1933 he was lord mayor at the coronation of George VI in 1936 and was created K C V O. in 1937. After representing the City at the 150th anniversary of the founding of New South Wales he was M.P. for the City from 1938 until 1945, when he received a peerage

Broadsword, Israel, U S. soldier (b Putnam county, Ohio, 1847—d Spokane, Washington, July 25), fought in the American Civil War, having enlisted in the 51st Missouri Volunteer Infantry at the age of 14 He was one of four surviving members of the Grand Army of the Republic.

Brown, William, British psychologist and psychiatrist (b Slinfold, Sussex, Dec. 5, 1881—d. Ascot, Berkshire, May 17), was educated at Collyer's school, Horsham, and at Christ Church, Oxford In 1906 he was appointed John Locke scholar in mental philosophy in the university He qualified at King's College Hospital Medical school, London, in 1914, and until 1921 was reader in psychology at King's college. During 1925-31 he was psychotherapist at King's college hospital. His service with the R.A.M.C. in World War I gave him special knowledge of shell-shock cases. He was Wilde reader in mental philosophy, 1921-46, and director of the Institute of Experimental Psychology, 1936-45, in the University of Oxford, and in 1951 he was president of the British Psychological society. Brown's published works include *The Essentials of Mental Measurement* (1911), *Mind and Personality* (1926), *Mind, Medicine and Metaphysics* (1936) and *War and the Psychological Conditions of Peace* (1942)

Burton, Sir Montague Maurice, British manufacturer (b. Sheffield, Aug 15, 1885—d. Leeds, Sept. 21), started life as a tailor's workman, but in 1900 borrowed £100 to open his own shop in Chesterfield. From this and the factory he started soon afterwards at Leeds he developed the company of Montague Burton, Ltd. A pioneer of good working conditions as well as of mass-production, he spent much money on the welfare of his workers, made many gifts to education (endowing chairs at Cambridge, Cardiff, Dublin, Leeds, London, Oxford and Jerusalem universities), supported Jewish charities and encouraged literature and art, particularly in Yorkshire. He was knighted in 1931.

Busch, Adolf Georg Wilhelm, German-born violinist and composer (b. Siegen, Westphalia, Aug. 8, 1891—d Guildford, Vermont, June 9), began to study music at the age of 4, and from the age of 11 was a pupil of Fritz Steinbach at Cologne. At 21 he was appointed *Konzertmeister* of the Vienna Concertverein orchestra, and at 26 became professor of violin at the Hochschule für Musik, Berlin. From 1921, however, he was mainly engaged upon highly successful tours with his own quartet, which also included his brother-in-law, the distinguished pianist Rudolf Serkin, and later his brother Hermann Busch, the 'cellist. When Hitler came to power in 1933 Adolf Busch renounced his German citizenship and in 1935 took that of Switzerland. In 1931 he toured as soloist with Arturo Toscanini in the U.S.; in 1939 he settled in that country and appeared there as director of the Busch Chamber Music players. Busch composed many solo



Viscount Astor *Sir Stafford Cripps* *Benedetto Croce* *Sir Richard Gregory*

sonatas, concertos, songs, and orchestral and chamber works. Stylistically, he was influenced by Max Reger and, through Steinbach, by Brahms.

Butler, Sir Montagu Sherard Dawes, British college head and Indian provincial governor (b. Harrow, Middlesex, May 19, 1873—d. Cambridge, Nov. 7), was educated at Haileybury college and at Pembroke college, Cambridge, where he was a fellow, 1895-1901 (hon. fellow, 1925). He entered the Indian civil service in 1896. He was president of the Punjab legislative council, 1921-22; secretary to the government of India education department, 1922-24; and president of the council of state, 1924. He was governor of the Central Provinces, and also chancellor of Nagpur university, 1925-33, and lieut.-governor of the Isle of Man, 1933-37. He was master of Pembroke college, Cambridge, 1937-48, during which period he was also mayor of Cambridge (1941-43). He had been knighted and created a K.C.S.I. in 1924.

Cairns, Sir Hugh William Bell, British surgeon (b. Port Pirie, South Australia, June 26, 1896—d. Oxford, July 18), was educated at Adelaide high school and Adelaide university. He qualified in medicine in 1917 while serving in the Australian army, and was a Rhodes scholar at Balliol college, Oxford, 1919-20, becoming a fellow in 1937. He was Hunterian professor at the Royal College of Surgeons, 1925, and a Rockefeller travelling fellow in the United States, 1926-27, when he became a pupil of Harvey Cushing and became interested in neurosurgery, a field in which he was afterwards to win fame. He was honorary surgeon to the London Hospital for Paralysis and Epilepsy, 1931-34, and to the National Hospital for Diseases of the Nervous System, 1934-37. When Lord Nuffield decided to endow the Oxford medical school, Cairns helped to work out the lines of development which it should follow and in 1937 he became Nuffield professor of surgery. During World War II he was consultant neuro-surgeon to the army and designed a form of crash helmet which saved many dispatch riders from injury. During 1942-50 he was a member of the council of the Royal College of Surgeons. He was knighted in 1946.

Chancellor, Sir John Robert, British colonial administrator (b. Edinburgh, Oct. 20, 1870—d. Biggar, Lanarkshire, July 31), after a military career became governor of Mauritius in 1911, retaining that post until 1916. He was then successively governor of Trinidad and Tobago, 1916-21, the first governor of Southern Rhodesia, 1923-28, and high commissioner for Palestine and Transjordan, 1928-31. After his return to Great Britain he was chairman of the International Conference on Locusts, 1934, and of the Trustee Savings Banks association, 1935-38. He was also vice-chairman of the British Council, 1940-41. He was created K.C.M.G. in 1913 and promoted to G.C.M.G. in 1922. He was also created G.C.V.O. in 1925 and G.B.E. in 1947.

Chernov (Tchernov), Victor (VICTOR OLIENIN), Russian revolutionary leader (b. 1876—d. New York, April 15), was a co-founder of the Russian Socialist Revolutionary party and its leader for a number of years. A prominent figure in the Russian Revolution of 1917, he was president of the constituent assembly which met on Jan. 18, 1918, and was suppressed by the Bolsheviks after a single day's session in Moscow. Chernov went into exile shortly thereafter, moving to Paris in 1938 and to New York in 1940. (*See* TCHERNOV, VICTOR, in *Encyclopædia Britannica.*)

Choibalsan, Khorloghiyin, Mongolian politician and army officer (b. Feb. 8, 1895—d. Moscow, Jan. 26), of peasant stock, attracted notice in 1918 as organizer of the Mongolian People's (Communist) party. In the summer of 1920 he visited Moscow with Sukhe Bator, leader of the other secret revolutionary group, the Mongolian Nationalist Revolutionary party, to seek help in liberating Mongolia. They returned in November, and thereafter the future marshal contrived to survive an alarming leadership mortality. On March 1, 1921, the Mongolian People's Revolutionary party was formed from the amalgamation of the two secret parties. A provisional government was installed under Lama Bodo, whom the Russians shot in April 1922. A year later (according to Choibalsan) right-wing traitors poisoned Sukhe Bator. Danzan, the next premier, was shot in Aug. 1924. Choibalsan became foreign minister in the Gendung cabinet and in 1935 succeeded to the premiership when Gendung was liquidated as pro-Japanese. In Aug. 1937 General Demid, the Mongolian c.-in-c., died of poisoning on his way to Moscow; the premier assumed his duties and was subsequently created marshal. Choibalsan paid a number of visits to Moscow: there he succumbed to a kidney cancer after an operation.

Clark, Sir William Henry, British colonial administrator (b. Jan. 1, 1876—d. Cambridge, Nov. 22), was educated at Eton and at Trinity college, Cambridge. After a distinguished career in the civil service he became, in 1928, the first British high commissioner in Canada, retaining this post until 1934 when he became the first British high commissioner for Basutoland, the Bechuanaland protectorate and Swaziland, and also British high commissioner in South Africa. He was made a K.C.S.I. in 1915, a K.C.M.G. in 1930, and was promoted G.C.M.G. in 1937.

Clarke, Sir Fred, British educationalist (b. Witney, Oxfordshire, Aug. 2, 1880—d. London, Jan. 6), was educated at St. Catherine's society, Oxford. He was professor of education at Hartley University college, Southampton, 1906-11, at the South African college (later the university), Capetown, 1911-29, and at McGill university, Montreal, 1929-34. He was adviser to overseas students (1935-36 and from 1945) and director and professor of education (1936-45) at the University of London Institute of Education; under his influence the institute became the principal Commonwealth centre for educational training and research. Clarke was also the first chairman of the Central Advisory Council for Education set up under the 1944 act and a member of the McNair committee on teacher-training and many other educational bodies. His publications included *Essays in the Politics of Education* (1924) and *Education and Social Change* (1940). He was knighted in 1943.

Clementis, Vladimir, Czechoslovak politician (b. Tišovĕc, Slovakia, Sept. 20, 1902—d. Prague, Dec. 3), was a Communist organizer in Slovakia during the 1930s and in 1935-38 was a Communist deputy in the Czechoslovak parliament. In 1939-40 he was in exile in France and from 1940 to 1944 he was a member of the legal council of the Czechoslovak government in exile in London. He returned to Czechoslovakia in 1945 and was under secretary of state for foreign affairs from then until 1948 when he became foreign minister. While serving as a delegate to the United Nations general assembly, New York, 1949, he was told of reports that he would be arrested on his return to Czechoslovakia. In March 1950 he was relieved of his post of foreign minister and in Feb. 1951 he was formally expelled from the party and arrested. In Nov. 1952 Clementis, with ten others, including Rudolf Slanský (*v. infra*), was sentenced to death by a People's court in Prague for being concerned in a Jewish plot to overthrow Communism in Czechoslovakia. He was hanged on Dec. 3.

Cobb, John Rhodes, British racing motorist (b. Esher, Surrey, Dec. 22, 1899—d. [in accident] Loch Ness, Scotland, Sept. 29), was educated at Eton and Trinity hall, Cambridge. In private life a businessman he devoted his spare time to motor racing, becoming well-known at Brooklands where, in 1932-39, he broke all the world's records for time and distance up to 24 hr., and where he was holder of the lap record of 143·4 m.p.h. In 1938 he first broke the world's land speed record at Bonneville salt flats, Utah, in a Railton car, with a mean speed of 350·20 m.p.h.; this was beaten by Captain George Eyston a day later, but in 1939 Cobb again broke the record with a speed of 369·7 m.p.h. After World War II, in which he served in the R.A.F. and in the Air Transport auxiliary, he returned to Utah and, on Sept. 16, 1947, broke his own record with a mean speed of 394·2 m.p.h., having travelled at over 403 m.p.h. in the process. He was killed while making an attempt on the world's water speed record in his jet-propelled boat "Crusader".

Cook, Arthur Bernard, British classical scholar and archaeologist (b. Hampstead, London, Oct. 22, 1868—d. Cambridge, April 26), was educated at St. Paul's school, London, and Trinity college, Cambridge, of which he became a fellow in 1893. When only 24, he was appointed professor of Greek at Bedford college, London. A growing interest in the archaeological approach to ancient beliefs led him to accept the readership in classical archaeology at Cambridge in 1908 and there he began his life work, *Zeus, a Study in Ancient Religion,* which appeared in three parts in 1914, 1925 and 1940.

In 1931 he published *The Rise and Progress of Classical Archaeology* and in the same year became first professor of classical archaeology in Cambridge. He retired in 1934 and became professor emeritus.

Coupland, Sir Reginald, British historian (b. London, Aug. 2, 1884—d. Southampton, Nov. 6), was educated at Winchester and at New college, Oxford. He was a fellow of Trinity college, Oxford, 1907-14, All Souls college, 1920-48, and Nuffield college, 1939-50. His early interest in ancient history, of which he was a teaching fellow at Trinity college, gave way to a study of modern, particularly imperial, history, and in 1913 he was appointed Beit lecturer in colonial history at Oxford. In 1920 he became Beit professor of the history of the British empire, occupying the chair until his retirement in 1948, when he was elected a fellow of the British Academy. In the course of his researches he visited South Africa, 1913, east Africa, 1928, and west Africa, 1933. He was editor of the *Round Table*, 1917-19 and 1939-41. He was a member of the mission of Sir Stafford Cripps (*v. infra*) to India in 1942 and was created a K.C.M.G. in 1944. He died on board the "Pretoria Castle" shortly before she left for South Africa. His published works include *Raffles* (1926), *Kirk on the Zambesi* (1928), *East Africa and its Invaders* (1938), *The Exploitation of East Africa* (1939), *India, a Re-statement* (1945) and *Zulu Battle-Piece* (1948).

Cripps, Sir (Richard) Stafford, British statesman and lawyer (b. London, April 24, 1889—d. Zürich April 21), was educated at Winchester and at University college, London, where he did research work in chemistry. A scholar of distinction, he was part author, at the age of 22, of a paper on chemistry read before the Royal Society. In 1912, however, he embarked on a legal career, being called to the bar in 1913, and in 1914, being medically unfit for the army, he went to France as a Red Cross lorry driver, returning in 1915 to become assistant superintendent of a gun-cotton and T.N.T. factory. After a temporary breakdown in health caused by a digestive ailment contracted early in life he returned to the bar and in 1927 became a K.C. He joined the Labour party in 1929 and was knighted and made solicitor general in 1930, being elected Labour M.P. for Bristol East in 1931. When Ramsay MacDonald formed his National government in 1931 Cripps refused to serve in it: an opponent of "gradualism" and on the extreme left of the Labour party, he helped to found the Socialist league in 1932. Nevertheless, he was elected to the national executive of the Labour party in 1934, only to have to resign from it within a year over his opposition to its support for League of Nations sanctions against Italy. Dissatisfied with party strategy he advocated in 1936 a British United Front of the Working Class to defeat the National government. In March 1937 the Labour party executive declared membership of the Socialist league to be incompatible with membership of the party, and the former was dissolved. The threat from Nazi Germany in 1938 changed Cripps's views on foreign policy and he began his advocacy of a popular front. He refused to withdraw his campaign and was expelled from the Labour party in 1939. On May 20, 1940, Winston Churchill appointed him ambassador to Moscow where he concluded the Anglo-Soviet pact. On his return in Feb. 1942 he was appointed lord privy seal, leader of the House of Commons and a member of the war cabinet. In this year he was sent to India to work out that country's independence and although he did not achieve his object he succeeded in improving relations with Indian leaders. In Nov. 1942 he was appointed minister of aircraft production, remaining in this post until May 1945. He became president of the Board of Trade in July 1945 (he had been readmitted to the Labour party in the same year). He went to India in 1946 to seek a peaceful solution to India's problems but the hostility between the Congress party and the Moslem league proved insurmountable. Cripps's frank statements of the facts during the economic crisis of 1947 first earned him the epithet of "austerity" and in September he became minister for economic affairs. A few weeks later Hugh Dalton resigned and Cripps succeeded him as chancellor of the exchequer. The essentials of his policy were a concentration on exports, a carefully worked-out system of priorities in the distribution of raw materials designed to bring this about, and a strict fiscal policy aimed at checking inflation. He was aware that there was a limit to the material incentives which could be offered to industry and was convinced as a Christian and an Anglican of the importance of a sense of moral responsibility for effort in every member of the community. Ill health compelled him to resign from office and retire from public life on Oct. 20, 1950. He was made a Companion of Honour on Jan. 1, 1951.

Croce, Benedetto, Italian philosopher, historian and statesman (b. Pescasseroli, Aquila, Feb. 25, 1866—d. Naples, Nov 20), was educated at a Naples school and at Rome university where he was deeply impressed by Antonio Labriola's lectures on ethics. Nevertheless, Croce's *Juvenilia, 1883-1887* revealed no more than a superficial interest in ideas. In 1886 he returned to Naples and in March 1893, having read Giovanni Battista Vico's *New Science*, he delivered his first philosophical manifesto, *History Subsumed under the General Category of Art*, before the Accademia Pontaniana, Naples. Having been introduced by Labriola in 1895 to Marxism and the materialist conception of history he threw himself with great fervour into the study of economics and in 1900 he published his highly critical *Materialismo Storico ed Economia Marxistica*. Croce had now found his philosophical bearings and in 1902 appeared *Estetica Come Scienza dell' Espressione e Linguistica Generale*, the first volume of his *Filosofia Come Scienza dello Spirito*. Other volumes appeared in 1905 (*Logico Come Scienza del Concetto Puro*), 1908 (*Filosofia della Practica-Economica ed Etica*) and 1917 (*Teoria e Storia della Storiografia*). An "expressionist" in aesthetics Croce made no distinction between matter and form; in philosophy he represented a modified idealism which originated in the work of Francisco de Sanctis and, more remotely, that of Vico. In 1903 the first issue of the journal *La Critica* had appeared, co-edited by Croce and Giovanni Gentile, later the chief philosopher of Fascism. Until 1944, when it ceased publication, *La Critica* embodied the results of much of Croce's reading and research and reviewed contemporary and historical Italian literature. Although he had been nominated a senator of the kingdom of Italy in 1910 Croce did not participate in practical politics until World War I when he opposed Italy's intervention in the war; nevertheless he later supported his country's war effort. He was minister of public instruction, 1920-21, in the Giolitti cabinet in which Count Carlo Sforza (*v. infra*) was minister for foreign affairs. Sympathetic to Mussolini in 1922, Croce soon became hostile to Fascism and finally broke with it late in 1924. Thereafter he became known as the champion of liberalism and soon earned the hatred of the Fascists. His works at this time included *Storia d'Italia dal 1871 al 1915* (1928) and *Storia d'Europa nel Secolo Decimonono* (1932) which indirectly attacked Fascism and also attempted "to reconcile Neo-Romantic and liberal-positivist conceptions of history". After the fall of Mussolini in 1943, and during the battle of Salerno, Croce was rescued by the British and taken to Capri. He was minister without portfolio in the successive cabinets of Pietro Badoglio and Ivanoe Bonomi from April to July 1944 when he resigned. From 1946 to 1947, when he retired from politics, he was a member of the constituent assembly. He had been president of the Liberal party, 1944-47, and was a member of the British Academy, the American Academy of Arts and Letters and the Prussian Academy. He also held honorary degrees in Oxford, Freiburg (Baden) and Marburg universities; in 1934 he was a strong candidate for the Nobel prize which was awarded to Luigi Pirandello. His later published works include *La Poesia* (1936), *Poesia Antica e Moderna: Interpretazioni* (1940), *History as the Story of Liberty*, *Politics and Morals* (1946) and *Filosofia e Storiografia* (1949). Two philosophical works by Croce were published posthumously in Jan. 1953: *Indagini su Hegel e Schiarimenti Filosofici* and *Intorno Alla Dialettica*. (For a more detailed account of Croce's philosophy see *Encyclopædia Britannica*.)

Dampier, Sir William Cecil Dampier (W. C. D. DAMPIER-WETHAM), British scientist (b. London, Dec. 27, 1867—d. Cambridge, Dec. 11), was educated at Trinity college, Cambridge, of which he became a fellow in 1891 and where he was lecturer in physics, 1895-1922, and senior tutor, 1913-17. He was secretary of the Agricultural Research council, 1931-35, and was awarded the gold medal of the Royal Agricultural society in 1936. He had been elected F.R.S. in 1901 and knighted in 1931. Dampier's best-known publication is *A History of Science and its Relations with Philosophy and Religion* (1929-48), a work of especial value to arts undergraduates and graduates. His



William Hughes



Jean de Lattre de Tassigny



Gertrude Lawrence



Lord Lindsay of Birker

other published works include *Theory of Solution* (1902), *The Theory of Experimental Electricity* (1905) and *The Family and the Nation* (1909).

Davidson, Jo, U.S. sculptor (b New York, March 30, 1883—d, Azay-le-Rideau, Indre-et-Loire, France, Jan 2), lived mainly in France from 1907 until the outbreak of World War II He was known principally for his portrait busts, and his sitters included Gandhi, Mussolini, Franklin D. Roosevelt, Bernard Shaw, Walt Whitman, James Joyce and Charles Chaplin. At first influenced by Rodin, he later adopted a looser style He was politically active as a supporter of Roosevelt and, in the 1948 presidential elections, of Henry Wallace.

Dewey, John, U S philosopher (b Burlington, Vermont, Oct 20, 1859—d New York, June 1), was educated at Vermont and Johns Hopkins universities He was professor of philosophy at the University of Michigan, 1889-94 From 1894 to 1904 he was head of the department of philosophy at Chicago university and also became director of the school of education Later he carried out educational experiments in schools and published works on educational principles In 1904 he went to Columbia university where he remained as professor of philosophy till 1930, becoming professor emeritus on his retirement Dewey was educated in the German-English metaphysical tradition but soon broke away and became one of the first to recognize the importance of the experimental study of behaviour The starting point of his system of thought was biological thought is the product of man as an organism in an environment, and experience the only reality His best-known works include *A Critical Theory of Ethics* (1894), *How We Think* (1910), *Experience and Nature* (1925), *The Quest For Certainty* (1929) and *Problems of Men* (1946) (See also DEWEY, JOHN, in *Encyclopædia Britannica*)

Dix, Gregory (GEORGE EGLINTON ATSTON DIX), Anglican religious (b London, Oct 4, 1901—d Burnham, Buckinghamshire, May 12), was ordained priest in 1925 He was a lecturer in modern history at Keble college, Oxford, from 1923 to 1926 when he entered the Anglican Benedictine community at Nashdom abbey During 1927-29 he was assistant principal of St Augustine's Theological college, Kumasi, Gold Coast, and was also engaged in missionary work there In 1948 he became prior of Nashdom abbey He was a distinguished liturgical scholar and his published works include *The Apostolic Tradition of Hippolytus* (1937), *The Question of Anglican Orders* (1943) and *The Shape of the Liturgy* (1944)

Douglas, Clifford Hugh, British economist (b Stockport, Lancashire, Jan 20, 1879—d Cornegorm Fearnan, Perthshire, Sept 29), was educated at Pembroke college, Cambridge He was chief engineer and manager in India, British Westinghouse company, 1900-10 During World War I he is said to have acquired the interest in money systems which resulted in his first book, *Economic Democracy* (1919) His *Credit-Power and Democracy* (1920) developed more fully the fiscal system known as Social Credit which is associated with him and whose germinal principle is that an issue of goods should be balanced by an equivalent issue of purchasing power Although Social Credit had little influence in Great Britain, the Social Credit party in Canada won the 1935 general election for the Alberta legislative assembly, and Douglas was chief reconstruction adviser to the provincial government, 1935-36 He had been a witness at the Canadian banking enquiry, 1923, and had given evidence before the Macmillan committee on banking, finance and industry, 1930 His other published works include *Social Credit* (1923), *The Monopoly of Credit* (1931) and *The Alberta Experiment* (1937)

Douglas, Norman (GEORGE NORMAN DOUGLASS), British novelist and essayist (b Tilquhillie, Kincardineshire, Dec 8, 1868—d Capri, Feb 9), was educated at Uppingham school and at Karlsruhe, Germany His first interests were scientific and he wrote various papers on zoology He served in the diplomatic corps at St Petersburg from 1894 until 1896, when he left the service and went to Italy Eventually he settled in Capri An unsuccessful collection of short stories, *Unprofessional Tales* (1901) was followed by *Siren Land* (1911), about the Sorrento peninsula, and *Old Calabria* (1915) Douglas established his literary reputation in 1917 with the celebrated novel *South Wind*, whose wit and irony called forth comparisons with Peacock and Wilde. His later books include *They Went* (1920), *Alone* (1921), which he later described as his favourite, *Together* (1923), *Birds and Beasts of the Greek Anthology* (1929), and two autobiographical works, *Looking Back* (1933) and *Late Harvest* (1946) Douglas was a lively, erudite writer and a hedonist and sceptic

Duncan, Sir Andrew Rae, British politician and industrialist (b Irvine, Ayrshire, June 3, 1884—d London, March 30), was one of the men of ability brought into government circles from industry during World War I He was coal controller from 1919 to 1921 (when he was knighted, in 1938 being promoted G B E); as such he was concerned with the postwar return of the industry from public to private ownership From 1927 to 1935 he was chairman of the Central Electricity board In the latter year he became chairman of the executive committee of the British Iron and Steel federation In Jan. 1940 Duncan entered Neville Chamberlain's cabinet as president of the Board of Trade, and in February he was elected unopposed as National Government M P for the City of London, which he continued to represent until 1950. In Oct 1940 he was appointed minister of supply, but in June 1941 returned to the Board of Trade again; from 1942 to 1945 he was again minister of supply In the latter year he returned to the Iron and Steel federation and was the leading Conservative spokesman against steel nationalization

Eastwood, John Francis, British lawyer and politician (b Witley, Surrey, Oct. 13, 1887—d. London, Jan 30), was called to the bar in 1911. In 1922 he became junior counsel to the crown at the central criminal court in mint prosecutions and subsequently became crown counsel for all prosecutions He was recorder of Tenterden, Kent, from 1935 and took silk in 1937. From 1931 to 1940, when he accepted a vacancy on the metropolitan bench, Eastwood was Unionist M P for Kettering, Northamptonshire

Elena, former queen of Italy (b Cetinje, Montenegro, Jan. 8, 1873—d nr Montpellier, France, Nov 28), was born Princess Elena Petrović Njegoš, fourth daughter of Nicholas I, first and last king of Montenegro She married the prince of Naples in Rome in Oct 1896 and became queen of Italy in Aug 1900 when her husband succeeded to the throne as King Victor Emmanuel III Her beauty, modesty and charitable work won the people's affection Soon after her husband's death in 1947 Queen Elena went to live in retirement in southern France

Eluard, Paul (EUGENE GRINDEL), French poet, novelist and essayist (b St Denis, Paris, Dec 14, 1895 - d St Denis, Nov 18), during a serious illness in his youth read the poetry of Rimbaud and Lautréamont, and also came under the contrary influence of Guillaume Apollinaire and Charles Vildrac. After World War I, during which he had been badly gassed, he joined the Dadaist movement and, with his friends Andre Breton, Louis Aragon, Soupault and Picabia, founded the Surrealist movement and published its first manifestos Eluard nevertheless stood a little apart from the rest of the group and was probably its "purest" poet For long periods he lived in an interior world, dreaming aloud in poems of love and women During the Spanish civil war he wrote militant poetry in the republican cause, without abandoning the personal surrealist note In 1942 Eluard joined the Communist party, and in 1947 was made a member of the Order of the Resistance His works include *Le Devoir et l'inquietude* (1917), *Les Nécessités de la vie et les conséquences des rêves* (1921), *L'Amour, la poésie* (1929), *L'Immaculee Conception* (with Breton, 1930), *La Rose publique* (1934), *Poésie et Verite* (1942), *A Pablo Picasso* (1944), *Poèmes politiques* (1948) and *Un Leçon de morale* (1949)

Everett, Sir Percy Winn, British boy scout official (b Rushmere, Suffolk, April 22, 1870 - d Elstree, Hertfordshire, Feb 23), was a former joint managing director of C Arthur Pearson, Ltd, publishers, London, and it was in Arthur Pearson's home in 1907 that he met Major-General Robert Baden-Powell In that year Everett helped to run the experimental camp at Brownsea Island, Dorset, out of which grew Baden-Powell's boy scout movement He later served the Boy Scouts association in many capacities and from 1941 was deputy chief scout He had been knighted in 1930

Faithfull, Lilian Mary, British educationist (b Hoddesdon, Hertfordshire, March 12, 1865 - d Cheltenham, May 2), entered Somerville college, Oxford, in 1883 and, after lecturing at Royal Holloway college, became vice-principal of the women's department of King's college, London, in 1894 In 1907 she became headmistress of Cheltenham ladies' college, where she remained until 1922 After her retirement she became one of the first women magistrates and a member of the Church Assembly She was made a C B E in 1926

Farnol, (John) Jeffrey, British novelist (b Aston, Warwickshire, Feb 10, 1878 - d Eastbourne, Aug 9), began to write at the age of 19, despite his family's attempts to turn him into a brass founder, a commercial artist and a business man In 1902 he went to New York where he worked as a scene painter and wrote *The Broad Highway*, which established his reputation as a writer of rollicking period romances Returning to England in 1910 he continued to delight adolescents—and their elders—with *The Amateur Gentleman* (1913), *The Chronicles of the Imp* (1915), *Beltane the Smith* (1915), *Our Admirable Betty* (1918), *The Geste of Duke Jocelyn* (1919), *Black Bartlemy's Treasure* (1920), *Peregrine's Progress* (1922), *The Jade of Destiny* (1931), *Charman, Lady Vibart* (1932) and many others His last book, *The Glad Summer*, was published in 1951

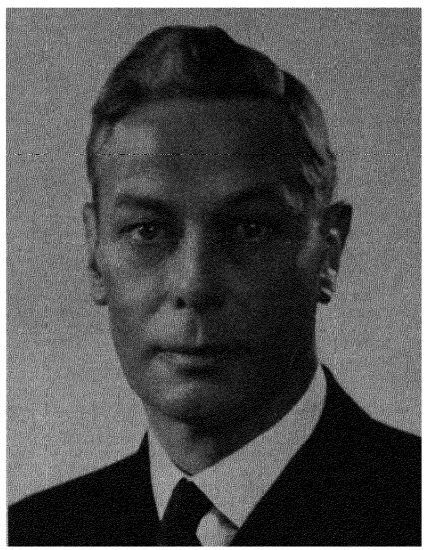
Fox, William, U S film producer (b Tulchva, Hungary, Jan 1, 1879—d New York, May 8), was brought by his parents to the United States as a boy. In his early 20s he operated a nickelodeon in New York and soon founded an exhibition company and a chain of motion picture theatres Turning to production, he set up a pioneer studio at Fort Lee, New Jersey, and in 1915 founded the Fox Film corporation, which later grew into a $300 million enterprise before its collapse in 1930 Fox was involved in protracted bankruptcy litigation during the 1930s, and in 1935 the firm he founded was merged with 20th Century Pictures to form 20th Century-Fox Two of Fox's best-known motion pictures were *What Price Glory* and *Seventh Heaven*

Frankau, Gilbert, British novelist (b London, April 21, 1884—d Hove, Sussex, Nov. 4), was educated at Eton, and entered his father's wholesale cigar business in 1904, becoming its managing director, 1905 He published his first book, *One of Us*, in 1912 During World War I he served in the East Surrey regiment and the Royal Field artillery but was invalided out of the army in 1918 He established his reputation as a first-rate story-teller with an exuberant colourful style in *Peter Jackson, Cigar Merchant* (1919), and thereafter wrote many novels including *The Seeds of Enchantment* (1921), *Martin Make Believe* (1930), *The Lonely Man* (1932), *Self Portrait* (an autobiography, 1939), *Winter of Discontent* (1941), *Michael's Wife* (1948) and *Oliver Trenton, K C* (1951) In 1928 he had been editor of the weekly illustrated magazine *Britannia* Larly in World War II he served as an officer in the R A F

Furse, Dame Katherine, British social worker (b. Bristol, Nov 23, 1875—d London, Nov 25), joined the Voluntary Aid detachment of the Red Cross in 1911 and became commandant of V A D 128, London, in 1912 She went to France in 1914 and was commandant-in-chief, V A D, 1915-17 Appointed first director, Women's Royal Naval service, 1917, she retained this post until 1919 when the "Wrens" were dispersed In 1928-38 she was director, World Bureau of Girl Guides and Girl Scouts, and in 1940 she published her autobiography, *Hearts and Pomegranates* She had been created a G B E in 1917

GEORGE VI (ALBERT FREDERICK ARTHUR GEORGE), King of Great Britain, Ireland and the British dominions (b. York cottage, Sandringham, Dec. 14, 1895–d. Sandringham, Feb. 6), was the second son of King George V and Queen Mary, and was called Prince Albert or, in the family circle, Bertie. When he outgrew the nursery the young prince, with his elder brother, was placed under the care of Henry Hansell, a Norfolk schoolmaster, who became his resident tutor. Under him the prince was given the groundings of a good education and was encouraged both by his father and his tutor to take the conventional English interest in sport and games.

When he was 14 he went to Osborne, Isle of Wight, to begin his training for the Royal Navy, and in 1911 he went on to Dartmouth. He passed out from Dartmouth in 1913, joining his first ship that autumn for an exercise in the West Indies. When World War I began he was a midshipman, and he served in the foreturret of the battleship "Collingwood" at the battle of Jutland. To avoid any embarrassments of rank during the action he was known as Mr. Johnstone. He was mentioned in despatches. His career in the navy was cut short by an illness resulting from a duodenal ulcer. After a serious operation he was sufficiently recovered at the beginning of 1918 to join the Royal Naval Air service, which later that year merged into the Royal Air Force. He won his wings in 1919—the first English prince to be actively associated with the Royal Air Force. After the war, he went to Trinity college, Cambridge, and lived the normal life of a junior member of the university. In 1920 he was created Duke of York, Earl of Inverness and Baron Killarney; he had been created a knight of the garter when he was 21. On leaving the university the duke began to play his part in public affairs and he associated himself particularly with industrial topics—especially the relations between capital and labour—which were then to the forefront of men's minds. He became president of the Industrial Welfare society in which he always took a close interest. He regularly attended its summer camps where boys from mills and factories mixed on easy terms with those from public schools. During these years he received much guidance and sound advice from his comptroller, Sir Louis Greig. With Greig for partner he played in the lawn tennis championships at Wimbledon in 1926. He was president of the Wembley exhibition in 1925.



By temperament the duke was somewhat highly strung, a characteristic which showed itself in a bad stammer. This—a great difficulty for one who had constantly to appear and speak in public—was mastered by skilled professional advice and by the confidence inspired by his wife. She was Lady Elizabeth Bowes-Lyon, the youngest daughter of the Earl of Strathmore, and was married to the duke in Westminster abbey on April 26, 1923. They had two children: Princess Elizabeth (later Elizabeth II), born in 1926, and Princess Margaret, born in 1930. The year after their marriage the duke and duchess visited Kenya, Uganda and the Sudan; in 1927 they left for a tour of Australia and New Zealand, which included the opening of the federal parliament at Canberra. After King George V's serious illness in 1928 an increasing burden of public duties fell on his sons, and for the rest of his father's reign the duke was discharging an exceptional number of official engagements.

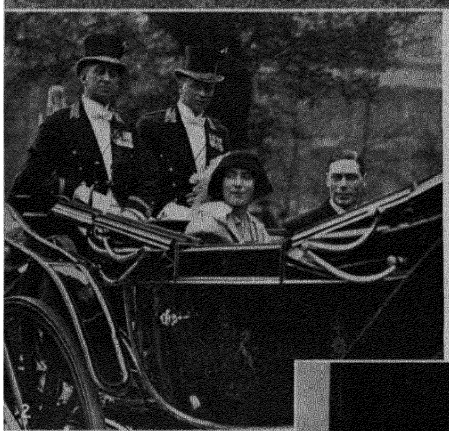
On Dec. 11, 1936, the Duke of York came to the throne after the abdication of his elder brother King Edward VIII, taking his title of George VI from his last Christian name. He became king at a time of great personal distress (for he was devoted to his elder brother) and of great public anxiety caused by the re-emergence of German militarism in a virulent form. He was crowned in Westminster abbey by the archbishop of Canterbury (Cosmo Lang) on May 12, 1937. Although the ceremony followed the customed historic form, it served to remind the public of the way in which the position of the sovereign had been changed and magnified since the coronation of the king's father in 1911. With the passing of the Statute of Westminster in 1931, many of the old legal ties between Great Britain and the dominions were dissolved, leaving the British sovereign as the supreme representative and binding force of each. In normal circumstances King George would have marked this by a series of visits to the dominions, but the threatening situation in Europe made it difficult for him to leave Great Britain, and his first task was to try to strengthen the understanding between his country and her old friends in Europe. To this end he entertained his relations the king of the Belgians and the king of Rumania, and he went on an important state visit to France in the summer of 1938. The late summer of that year was overshadowed by the events leading up to Munich, and when Neville Chamberlain returned from Germany the king identified himself with the general feeling of relief by appearing on the balcony of Buckingham palace with the prime minister. In the following May the king and queen sailed in the "Empress of Australia" for a visit to Canada. In the next month they crossed the frontier into the United States as the guest of President Franklin D. Roosevelt. It was the first time in history that a reigning English sovereign had visited the United States. The simplicity of King George's character made a decided impression on the American people, for they were quick to notice his courtesy and modesty.

On Sept. 3, the day of the outbreak of war with Germany, the king broadcast from Buckingham palace and in forthright language explained to his people at home and oversea that it was "unthinkable that we should refuse to meet the challenge." The king's war headquarters were at Windsor but he was of course frequently at Buckingham palace and during the so-called "phoney" war (though his movements were of necessity shrouded in secrecy) he was constant in visiting service units and civilian defence organizations. He was in France in Dec. 1939. In 1940, when the full horrors of warfare broke on Great Britain, the king had a narrow escape when Buckingham palace was heavily bombed. Though the peril which he and the queen faced was not generally known at the time, it was later graphically revealed in the second volume of Winston Churchill's history of World War II. His first-hand experience of bombing gave him a keen understanding of the suffering of the civil population with whom he freely mixed during the blitz. The *New York Herald-Tribune* well described him and the queen as Ministers of Morale. His duties in the war, which included a diversity of visits throughout Great Britain (and in 1944 to north Africa) were a heavy strain. Being fully informed through all the secret sources of information available to the government, he was alive to the magnitude of the dangers which pressed on the country. He felt acutely the pathos of war—paraded before him at investitures for the relations of those who had fallen in action—and though he was never robust the war years took a heavy toll of his strength. During this time the king started the innovation of going privately to Downing street to dine with the prime minister and meet the leading personalities of the cabinet. This practice he continued after the war during the premiership of Clement Attlee.

The years which immediately followed the war were marked with private happiness for the king: the marriage of his elder daughter in 1947, the celebration of his silver wedding and the birth of a grandson in 1948. The bright hopes which accompanied the victory parade in London on June 8, 1946, at which the king took the salute, quickly faded with the continuation of foreign difficulties and obstinate trade problems at home. At the beginning of 1947 the king undertook a highly successful tour of South Africa, and he planned to follow this with a tour of Australia. However in Nov. 1948, shortly after he had carried through the state opening of parliament with all its prewar splendour, the public was startled by an ominous bulletin about the king's health. After an operation of lumbar sympathectomy on March 12, 1949, the health of the king slowly but steadily improved. He was able to take part that summer in the long-drawn military ceremony of trooping the colour, though on the advice of doctors he used a carriage instead of riding. In March 1950 he received the president of the French republic on a state visit of considerable splendour, and on May 3, 1951, he opened the Festival of Britain, in all the preparations for which he had taken the liveliest personal interest. But in that summer he was again overtaken by illness, which assumed a grave character in September. He underwent an operation on one of his lungs in Buckingham palace on Sept. 23. His recovery was steady, and the first signs of convalescence were shown to the public by a delightful photograph of him with his grandson on the latter's birthday, Nov. 14. On Christmas day he was able to broadcast to the nation (a custom which he had kept up on most Christmases of his reign) and his speech was filled with gratitude for all that had been done for him in his illness. His last appearance in public was on Jan. 31, 1952, when he waved goodbye to Princess Elizabeth on the start of her flight to Australia. He died at Sandringham in his sleep during the early morning of Feb. 6.

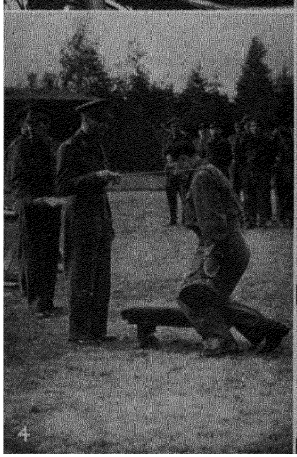
By nature King George VI was high-spirited, quick and shrewd, but he was shy and somewhat reticent. His interests were those of a countryman; he enjoyed shooting and gardening, and he thoroughly understood the problems of farming and estate management. The tasks of kingship in the modern world imposed a great strain on him, and he was called to reign in turbulent times. But in all the difficulties and afflictions by which he was beset he won general admiration by facing them in the spirit of words which he used when he came to the throne—"I am resolved to do my duty." (R. T. B. F.)





King George VI (1) as Prince Albert, standing with his father (later King George V) and beside his great-grandmother, Queen Victoria, with a family group at Osborne House, Isle of Wight; (2) leaving for his honeymoon, 1923; (below, centre) after his coronation, May 1937; (3) at one of his boys' camps; (4) knighting an officer during a visit to troops in France during World War II; (5) waving good-bye to Princess Elizabeth and the Duke of Edinburgh on their departure for Kenya, Jan. 31, 1952—the last public appearance of King George VI.









Ginner, Charles, British painter (b Cannes, France, March 4, 1878—d. London, Jan. 6), held his first exhibition in Buenos Aires in 1909 and settled in London in 1910 There he became a founder-member of the Camden Town group. In 1914 he and Harold Gilman exhibited under the label " Neo-Realist ", interpreting nature in terms of pure bright colours Ginner was best known for his Hampstead and Cornish townscapes He was a member of the London group and was elected A R A in 1942 Examples of his work are at the Tate gallery and the Victoria and Albert museum, London, and at the Birmingham, Manchester, Belfast and other municipal and overseas galleries.

Godfrey, Sir William Wellington, British officer (b April 2, 1880—d Tavistock, Devon, May 18), was a captain, Royal Marines, on the staff of Rear Admiral S H Carden in the battlecruiser " Indefatigable " in 1915 and had a large share in the original plan for a naval attack on the Dardanelles in that year He was knighted and promoted general in 1939.

Goschen, George Joachim Goschen, 2nd Viscount, of Hawkhurst, Kent (b Hastings, Oct 15, 1866– d Hawkhurst, July 24), was educated at Rugby and at Balliol college, Oxford From 1895 to 1906 he was Conservative M.P. for East Grinstead, and in 1907 he succeeded his father as Viscount Goschen He was governor of Madras, 1924-29, and was also acting viceroy of India for four months in 1929 He was created G C I E in 1924, G C S I in 1929 and was sworn of the Privy Council in 1930

Green, William, U S labour leader and politician (b Coshocton, Ohio, March 3 1873—d Coshocton, Nov 21), was president of his subdistrict of the United Mineworkers of America, 1900-6, and president of the Ohio district from 1906 to 1910 when he turned his attention to politics He served two terms in the Ohio Senate, 1910-14, and was delegate at large to the National Democratic convention, 1912. He was secretary-treasurer, United Mineworkers of America, 1912-14 In 1924 he succeeded Samuel Gompers as president of the American Federation of Labour, remaining in this office until his death He did his best to maintain the political neutrality of the federation and to reduce industrial disputes to a minimum, for which, in 1930, he was awarded the Roosevelt Memorial association's gold medal of honour In 1942 he was a member of the Economic Stabilization board, and later made great efforts to close the split in U S labour caused by the formation of the Congress of Industrial Organizations

Greene, Wilfrid Arthur Greene, 1st Baron, of Holmbury St Mary, Surrey, British lawyer (b Beckenham, Kent, Dec 30, 1883—d Dorking, Surrey, April 16), was educated at Westminster school and Christ Church, Oxford He became a fellow of All Souls college, Oxford, in 1907 and was called to the bar in 1908 He took silk in 1922, was knighted and became a lord justice of appeal in 1935, and master of the rolls in 1937, serving also as chairman of the National Buildings record during World War II He was also principal of St Pancras Working Men's college In 1949 he became lord of appeal in ordinary, resigning in 1950 because of ill-health He was created a baron in 1941

Gregory, Sir Richard Arman, British scientist and educationalist (b Bristol, Jan 29, 1864—d Middleton-on-Sea, Sussex, Sept 15), after working as a laboratory assistant at Clifton college, Bristol, became in 1886 a teacher in training at the Royal College of Science, London In 1889 he went as research assistant to Sir Norman Lockyer and in 1893 he became assistant editor of *Nature*, during the next 44 years (he became editor in 1919) he did much to ensure its reputation as a scientific journal He also edited the *School World* and the *Journal of Education*, 1899-1939, served on many scientific and educational associations, including the educational section of the British Association, and wrote textbooks of physical geography, physics and chemistry Gregory was also president of the British Association, 1939-46 He was knighted in 1919 and created a baronet in 1931

Grumbach, Salomon, French politician (b Hattstatt, nr Colmar, Alsace, Jan 6, 1884—d. Neuilly, nr Paris, July 13), joined the Socialist movement at an early age and opposed German militarism. In 1908 he settled in Paris and became a friend of Jean Jaurès, the French Socialist leader who then edited *L'Humanité* He joined its editorial staff and was its correspondent in Switzerland during World War I. In 1928 he was elected to the Chamber of Deputies as member for Mulhouse and campaigned against the Alsatian autonomists He lost his seat in 1932 but was elected again in 1936 in the Tarn *département* and served as deputy chairman of the foreign affairs committee Arrested in 1940 by the Vichy government, he succeeded in escaping in 1942 and joined the *maquis* of the Cevennes Returned to the Constituent Assembly for the Tarn in Oct 1945, Grumbach sat in the National Assembly and, from 1947, in the Council of the Republic He represented the Socialist party at all the Socialist conferences and helped to revive the Socialist International at Frankfurt-on-Main in July 1951

Hamsun, Knut, Norwegian novelist (b Lom, Gudbrandsdal, Aug 4, 1859—d Nørholm, Feb 19), started life as a cobbler's apprentice. He later emigrated to the United States and there attempted unsuccessfully to become a Unitarian minister He returned to Norway in 1884 but was back in the U.S two years later, working as a farm labourer in the Dakotas and as a streetcar conductor in Chicago In 1888 he again returned to Europe and settled in Copenhagen, publishing in 1890 his first literary success, the novel *Sult* (translated as *Hunger*) His greatest novel, *Markens Grode* (*Growth of the Soil*), was published in 1917, and he was awarded the Nobel prize in 1920. His translated novels include *Segelfos Town* (1915), *Vagabonds* (1927) and *August* (1930). In World War I Hamsun was pro-German and in his later years he became pro-Nazi. Arrested in 1945, he faced trial in 1946, as psychiatrists declared him to be " prematurely weakened in mind ", he was sentenced only to pay Kr. 325,000 as indemnity for wartime earnings His work portrays the individual's struggle against hunger and poverty and society.

Harris, Sir Percy Alfred, 1st baronet, British politician (b. London, March 6, 1876—d London, June 28), was called to the bar in 1899 and in 1907 was elected Progressive member of the London County council for South West Bethnal Green, which he represented continuously until 1934 and again from 1946 to 1952. He took an increasingly important part in London government, and for a time after the 1949 L C.C. elections held the balance between the two major parties, Labour and Conservative each holding 64 seats His book *London and Its Government* (1931) was regarded as a standard work. He was Coalition Liberal M P. for Harborough, Leicester, 1916-18, and Liberal M P for South-West Bethnal Green, 1922-45 He was created a baronet in 1932 and sworn of the Privy Council in 1940 His writings also included *Forty Years in and out of Parliament* (1947)

Hastings, Sir Patrick, British lawyer, politician and playwright (b London, March 17, 1880—d London, Feb 26), worked as a mining engineer, served in the South African War, and became a newspaper theatre critic He was called to the bar in 1904 and took silk in 1919 He was Labour M P for Wallsend, Northumberland, 1922-26, and in the first Labour government (1924) was attorney-general. On Aug 5, 1924, proceedings were instituted against R J Campbell, editor of the Communist *Workers' Weekly* The suggestion that evidence was not brought against Campbell because of direct instructions from the attorney-general contributed to the government's fall on Oct 8 of that year After the mid '20s Hastings (who had been knighted in 1924) and Norman Birkett were the most successful practitioners at the common law bar Hastings had acted against J P Vaquier in the Byfleet murder case in 1924, and appeared for the defendants in the Rouse (1931) and Mrs Barney (1932) murder cases He also acted successfully for the defendants in the Laski libel suit (1946) As a playwright he achieved his surest successes with *Scotch Mist* (1926) and *The Blind Goddess* (1947, later filmed) Among his other writings were *Autobiography* (1948) and *Cases in Court* (1949)

Hay, Ian (JOHN HAY BEITH), British writer (b Manchester, April 17, 1876 –d Petersfield, Hampshire, Sept 22), was educated at Fettes college, Edinburgh, and St John's college, Cambridge His first novel, *Pip* (1907), was an immediate success and he followed it with others—*A Man's Man* (1909), *A Safety Match* (1911), *A Knight on Wheels* (1914)—having the same popular mixture of sentiment and humour His wartime experiences in France (where he gained the M C) formed the basis for a book of sketches, *The First Hundred Thousand* (1915), later he joined the British War mission to the United States After the war he became best-known as a playwright of such comedies as *Baa, Baa, Black Sheep* (with P G Wodehouse, 1929), *The Middle Watch* (with Stephen King-Hall, 1929) and *Housemaster* (1936) In 1938 he went to the War Office as director of public relations with the rank of major-general, he resigned in 1941 and wrote several books with wartime themes

Hedin, Sven Anders, Swedish explorer (b Stockholm, Feb. 19, 1865—d Stockholm, Nov 26), was educated at the Stockholm hogskola (university) and at Uppsala, Berlin and Halle universities In 1885-86 he travelled through Persia and Mesopotamia and in 1890 was attached to King Oscar's embassy to the shah of Persia. In the same year he visited Khurasan and Turkestan and reached Kashgar in 1891 His travels in Tibet placed him in the first rank of Asiatic explorers In 1893-97 he travelled across the Asiatic continent from Chkalov (Orenburg) by way of the Urals over the Pamirs and the plateau of Tibet to Peking During two other expeditions (1899-1902, 1906-8) he made valuable additions to the scientific knowledge of these tracts and explored especially the sources of the Sutlej and the Brahmaputra In 1902 he was created a Swedish noble and in 1909 he was invested with the K C I F He travelled round the world in 1923, through the United States, Mongolia and the U S S R In 1927 he organized the elaborate Sino-Swedish expedition which continued until 1935, and in 1947 he planned a journey to the Argentine He was one of the 18 members of the Swedish Academy His published works include *Through Asia* (1898), *Scientific Results of a Journey in Central Asia* (8 vol , 1904-7), *Southern Tibet* (12 vol , 1917-22), *My Life as an Explorer* (1926), and *Scientific Results of the Sino-Swedish Expedition 1927-37* (35 vol , 1937-49).

Henderson, Sir Hubert Douglas, British political economist (b Beckenham, Kent, Oct 20, 1890—d Oxford, Feb 22), was educated at Aberdeen Grammar school and Emmanuel college, Cambridge He was a fellow of Clare college, Cambridge, and university lecturer in economics 1919-23. In the latter year he became editor of the *Nation and Athenaeum*, then under the chairmanship of J M Keynes, thus began a seven-year collaboration during which Henderson and Keynes attempted to re-state and modernize Liberal economic policy In 1930 Ramsay MacDonald appointed Henderson joint secretary of the Economic Advisory council, the forerunner of the economic section of the cabinet secretariat. In 1934, however, he was elected to a research fellowship at All Souls college, Oxford, and in 1945 he became Drummond professor of political economy, Oxford university, a post which he held until Feb. 1952 Meanwhile he had been elected warden of All Souls, but resigned because of ill-health before the formalities of appointment could be completed Henderson was economic adviser to the Treasury, 1939-44, and chairman of the Royal Commission on Population from 1946 He had been knighted in 1942 and was elected a fellow of the British Academy in 1948. Among his writings were *Supply and Demand* (1922) and *The Uses and Abuses of Economic Planning* (1947).

Hill, Sir Leonard Erskine, British physiologist (b. Totten, England, June 2, 1866—d. Corton, nr. Lowestoft, March 30), was educated at Haileybury and at University college, London, where he became



Sir Desmond MacCarthy *Lord Macmillan* *Maria Montessori* *Nawab of Pataudi*

a fellow in 1924. He had published his *Manual of Human Physiology* in 1899 and was professor of physiology at the London Hospital Medical college, 1912-15. From 1915 to 1930 he was director of the department of applied physiology at the National Institute for Medical Research, Hampstead. Some of his early work had been on "caisson disease" contracted by workers in pressure chambers, and he later devised a "katathermometer" to gauge the efficiency of ventilation. Hill became an F.R.S. in 1900. He was knighted in 1930.

Hrozný, Bedrich (FRIEDRICH), Czech orientalist (b. Lysa-nad-Labem, May 6, 1879—d. Prague, Dec. 18), was educated at the universities of Prague, Vienna, Berlin and London. In 1905 he was appointed lecturer in Semitic languages at Vienna university and in 1919, when the state of Czechoslovakia was set up, he was appointed professor of cuneiform writings and the history of the ancient orient at Charles university, Prague. In 1915 he surprised the learned world with the news that he had read the Hittite language which, until then, had baffled many scholars. He contributed the article "The Hittites" in the *Encyclopædia Britannica*.

Huddleston, Sisley, British-born journalist (b. Barrow-in-Furness, Lancashire, May 28, 1883—d. St. Pierre d'Autils, France, July), was for nearly 20 years a correspondent of the *Christian Science Monitor* in London and Paris and contributed regularly to other U.S. and British journals and periodicals. A correspondent for the *Westminster Gazette* during the Paris peace conference, 1919, and Paris correspondent for *The Times*, 1922-24, he showed his enthusiasm for France by applying for naturalization during World War II. He wrote many books about France including *Poincaré: A Biographical Portrait* (1924), *Bohemian, Literary and Social Life in Paris* (1928) and a defence of Marshal Pétain's policy, 1951.

Hughes, William Morris, Australian statesman (b. London, Sept. 25, 1864—d. Sydney, Oct. 27), was educated at Llandudno grammar school, and at St. Stephen's Church of England school, Westminster. He emigrated to Australia in 1884, and ten years later was elected to the New South Wales state parliament. He continued to sit in the state parliament until 1901 when he was elected for West Sydney to the first federal House of Representatives. He continued to serve until his death, and set up a record throughout the Commonwealth of 58 years' unbroken parliamentary service. Soon after his arrival in Australia he organized the Waterside Workers' union and was a leader of the Labour party. In 1903 he was called to the New South Wales bar, and in the following year became minister of external affairs. In Nov. 1908 he was appointed attorney-general. The government lasted until June 1909, but the Labour party won the election in April 1910 and Hughes was again attorney-general (1910-13 and 1914-21). Hughes succeeded Andrew Fisher as prime minister in 1915, remaining in office until Feb. 1923. He visited England in 1916, and on his return to Australia he was twice defeated in national referendums on conscription. He was expelled from the Labour party and formed a Nationalist party, but remained prime minister with the support of the Country party. In June 1918 he again went to England and later led the Australian delegation to the Versailles conference. After the 1922 elections the Country party withdrew its support and Hughes resigned. After the defeat of the S. M. Bruce government in 1929 Hughes left the Nationalist party and formed the new Australian party. During 1932-41 his offices included vice-presidency of the executive council, the attorney-generalship, and the ministries of health, repatriation, external affairs, industry, the navy and labour and national service. In 1951 the Commonwealth of Australia celebrated its jubilee, and Hughes was the only member of the House of Representatives with 50 years' service. He was sworn a member of the Privy Council in 1916 and in 1941 was created C.H. He became a K.C. in 1919.

Ickes, Harold Le Clair, U.S. politician (b. Frankstown township, Pennsylvania, March 15, 1874—d. Washington, Feb. 3). For Ickes' earlier career, see *Encyclopædia Britannica*. He was appointed secretary of the interior by President Franklin D. Roosevelt in March 1933 and retained this post throughout the Roosevelt administration and during the first ten months of the Harry S. Truman administration. He resigned from the cabinet on Feb. 13, 1946, after a dispute with President Truman over the latter's nomination of Edwin W. Pauley as under secretary of the navy. He afterwards wrote a newspaper column on national affairs. His memoirs, *Autobiography of a Curmudgeon*, were published in 1943.

Izycki De Notto, Sir Matthew (MATEUSZ IŻYCKI), Polish-born air force officer (b. Odessa, Feb. 22, 1899—d. Lyons, France, Feb. 12), escaped to England when Poland was overrun during World War II. He ably organized the Polish air force in Great Britain, of which, as air vice-marshal, he was commander-in-chief, 1943-47. In 1945 he was created an honorary K.C.B., assuming the title in 1949 when he became a British subject.

Jamieson, Lord (DOUGLAS JAMIESON), Scottish judge (b. Glasgow, July 14, 1880—d. Edinburgh, May 31), was admitted to the Faculty of Advocates in 1911 and took silk in 1926. He was Unionist M.P. for Maryhill, Glasgow, 1931-35, solicitor-general for Scotland 1933-35, and lord advocate from March of the latter year; in Oct. 1935, however, he was appointed a senator of the College of Justice in Scotland. He had been sworn of the Privy Council in 1935.

Jolas, Eugene, trilingual poet and journalist (b. Union City, New Jersey, Oct. 26, 1894—d. Paris, May 26), at the age of two returned with his European-born parents to the father's ancestral home in Forbach, Lorraine, where he received his early schooling at the local *gymnasium* and, later, at the Petit séminaire, Metz. At 16 he emigrated alone to the U.S. and after a few years of bitter economic struggle entered the newspaper world. He returned to Europe in 1922 and, in 1927, founded in Paris the international *avant garde* review *Transition*. In addition to many critical articles, he was the author of seven volumes of poetry, written in French, German, English and an invented linguistic amalgam he called "Atlantica"; a French-language anthology of over 100 American poets; an English-language mystical anthology entitled *Vertical;* and numerous translations. He served in both World Wars and, in 1946, was awarded the U.S. Medal of Freedom for his activities with the Allied armies during the liberation of Europe.

Juda Shumshere Jung Bahadur Rana, Maharaja, former Nepalese prime minister (b. Kathmandu, Nepal, April 24, 1875—d. Dehra Dun, Uttar Pradesh, India, Nov. 23), was prime minister and supreme commander-in-chief of Nepal from 1932 to 1945 when he went into voluntary retirement. He was created an honorary K.C.I.E., 1917 (promoted hon. G.C.I.E., 1933), hon. G.C.S.I., 1935, and hon. G.C.B., 1939. He was also an honorary general in the British army and hon. colonel of all the Gurkha rifle regiments in the Indian army. During World War II he actively supported Great Britain and its allies.

Kenny, Elizabeth, Australian nursing sister and research worker (b. Warialda, New South Wales, Sept. 20, 1886 d. Toowoomba, Queensland, Nov. 30), qualified as a nurse in 1911 and served in the Australian Army Nursing service during World War I. She soon became known for her physical methods of treatment of poliomyelitis which, she claimed, could cure the paralysis if applied early enough. Her claims were strenuously opposed by the medical profession although the value of her treatment was admitted. She opened a clinic in Sydney in 1935 and a year's trial of her methods was made in Great Britain in 1937. In 1940 she went to the United States where the Elizabeth Kenny foundation was later established at Minneapolis. Her published works include *Infantile Paralysis and Cerebral Diplegia* (1927), *The Kenny Concept of Infantile Paralysis and Its Treatment* (1942) and an autobiography, *And They Shall Walk* (with Martha Ostenso, 1943).

Kenyon, Sir Frederic George, British Biblical and classical scholar and museum director (b. London, Jan. 15, 1863—d. Godstone, Surrey, Aug. 23), was educated at Winchester and New college, Oxford, of which he became an honorary fellow, 1913. In 1888 he became a fellow of Magdalen college (hon. fellow, 1906) and a year later he entered the manuscript department of the British Museum where he became known as an authority on Greek papyri by his discovery and publication (in 1891, as *Aristotle's Constitution of Athens*) of a lost treatise by Aristotle. He was an assistant keeper, manuscript department, 1898-1909, and director and principal librarian of the museum, 1909-30. He was also a distinguished Biblical scholar, and his works in this field include *Our Bible and the Ancient Manuscripts* (1895, revised 1939) and *The Bible and Modern Scholarship* (1948), a

reply to Bishop E. W Barnes's *The Rise of Christianity* Kenyon was president of the British Academy, 1917-21, of the Bibliographical society, 1924-26, of the Society of Antiquaries, 1934-39, and of the British School of Archaeology at Jerusalem from 1920 until his death His other published works include *Catalogue of Greek Papyri in the British Museum* (3 vol , 1893-1907), *Ancient Books and Modern Discoveries* (1928) and *The Chester Beatty Biblical Papyri* (in 8 parts, 1933-41) He was created a K C B in 1912 and G B.E in 1925

Kollontay, Aleksandra Mikhailovna, Soviet diplomat (b St Petersburg, April 1, 1872—d Moscow, March 9), was a daughter of a Tsarist general. She married an officer of the Tsarist army, but was attracted to the Communist party She lived abroad from 1908 to March 1917, when she returned to Petrograd, becoming soon after the Revolution commissar for public welfare and then a revolutionary propagandist During this period an enthusiastic affair with the revolutionary seaman Dybenko might have ended in her execution but for the intervention of Lenin She joined the People's Commissariat of Foreign Affairs in 1922 and served as minister to Norway (1923-26), after a short period as minister to Mexico, she was again appointed to Norway (1927-30), she was minister to Sweden from 1930 to July 1945, with the rank of ambassador from 1943 In 1944 she conducted the Soviet-Finnish armistice negotiations Mme Kollontay was the first woman to become an accredited minister to a foreign country.

Kortright, Charles Jesse, British cricketer (b Ingatestone, Essex, Jan 9, 1871—d Brentwood, Essex, Dec. 12), played for Essex from 1889 to 1907 and at the time of his death was held to have been the fastest bowler in the history of cricket He bowled one ball which, having pitched, crossed the boundary without touching the ground In 1895, against Surrey, he took six wickets for four runs and in 1900, against Yorkshire, he took eight for 57

Kucharzewski, Jan, Polish politician and historian (b Wysokie Mazowieckie, May 27, 1876– d New York, July 4), was educated at the University of Warsaw In 1915 he went to Lausanne where he published *L'Aigle Blanc*, a periodical campaigning for the restoration of independent Poland On Nov 26, 1917, he was appointed by the Polish Regency council premier of the first Polish government since 1831, he resigned on Feb 27, 1918, in protest against the peace treaties of Brest-Litovsk After World War I he devoted himself to historical studies and published *From the White to the Red Tsardom* (7 vol , Warsaw, 1923-35, abridged trans , *The Origins of Modern Russia*, New York, 1948) In 1926 Kucharzewski was elected a member of the Polish Academy of Sciences He left Poland at the beginning of 1940 for New York where he became chairman of the board of the Polish Institute of Arts and Sciences in America

Lattre de Tassigny, Jean-Joseph-Marie-Gabriel de, French army officer (b Mouilleron-en-Pareds, Vendee, Feb 2, 1889 –d Neuilly, near Paris, Jan. 11), a graduate of Saint-Cyr, fought in World War I, and was wounded four times and decorated In 1921 he served in Morocco and in 1925 was seriously wounded in the Rif campaign Having passed out of the École Superieure de Guerre in 1935, he was by 1939 the youngest general in the French army He commanded the 14th Infantry division which fought around Rethel in May 1940. On Aug 27, 1941, he was appointed c -in-c in Tunisia but in Jan 1942 was recalled to France to command a division at Montpellier When the Germans took over the " free zone " on Nov 11, 1942, he attempted to resist, he was sentenced on Jan 9, 1943, to 10 years' imprisonment at Riom but nine months later escaped to England He took over the French First Army which landed at Saint-Tropez on Aug 15, 1944 Advancing up the Rhône 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, on July 24 he was appointed inspector-general of the French army On Oct 4, 1948, he was appointed c -in-c , land forces, Western Union On Dec 6, 1950, he became French high commissioner and c -in-c in Indochina General de Lattre was posthumously created marshal of France

Lawrence, Gertrude (GERTRUD ALEXANDRA DAGMA LAWRENCE KLASEN), British actress (b London, July 4, 1898 –d New York, Sept 6), was educated at the Convent of the Sacred Heart, Streatham, London, and studied dancing under Madame Espinosa and acting under Italia Conti She first appeared on the stage in Dec. 1910, at the Brixton theatre, London, as a child dancer in *Babes in the Wood*, after touring in the provinces for four and a half years she achieved her first stage success in the revue *Some* (1916). Her talent for singing, dancing and acting and her vivacious personality were admirably suited to this type of production and she was soon in great demand She took the lead in *The Midnight Follies* (1922) and afterwards went to the U.S where she played joint lead with Beatrice Lillie in *André Charlot's Revue of 1924* She was a close friend of Noel Coward who wrote *Private Lives* (1930) specially for her and with whom she toured the provinces in 1935 in *Tonight at 7 30* (re-named *Tonight at 8.30* when it ran in London and New York in 1936) Her best-known later performances were Susan Trexel in *Susan and God* (New York, 1937), Lydia Kenyon in *Skylark* (New York, 1939) and, in London, Stella Martyn in Daphne du Maurier's *September Tide* (1948). During World War II she had toured with E.N.S.A. (of which she was president of the U.S branch) in France and Belgium and with United Service organizations (U S O) in the Pacific ocean area At the time of her death she was playing Anna in *The King and I* in New York

Lindsay of Birker, Alexander Dunlop Lindsay, 1st Baron, of Low Ground, Cumberland, college principal (b. Glasgow, May 14, 1879—d Newcastle-under-Lyme, March 18), was the son of the principal of a free church college and was educated at Glasgow and at University college, Oxford, afterwards holding fellowships in philosophy at Glasgow and Edinburgh In 1906 he returned to Oxford as fellow and classical tutor at Balliol college. During 1914-19 he served in France, becoming a lieut -colonel and being made a C.B.E. Lindsay left Oxford to be professor of moral philosophy at Glasgow in 1922 but was recalled to Balliol to be master, 1924-49, during 1935-38 he was also vice-chancellor of the university. Always keenly interested in enlarging the boundaries of formal education, at the age of 70 he became principal of the new University College of North Staffordshire. As well as books on Kant, Bergson and Karl Marx's *Das Kapital*, he published *The Nature of Religious Truth* (1927), *The Essentials of Democracy* (1929), *Christianity and Economics* (1933), *The Moral Teaching of Jesus* (1937) and *The Modern Democratic State* (1943) He was created a baron in 1945

Linlithgow, Victor Alexander John Hope, 2nd Marquess of, former viceroy of India (b Abercorn, West Lothian, Sept 24, 1887—d Hopetoun, West Lothian, Jan 5), whose father, the first marquess, was the first governor general of Australia, was educated at Eton and succeeded to the marquessate in 1908 After serving with distinction in World War I, he was introduced into senior governmental and Conservative circles when Stanley Baldwin appointed him a civil lord of the Admiralty (1922-24), after the Conservatives' defeat in the 1924 election, Baldwin selected him as deputy chairman of the Conservative party organization (1924-26) Linlithgow acquainted himself with Indian affairs as chairman of the royal commission on Indian agriculture of 1926-28 He was appointed chairman of the parliamentary select committee on Indian constitutional reform in 1933, and was prominent during the passage of the resultant Government of India bill, 1935 In April 1936 he was appointed viceroy of India Early in the following year the provincial autonomy provided for by the 1935 act was put into force The preceding elections had put the Congress party into power in 6 of the 11 provinces; but the party was prepared to accept office only on impossible conditions But Linlithgow quickly achieved compromise and Congress provincial governments replaced the interim administrations However, faced with the princes' hesitation to join a federal union and the Moslem league's insistence upon the " two-nation " solution, the viceroy abandoned his hopes for an all-India federation In 1939 Congress at once showed itself hostile towards India's automatic participation in the war and, after fruitless discussions between the viceroy and the Indian leaders, the Congress provincial governments resigned Nor did Congress respond to Linlithgow's " August offer " (1940) of postwar self-determination for India, but instead followed Gandhi's call for civil disobedience Nevertheless the viceroy's policy of Indianizing his executive council and his insistence upon a united war-effort bore fruit, notably in the formation of a volunteer Indian army of over 2 million men Although Linlithgow's term of office was extended to Oct 1943, he had now in effect failed in his original mission, and his last months in India were overshadowed by the rejection of the Cripps offer (March 1942) and the subsequent second civil disobedience outbreak Linlithgow had been sworn of the Privy Council in 1935 and was created a knight of the Garter in 1943. He was chancellor of Edinburgh university from 1944, and lord high commissioner to the general assembly of the Church of Scotland in 1945

Lithgow, Sir James, 1st baronet, British industrialist (b Glasgow, Jan 27, 1883 –d Langbank, Renfrewshire, Feb 23), became in 1908 a partner in the shipbuilding business which later became known as Lithgows, Ltd In 1917, after military service in France, he was made director of shipbuilding production at the Admiralty Between the wars he was a member of the governing body of the International Labour conference at Geneva, 1922-28 and 1933-35, and president of the Federation of British Industries, 1930-32 During World War II he was controller of merchant shipbuilding and repairs, 1940-46, and also president of the British Iron and Steel federation 1943-45. He received a baronetcy in 1925 and was made a G B F in 1945

Lynd, Sylvia, British writer (b London, 1888 –d London, Feb 21), is best known as a writer of lyrical poetry Encouraged by her husband, Robert Lynd, she published in 1917 *The Thrush and the Jay*, a volume of poems and short stories which revealed a delicate perception, particularly of the feelings of children Her other publications include *English Children* (" Britain in Pictures " series, 1942), *Collected Poems* (1944) and *Autobiography* (1950).

MacCarthy, Sir Desmond, British writer and literary critic (b Plymouth, 1877—d Cambridge, June 7), was educated at Eton and at Trinity college, Cambridge In early life he practised freelance journalism, contributing to the *Speaker* and the *Eye Witness* (later the *New Witness*) From 1913 to 1944 he was dramatic critic of the *New Statesman* and from 1920 to 1927 its literary editor In addition, from 1920-29, he wrote a causerie for that weekly under the pseudonym " Affable Hawk " From 1928 until his death he was literary critic of the *Sunday Times* and he also broadcast for the B.B C His principal books include *The Court Theatre* (1904-7), *Portraits* (1931), *Leslie Stephen* (1937) and two volumes of essays, *Drama* (1940) and *Shaw* (1950) MacCarthy had a wide and carefully cultivated knowledge of literature, although his criticism was most revealing when its approach was biographical (as in his appreciation of Henry James) rather than purely literary He was knighted in 1951.

McMahon, Brien (JAMES O'BRIEN MCMAHON), U.S. lawyer and politician (b. Norwalk, Connecticut, Oct 6, 1903—d. Washington, July 28), was educated at Fordham and Yale universities and began to practise law in 1927. He became a judge of the city court of Norwalk, 1933, and was appointed assistant attorney-general of the U.S., 1936; as head of the criminal division he worked on the prosecution of gangsters and sent John Dillinger's attorney to prison for harbouring the fugitive. McMahon resigned in 1939 and resumed private practice until 1944 when he was elected a Democratic senator for Connecticut. In 1945-47 he was chairman of the special Senate committee on atomic energy: the McMahon act, providing for control by the government of research in, and production of, atomic energy was passed by congress in July 1946. He was a candidate for the 1952

Democratic presidential nomination but withdrew his name in July and transferred his 16 votes to Adlai Stevenson.

Macmillan, Hugh Pattison Macmillan, Baron, of Aberfeldy, Glamorganshire, British jurist (b. Glasgow, Feb 20, 1873—d. Ewhurst, Surrey, Sept. 5), studied philosophy at Edinburgh and law at Glasgow, becoming examiner there in 1899 and editor of the *Juridical Review* in 1900. He became a K.C. in 1912 and a growing practice soon took him to London In 1918 he became assistant director of intelligence at the Ministry of Information, to which he returned as minister during World War II. In the Labour government of 1924 he became lord advocate for Scotland and a privy councillor He served on many commissions, notably those on lunacy (1924), the coal-mining dispute (1925) and finance and industry (1929) In 1930 he became a lord of appeal and was created a life peer Lord Macmillan's many subsequent appointments included chairmanship of the University of London court, of the Pilgrim trust and of the British Broadcasting corporation's advisory council; and trusteeship of the British museum and Sir John Soane museum. In 1937 he was made a G C V O and published a book of essays and addresses, *Law and Other Things* He was appointed honorary professor of law in the Royal Academy in 1941 His autobiography, *Man of Law's Tale*, was published posthumously

Macnicol, Nicol, British missionary (b Catacol, Arran, Feb 26, 1870—d Edinburgh, Feb 13), went to India as a missionary of the Church of Scotland in 1895, and became a professor at Wilson college, Bombay Transferred in 1901 to the United Free Church mission in Poona, he spent the next 30 years working among Indians, acting as secretary of the National Christian council of India, Burma and Ceylon, 1926-29, and as a member of a commission on Christian higher education in India, 1930-31 After returning he lectured on natural and comparative religion at Oxford, 1932-35 His publications include *The Religion of Jews* (1910), *The Making of Modern India* (1924) and *India in the Dark Wood* (1930)

Mansbridge, Albert, British educationist (b Gloucester, Jan 10, 1876—d Torquay, Aug. 22), was educated at elementary schools and Battersea grammar school After working as a clerk in London, he joined the Co-operative Wholesale society at the age of 20 and also began to teach in evening schools In July 1903, after publishing articles on higher education for the working class in the *University Extension Journal*, he founded "An Association to Promote the Higher Education of Working Men", which by September had been recognized by most British universities and whose first president was William Temple, later archbishop of Canterbury. In 1905 the organization became the Workers' Educational association and during the next few years, under Mansbridge's direction, branches were formed throughout England In 1915, after a serious illness, Mansbridge resigned the secretaryship but continued to pursue educational activities He was a member of the prime minister's committee on the teaching of foreign languages, 1915-18, and of the royal commission on Oxford and Cambridge universities, 1919-22. In 1916 he had founded the Central Library for Students (to become, in 1930, the National Central library) He delivered the Farle lectures at the University of California, 1926, and lectured on Oxford and Cambridge to the Association of American colleges, 1939 His published works include *An Adventure in Working Class Education* (1920, a history of the W E A), *The Older Universities of England* (1923), *The Kingdom of the Mind* (1944) and *Fellow Men* (1948) Mansbridge had been created a Companion of Honour in 1931

Martindale, Hilda, civil servant (b London, 1875 d London, April 18), became a factory inspector in 1901 and deputy chief inspector of factories in 1925 From 1933 until her retirement in 1937 she was director of women-establishments at the Treasury She served on many committees on questions concerning women and was a governor of Bedford college In 1935 she was made a C B E She was the author of *Woman Servants of the State 1870-1938* (1938)

Massingham, Harold John, British writer (b London, March 25, 1888 – d. Long Crendon, Buckinghamshire, Aug. 22), was educated at Westminster and at Queen's college, Oxford. The son of H W Massingham, the Liberal journalist, he started his career in his father's profession An early interest in birds, however, was soon extended to other forms of natural life, and it was by conveying his own feeling for the English countryside that he made his name His books include *Downland Man* (1926), *Remembrance, An Autobiography* (1942) and *The English Countryman* (1942) He also edited the Nonesuch edition of *The Writings of Gilbert White of Selborne* (1938).

Maurras, Charles Marie-Photius, French writer and political journalist (b Martignes, Provence, April 20, 1868—d Tours, Nov 16), was educated at the Catholic college at Aix-en-Provence and in 1895 went to Paris where he contributed to *L'Evénement*, *Revue bleue* and *La Revue encyclopédique* A fervent royalist, he undertook strenuous campaigns in *Le Soleil*, *La Gazette de France* and *Le Figaro* against democratic ideas and also published pro-royalist books, notably *L'Idée de la décentralivation* (1898), *Trois idées politiques* (1899) and *L'Enquête sur la monarchie* (1900). From 1908 he directed the daily *L'Action française* (previously a fortnightly) which formed his main political platform and whose fundamental agnosticism, rather than its royalist propaganda, provoked the disapproval of the hierarchy so that, on Dec. 29, 1926, the Congregation of the Holy Office placed it and some other of his works on the *Index Librorum Prohibitorum*. This ban continued until 1939 when Maurras made formal submission to the church Meanwhile he had written *Kiel et Tanger* (1910), *L'Etang de Berre* (1915) and *Quand les français ne s'aimaient pas* (1916). Although imprisoned in 1936-37 for incitement to murder Léon Blum, then premier, Maurras was elected in 1938 to the Académie Française. After the fall of France in 1940 he continued to publish *L'Action française* at Vichy. Although avowedly anti-British he repeatedly declared that Germany was the principal enemy of France. In 1945 he was sentenced in Lyons to life imprisonment for "intelligence with the enemy" during the occupation, at the same time the government ordered that he and Philippe Pétain should be expelled from the Académie Française During his imprisonment he contrived to publish verse and articles in *Aspects de la France* In March 1952 he was released from prison on health grounds His other published works include *Les Amants de Venise* (1902), *La Musique intérieure* (1925), *De Démos à César* (1935), *Apologie de Socrate* (1948) and *Conseils à un jeune Français* (1949) (*See* also *Encyclopædia Britannica*)

Micklem, Sir (Edward) Robert, British industrialist (b Edmonton, Middlesex, June 5, 1891—d London, May 13), left the Royal Navy in 1919 and joined companies associated with Vickers, Ltd. He was chairman of the tank board and the armoured fighting vehicles division of the Ministry of Supply, 1942-44, and of Vickers Armstrongs, 1946-52, and became joint managing director of Vickers, Ltd, in Nov 1951 He was knighted in 1946

Milford, Sir Humphrey Sumner, British publisher (b East Knoyle, Wiltshire, Feb 8, 1877 -d Oxford, Sept. 6), was educated at Winchester and at New college, Oxford. He was assistant to the secretary to the delegates of the Oxford University press, 1900-1906, assistant to Henry Frowde, publisher to the university, 1906-13, and publisher to the university, 1913-45 During his tenure of this office Milford broadened the basis of the press by introducing new features, such as the "World's Classics", he also expanded its overseas markets and increased the sales of the more specialized "Clarendon press" books He edited the poems of William Cowper (1904), Arthur Hugh Clough (1910) and Leigh Hunt (1923), and was chief editor of the *Oxford Book of Romantic Verse* (1928). He was president of the Publishers' association, 1919-21, and was knighted in 1936

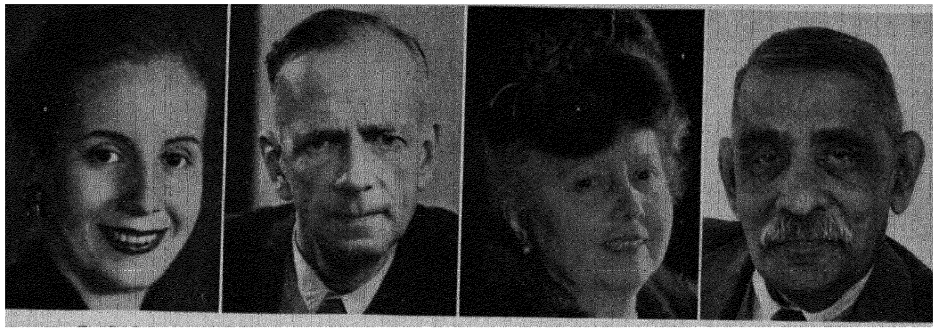
Millar, Gertie (Gertrude, Countess of Dudley), British musical comedy actress (b. Bradford, Yorkshire, Feb 21, 1879—d Chiddingfold, Surrey, April 25), after playing in pantomime appeared at the Gaiety theatre, London, in such shows as *The Toreador* (1901) and *The Spring Chicken* (1905), for which Lionel Monckton (her first husband) and Ivan Caryll wrote the music After captivating New York in 1908 she played in London in *Our Miss Gibbs* (1909), and *The Quaker Girl* (1910), her greatest successes Her last appearance on the stage was in *Flora* (1918)

Molnar, Ferenc, Hungarian dramatist (b Budapest, Jan 12, 1878—d New York, April 1), after a brief career in journalism wrote his first play, *Der Doctor* (1902), which was produced at the Royal theatre, Budapest, and was well received by critics *Der Teufel* (1908) was produced in New York by four companies at the same time *Liliom*, perhaps the best-known of his 40-odd plays, was a failure when it opened in Budapest in 1909, but was an outstanding success when first produced in New York by the Theatre guild 12 years later It was revived a number of times and was made into a film, *Carousel*, in 1945 During World War I Molnar was a war correspondent with the Austro-Hungarian armies on the Russian front *The Guardsman* (New York, 1924) was an immediate success *The Play's the Thing* (1927) is also considered among Molnar's best work His other plays include *Husbands and Lovers* (1924), *Paul Street Boys* (1927), *The Swan* (1929), *The Good Fairy* (1932) and *No Greater Glory* (1934) In 1940, following Hungary's alignment with Germany, Molnar fled to the United States He later became a U S citizen

Montessori, Maria, Italian educationist (b Chiaravalle, Ancona, Aug 31, 1870—d Noordwijk, Netherlands, May 6), entered Rome university as a medical student and was the first Italian woman to gain an M D Her lectures on mentally deficient children led to the foundation of the Scuola Ortofrenica, of which she was director, 1898-1900 She lectured on pedagogical anthropology from 1900 to 1907 when she founded her first nursery school, in the Roman slum district of San Lorenzo In her *Case dei Bambini* children were encouraged to make their own choice of occupation, with toys or simple tasks (*See* Montessori System in *Encyclopædia Britannica*) Her schools became established throughout Europe and the United States and in 1913 the first international course on her methods was held in Rome. From 1919 onwards she held training courses in London every two years and in alternate years in other parts of the world She was made a government inspector of schools in Italy in 1922 and opened a teachers' training college there in 1928 and another in London in 1929 Forced to close down her schools in Italy in 1934 because of her pacifism, Dr Montessori opened an institute in Barcelona, escaping from there in a British cruiser in 1936 She held training courses at Karachi and Poona and in Ceylon in 1939, but was interned as an enemy alien in Madras in June 1940 She returned to Italy in 1947 to reorganize schools there Her ideas on education were set forth in *The Montessori Method* (1912)

Morozov, Mikhail Mikhailovich, Soviet literary scholar (b Russia, Feb 18, 1891—d Moscow, May 9), became well known for his work on Robert Burns and Shakespeare, particularly for his translation of *All's Well that Ends Well* In 1937 he became adviser to the Soviet All-Union Theatrical society (V T O) He was professor of English literature at Moscow university and a lecturer at the Moscow Institute of Theatre Arts and at the Gorky Institute of Literature In 1947 his book *Shakespeare on the Soviet Stage* was published in London; he also contributed to the international *Shakespeare Survey* and with other Soviet scholars produced translations of *Hamlet* (1940), and *The Merry Wives of Windsor* In 1951 he became editor of the English-language periodical *News*

Murdoch, Sir Keith Arthur, Australian journalist (b Melbourne, Aug 12, 1886—d. Melbourne, Oct 5), began his career as a reporter on the *Melbourne Age*, and in 1915 achieved fame as war correspondent in Gallipoli by his outspoken comments on the campaign. After representing the *Sydney Sun* and *Melbourne Herald* in London, he



Eva Perón *Kurt Schumacher* *Elisabeth Schumann* *D. S. Senanayake*

returned to Australia in 1921, travelling with the Prince of Wales as correspondent for *The Times*. He became managing director of the *Melbourne Herald*, and by his vigour and foresight he built up a chain of newspapers with nationwide influence. He was managing director of the Australian Associated press, first president of the Australian Newspapers conference, 1936, founder of the Australian newsprint industry and, in 1939-40, director-general of information. In 1941 and 1944 Murdoch visited Great Britain at the invitation of the government and in 1946 and 1950 led the Australian delegation to the Imperial Press conference. He was knighted in 1933.

Murray, Philip, U.S. labour leader (b. Blantyre, Scotland, May 25, 1886—d. San Francisco, Nov. 9), emigrated to the United States in 1902 and worked as a miner in Westmoreland, Pennsylvania. He became a member of the international board of the United Mine-workers of America, 1912, president of district no. 5 of the union, 1916, and was vice-president of the union, 1920-42. In 1935 he participated with John L. Lewis in the establishment of the Congress of Industrial Organizations and was its president, in succession to Lewis, from 1940. As president of the C.I.O. he strongly opposed all anti-strike legislation and in 1944 he broke with President Franklin Roosevelt over a national service law which would have instituted a compulsory labour system. In 1948 he was indicted by a federal grand jury on charges (which were dismissed) of violating the Taft-Hartley provision banning political expenditure by unions. In 1942 he published, with M. L. Cooke, *Organized Labour and Production*.

Nygaardsvold, Johan, Norwegian statesman (b. Hommelvik, near Trondheim, Sept. 6, 1879—d. Trondheim, March 13), after working for six years on railway construction in the U.S., returned to Norway in 1907 and engaged in politics. Elected to the Storting as a Labour member in 1916, he was speaker in 1928 and again in 1934-35. In 1928 he was appointed minister of agriculture in the first Labour cabinet, which lasted 18 days. On March 16, 1935, he formed the second Labour cabinet. In June 1940, after the German invasion, he sailed for Great Britain and headed the Norwegian government in exile in London. During World War II he maintained his reputation for stubborn courage and conscientiousness. After the liberation, he relinquished his premiership on June 25, 1945, and retired.

O'Connor, John, British Roman Catholic priest (b. Clonmel, Tipperary, Dec. 5, 1870—d. Leeds, Feb. 6), was ordained in 1895 and was for many years parish priest of St. Cuthbert's, Bradford. In 1904 he first met G. K. Chesterton whom he received into the Roman Catholic Church in 1922. Chesterton based his characterization of the priest-detective "Father Brown" on Mgr. O'Connor, and in 1937 the latter wrote *Father Brown on Chesterton*.

O'Neill, Maire, Irish actress (b. Dublin, Jan. 12, 1887—d. London, Nov. 2), first appeared on the stage in 1904, as a member of the Irish National Theatre society at the Abbey theatre, Dublin. She first appeared in London as Margaret Flaherty in J. M. Synge's *The Playboy of the Western World*. Thereafter she was almost continuously engaged in Great Britain, with occasional seasons in the United States. In 1916 she returned to the Abbey theatre to play Aunt Helen in Lennox Robinson's *White-headed Boy*. Her best-known parts were in plays by Sean O'Casey: Mrs. Maisie Madigan in *Juno and the Paycock* (1925), Mrs. Gogan in *The Plough and the Stars* (1926) and Mrs. Grigson in *The Shadow of a Gunman* (1927). Her last part was Mary Byrne in *The Tinker's Wedding* (1950).

Orlando, Vittorio Emanuele, Italian lawyer and statesman (b. Palermo, Sicily, May 19, 1860—d. Rome, Dec. 1), was prime minister of Italy, 1917-19, and led the Italian delegation to the Paris peace conference in 1919. He resigned from parliament and retired from public life in Aug. 1925 after the Fascist victory in the Palermo municipal elections. (For his early career see *Encyclopædia Britannica*.) After the liberation of Rome Orlando resumed public life and was president of the chamber of deputies, 1944-46. He resigned from the constituent assembly in 1947 in protest against the signing of the Italian peace treaty and three years later, in the Senate, he fiercely attacked Italian foreign policy, which was abhorrent to his fervent nationalist sentiments.

Parker, John, British theatrical historian and journalist (b. London, July 28, 1875—d. Twickenham, Middlesex, Nov. 18), joined the staff of the *Illustrated London News* in 1892 and subsequently that of *Era* and *Free Lance*. In 1903 he became London correspondent of the *New York Dramatic Mirror* and London critic, manager and correspondent of the *New York Dramatic News*, retaining these positions until 1920. He had edited the *Green Room Book*, 1908-9, and in 1912 he had brought out the first edition of *Who's Who in the Theatre*, a work which soon became known and respected in Great Britain and the United States and which Parker personally compiled until his death. He had also been honorary editor of the *Critics' Circular* since 1923, honorary secretary of the Critics' circle since 1924 and its president, 1937-38.

Pataudi, Muhammad Iftikar Ali Khan, Nawab of, Indian cricketer (b. March 1910—d. New Delhi, Jan. 5), gained his Blue at Oxford in 1929 and in 1931 made the highest individual score in an Oxford and Cambridge match (239 not out). He went to Australia in D. R. Jardine's team in 1932-33 and scored a century in his first test match. In 1934 Pataudi again played for England against Australia and in 1946 he led the Indian test team in England.

Patterson, Robert Porter, U.S. politician (b. Glens Falls, New York, Feb. 12, 1891—d. Elizabeth, New Jersey, Jan. 22), was admitted to the bar in 1915. During World War I he served as an officer with the U.S. army in France. He practised law from 1919 to 1930 when he was appointed judge of the U.S. district court for the southern New York district. In 1939 he was appointed judge of the U.S. Circuit Court of Appeals. In July 1940 he became assistant secretary of war and in Dec. 1940 he became under secretary of war. In this post he directed the army's supply programme. Upon Henry L. Stimson's retirement in 1946, President Harry S. Truman appointed Patterson secretary of war. In the cabinet and elsewhere he worked energetically to unify the U.S. armed forces and to secure universal military training. In July 1947 Patterson returned to private law practice in New York. He was killed in an air crash at Newark, New Jersey.

Pearce, Sir George Foster, Australian politician (b. Mount Barker, South Australia, Jan. 14, 1870—d. Melbourne, June 24), began his working life as a carpenter and in 1894 took part unsuccessfully in the Coolgardie gold rush. He entered politics through trade-union work and was elected Labour senator for Western Australia in 1901; he was returned at every subsequent election until his retirement in 1938. He was appointed minister of defence in the second Labour government of 1908 and remained in office until 1921, although, as a strong advocate of conscription, he broke with Labour and joined the National party in 1916. In that year he had acted as prime minister; he held the defence portfolio again in 1931-34. He was also home minister (1921-26) and minister for external affairs (1934-37). He had been sworn of the Privy Council in 1921 and created K.C.V.O. in 1927.

Peers, Sir Charles Reed, British architect and antiquary (b. Harrow, Middlesex, Sept. 22, 1868—d. Coulsdon, Surrey, Nov. 16), was educated at Charterhouse and at King's college, Cambridge (of which he was elected honorary fellow in 1935); in 1893 he became a pupil in the office of Sir T. G. Jackson, R.A. He was architectural editor, Victoria County Histories, 1903-10, and from 1913 to 1933 was chief inspector of ancient monuments, Ministry of Works: he built up the ancient monuments inspectorate of that ministry into an organization of architects and building scientists, art historians and antiquaries with nation-wide jurisdiction; and under his influence the old controversy of restoration versus preservation virtually ended. He was surveyor of Westminster abbey, 1935-51, and was architect in charge of preservation or restoration at York minster, Durham cathedral and castle and many other important sites. He was elected fellow of the Society of Antiquaries of London in 1901, was its secretary, 1908-21, director, 1921-29, and president, 1929-34. He had been elected a fellow of the British Academy in 1926 and was knighted in 1931.

Peers, Edgar Allison, British Hispanic scholar (b. Leighton Buzzard, Bedfordshire, May 7, 1891—d. Liverpool, Dec. 21), was educated at Dartford Grammar school and at Christ's college, Cambridge. After working as modern languages master at Mill Hill and Felsted schools and Wellington college, he was appointed to the Gilmour chair of Spanish in the University of Liverpool in 1920. Attracted to the romantic aspects of English and French literature, he soon

came under the spell of Spanish mysticism. He published his first Spanish study in 1923 (*Rivas and Romanticism in Spain*) and a stream of scholarly works quickly followed establishing his reputation as an authority on Spanish thought. He translated the work of such prominent Spanish thinkers as St. John of the Cross and St. Teresa of Avila. He published numerous books on Spanish politics (*The Spanish Tragedy*, 1936; *The Spanish Dilemma*, 1940), some travel books on Spain and was a contributor to the *Encyclopædia Britannica*. Under the pseudonym of Bruce Truscot, Peers wrote several books pleading for a recognition of the potentialities of the modern (" Redbrick ") universities.

Pekkala, Mauno, Finnish politician (b. Sysmä, Finland, Jan. 27, 1890—d. Helsinki, June 30), son of a lumberjack, studied at the University of Helsinki. He joined the Forest Administration board and in 1933 became its deputy director. He was politically active among the small farmers and from 1927 was the chairman of their union. From that year, too, he was a member of parliament. Four times a minister, he served as prime minister from March 24, 1946, to July 22, 1948. He was supported by the Communist-controlled S K D L (Finnish People's Democratic league). On April 6, 1948, he signed in Moscow the Soviet-Finnish treaty of mutual aid. At the Feb 15, 1950, presidential election, he was the S K D L candidate against J. K. Paasikivi but was defeated.

Perón, (Maria) Eva Duarte de, wife of the Argentine president (b. Los Toldos, Buenos Aires, May 7, 1919—d. Buenos Aires, July 26), after leaving school was a stage, film and radio actress in Buenos Aires, becoming known as " Senorita Radio ". She met Juan Domingo Perón in Dec 1943, when he was under secretary in the Argentine Ministry of War, and was married to him on Oct 21, 1945, immediately participating in his campaign for the Argentine presidency, an unprecedented action for an Argentinian woman. After Juan Perón's inauguration to the presidency in 1946, his wife emerged as a powerful influence in his régime. Her vast social aid fund, her espousal of the cause of *Los Descamisados* (" the shirtless ones "), her organization of women workers and her frequent appeals for national female suffrage aroused opposition in the middle and upper classes and won support from the underprivileged. She was also credited with the institution of compulsory religious training in all Argentine schools. In 1947 she visited Spain, Italy and France, receiving the order of Isabella Catolica from General Franco. In 1951 she withdrew her candidature for the vice-presidency because of opposition from the army. Her health was already failing and in Nov 1951 she underwent an operation which led only to a temporary recovery. Her last public appearance was on June 4, 1952, at the inaugural ceremonies of her husband's second presidential term.

Peterson, Sir Maurice Drummond, British diplomat (b. Dundee, March 10, 1889 –d. Kintbury, Berkshire, March 15), entered the diplomatic service in 1913. He was minister to Bulgaria, 1936-38, ambassador to Iraq, 1938-39, and to Spain, 1939-40. After serving as controller of overseas publicity, Ministry of Information (1940-41), and as an under secretary of state, Foreign Office, London (1942), he was ambassador to Turkey, 1944-46. From 1946 to 1949, when he retired because of ill-health, he was ambassador to the U S S R. Peterson protected British interests with skill at a time when Anglo-Soviet relations were fast deteriorating. He had been created K C M G in 1938 and promoted to G C M G in 1947. He was the author of *Both Sides of the Curtain* (1950).

Planiscig, Leo, Austrian art historian (b. Gorizia, Austria [now Italy], Aug. 31, 1887—d. Florence, Italy, July 7), studied the history of art under Max Dvořák and Julius von Schlosser at Vienna university, and joined the staff of the Kunsthistorisches Museum in 1912, later becoming director of its plastic arts department, which he reorganized. Although his acknowledged master-work, *Venezianische Bildhauer der Renaissance*, was written in 1921, it was not until 1939 that he began with *Donatello* the systematic and concise monography of the principal quattrocento sculptors that established his reputation with a wide public: there followed *Lorenzo Ghiberti* (1940), *Luca della Robbia* (1940), *Andrea de Verrocchio* (1941), *Bernardo und Antonio Rossellino* (1942), *Desiderio da Settignano* (1942), *Nanni di Banco* (in Italian, 1946), *Donatello* (Italian, 1947), and *Lorenzo Ghiberti* (Italian, 1949). His other writings included the standard monograph on *Andrea Riccio* (1927) and *Piccoli Bronzi italiani del Rinascimento* (1930). After the *Anschluss* of 1938 Planiscig settled in Florence.

Pridham-Wippell, Sir Henry Daniel, British admiral (b. Bromley, Kent, Aug. 12, 1885—d. Kingsdown, Kent, April 2), commanded the light fleet forces at the battle of Cape Matapan, March 28, 1941, when three Italian 8-in. cruisers were sunk and a battleship damaged without loss, damage or casualties to British ships. He was knighted in 1941 and promoted admiral in 1944.

Radford, Basil, British actor (b. Chester, June 25, 1897—d. London, Oct. 20), studied at the Royal Academy of Dramatic Art before first appearing on the London stage in *Collusion*, 1924. He toured Australia and New Zealand, 1927-28, and California and Vancouver, 1929-31 (with the British Guild players). He played frequently in London from 1932 until his death, notably in *A Man's House* (1934), *Night Must Fall* (1935), *Spring Tide* (1936), *The Astonished Ostrich* (1936 and 1946) and *The Blind Goddess* (1947). He also appeared often in productions by the Repertory players. Radford's first film was *Barnum Was Right* (1929), but it was not until later that he established himself as the sporting Englishman of popular tradition in such films as *The Lady Vanishes* (1938), *Dead of Night* (1945), *Passport to Pimlico* (1940) and *Whisky Galore* (1949). He frequently collaborated in films and on the radio with Naunton Wayne.

Rank, James Voase, British industrialist (b. Hull, May 10, 1881—d. London, Jan. 3), was the eldest son of a well-known and successful flour mill owner and after World War I took over the management of Rank's milling business. During World War II he was director of the imported cereals division of the Ministry of Food. A well-known racehorse owner, he was also interested in breeding beef cattle and won many prizes. He was a generous benefactor of hospitals and charities.

Roberton, Sir Hugh Stevenson, Scottish choral conductor and composer (b. Glasgow, Feb. 23, 1874—d. Glasgow, Oct. 7), had an undertaker's business in Glasgow before he founded the Glasgow Orpheus choir in 1906. He first brought the choir to London in 1921 and continued for many years to give annual concerts there. He also toured Canada and the United States with the choir. Under his direction the choir became renowned for its interpretation of traditional Scottish music; in 1928 it performed before King George V and Queen Mary. Roberton composed and arranged many solos, duets and part-songs. The Orpheus choir was disbanded when Roberton retired in 1951. He was also well known as an adjudicator and lecturer. He was knighted in 1931.

Rosenbach, Abraham S. Wolf, American bibliophile (b. Philadelphia, July 22, 1876—d. Philadelphia, July 1), at the age of 11 bid $24 for a copy of *Reynard the Fox*. In 1898 he graduated from the University of Pennsylvania, subsequently teaching English there, but in 1901 he abandoned an academic career and became a book dealer in Philadelphia. His early customers included Henry Elkins Widener, whose library he catalogued in 1913 and 1918. In 1926 Rosenbach paid $106,000 for a Gutenberg Bible, up to that time the highest price ever commanded by a book at an auction. He founded a fellowship in bibliography at his old university in 1930 and issued the important catalogue of his own collection of children's books in 1933. Early in 1952 he sold his Shakespeare collection to Martin Bodmer, of Geneva, for a sum estimated to be at least $350,000. His writings include *The Unpublishable Memoirs* (1917), *An American Jewish Bibliography* (1926), *The Libraries of the Presidents of the United States* (1934) and *A Book Hunter's Holiday* (1936).

Rostovtzev Mikhail Ivanovich, Russian classical scholar (b. Kiev, Nov. 10, 1870—d. United States, Oct. 20), was educated at the First Classical gymnasium, Kiev, at the University of Kiev and at the University of St. Petersburg. A three-year grant enabled him to study ancient history abroad, 1895-98, and at this time he acquired his lifelong interest in archaeological studies. He was professor of Latin in St. Petersburg university from 1898 to 1918 when he had to leave Russia because of the Bolshevik revolution, he then studied English at Oxford until 1920. He was professor of ancient history in the University of Wisconsin, 1920-25, Sterling professor of ancient history and archaeology, Yale university, 1925-39 (later professor emeritus), director of archaeological studies, Yale, 1939-44, and director of Dura-Europos research, Yale, from 1944 until his death. His published works include *Iranians and Greeks in South Russia* (1922), *The Social and Economic Life of the Roman Empire* (1926), *The Animal Style in South Russia and China* (1929), *Out of the Past of Greece and Rome* (1932) and *The Social and Economic History of the Hellenistic World* (1941).

Santayana, George (JORGE AGUSTIN NICOLAS DE SANTAYANA), Spanish-born philosopher and man of letters (b. Madrid, Dec. 16, 1863—d. Rome, Sept. 26), moved to Boston when he was 11 and graduated at Harvard in 1886, later lecturing in philosophy there and at Paris and Oxford. In 1896 he published *The Sense of Beauty*, and ten years later established his reputation both as philosopher and stylist with his five-volume *The Life of Reason*. In 1910 appeared his first important critical work, *Three Philosophical Poets* (Lucretius, Dante, Goethe). Two years later he settled in Europe and while living at Oxford during World War I wrote *Soliloquies in England*, studies in English character and institutions. During 1923-40 he spent much time writing the four volumes of *The Realm of Being* (1945), he also published a novel, *The Last Puritan* (1935), two autobiographical volumes and a series of political soliloquies, *Dominations and Powers* (1951).

Schumacher, Kurt, German politician (b. Kulm, West Prussia [now Chelmno, Poland], Oct. 13, 1895—d. Bonn, Aug. 20), was the son of a merchant and was educated at Halle, Leipzig and Munster universities. After serving in World War I, in which he lost his right arm, he became, in 1920, editor of the Social Democratic *Schwabische Tagwacht*. He occupied a state legislative seat in the Wurttemberg Diet, 1924-31, and was a member of the Reichstag, 1930-33. During the 1920s he had attacked extremists of the left and right, particularly the financial backers of the growing Nazi party. After the Nazis had come to power in 1933, Schumacher was arrested and spent the next 10 years in concentration camps. Released during March-Aug. 1943 and again in Feb. 1944, he was re-arrested after the plot against Hitler on July 20, 1944. He began to reorganize the Social Democratic party (Sozialdemokratische Partei Deutschlands) after the German defeat, and in Oct. 1945, at Hanover, he was chairman of its first open meeting for 12 years. In May 1946 he became chairman of the S P D for all the three western zones. He sought to broaden the base of his party by appealing to the middle class and the religious, and in the Berlin elections of 1947 the S P D emerged with a higher vote than ever before. His refusal to compromise with the Communists, on the other hand, resulted in constant attacks from the Soviet zone. A long illness, culminating in 1948 in the amputation of his left leg, further weakened his attenuated health and he became increasingly bitter towards his political opponents. In 1949 he became leader of the opposition in the Bundestag and thereafter he consistently opposed the Schuman plan, the customs union between France and the Saar and, latterly, German rearmament and the Bonn contractual agreements. In many ways a heroic figure, Schumacher became fanatical in his desire for a reunited, socialist, democratic Germany, a concept which seemed to many like a revival of nationalism.

Schumann, Elisabeth, German singer (b. Merseburg, Germany, June 13, 1888—d New York, April 23), studied with Alma Schadow in Hamburg, where she made her debut in 1908. In 1911 she appeared for the first time as Sophie in *Der Rosenkavalier*, this was also her first part in London (1924) She sang at the Metropolitan Opera, New York, in 1914-15. In 1919 she was engaged by Richard Strauss for the Vienna State Opera company and in 1921 she made a concert tour of the United States with him. In 1927, in Vienna, she gave a memorable performance in Beethoven's *Missa Solemnis* at that composer's centenary celebrations. She gave many performances in Great Britain after World War II, singing at the Edinburgh festival in 1947. Her most famous roles were Blondchen in *Die Entfuhrung aus dem Serail*, Zerlina in *Don Giovanni*, Eva in *Die Meistersinger* and Adèle in *Die Fledermaus* She was also a fine lieder singer and made many records

Senanayake, Don Stephen, Ceylonese statesman (b. Oct 20, 1884—d Colombo, March 20), was educated at St. Thomas college, Mount Lavinia, Ceylon A planter by profession he entered politics in 1924 when he succeeded his brother on the legislative council From 1931 to 1947 he was minister of agriculture and lands and from 1942 to 1947 he was also leader of the state council and vice-chairman of the board of ministers On Sept. 26, 1947, he was called upon to form a government to which, on Feb. 4, 1948, was handed full dominion status within the Commonwealth of Nations. In addition to the premiership he held the portfolios of defence and external affairs He attended meetings of Commonwealth prime ministers in London in 1948, 1949 and 1951, and in Jan 1950 presided over the first meeting of Commonwealth foreign ministers, which was held in Colombo He was sworn of the Privy Council on Jan 4, 1951. In Oct 1951 he visited Australia and New Zealand On March 21, 1952, he was thrown from his horse and died the following day without regaining consciousness. Nearly a million people filed past the bier when his body lay in state in Parliament house

Sforza, Count Carlo, Italian statesman (b. Montignoso di Lunigiana, Liguria, Sept 25, 1873—d Rome, Sept 4), entered the diplomatic service in 1896 and served in Cairo, Paris, Constantinople, Peking, Bucharest, Madrid and London. In 1908-9 he was *chargé d'affaires* in Istanbul He was *chef de cabinet* to the Marquis di San Giuliano, the foreign minister, 1910-11; minister to China, 1911-15, and minister to Serbia, 1915-18 In Nov 1918 he returned to Istanbul as high commissioner to Italy He was under secretary of state for foreign affairs, 1919-20, and minister for foreign affairs, 1920-21 Appointed ambassador to France in Feb. 1922 he resigned nine months later, refusing to serve under Mussolini. For nearly two decades Sforza lived abroad—in Belgium until 1939 and in the United States after 1940—as lecturer and political commentator He returned to Italy in 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 as a Republican, 1946, he joined the third Alcide De Gasperi cabinet in 1947 as minister of foreign affairs, retaining this position until July 1951 when he resigned because of ill-health. Sforza's influence was a determining factor in the Italian ratification of the peace treaty, in Italy's joining the Organization for European Economic Co-operation and in its adherence to the North Atlantic treaty, which he signed for Italy in Washington, April 4, 1949. His published works in English include *Makers of Modern Europe* (1932), *European Dictatorships* (1934) and *The Real Italians* (1943)

Sherrington, Sir Charles Scott, British physiologist (b. London, Nov 27, 1857—d Eastbourne, Sussex, March 4), was educated at Ipswich Grammar school, Gonville and Caius college, Cambridge, and St. Thomas's Hospital Medical school, London In 1892 he became Brown professor of pathology, University of London, and professor-superintendent of the Brown Animal Sanatory institution In 1895 he was appointed Holt professor of physiology, University of Liverpool He was elected an honorary fellow of Caius in 1899 From 1913 to 1936 he was Waynflete professor of physiology, University of Oxford, and a fellow of Magdalen college He also held the Fullerian chair of physiology at the Royal Institution, London, 1914-17 Elected a fellow of the Royal Society in 1893, he was its president in 1920, and president of the British Association in 1922. His most important contributions were on the mechanism of the nervous system, and his book *The Integrative Action of the Nervous System* (Silliman lectures, Yale, 1904, reprinted 1947) was recognized as a standard work In 1932 he was awarded the Nobel prize for medicine jointly with Professor E D Adrian He had been created G B E in 1922

Shields, Ella, British music hall artist (b. Baltimore, Sept 26, 1879—d Lancaster, Aug 5), first appeared on the London stage in 1904 and made her biggest hit during World War I with the song " Burlington Bertie from Bow ", which won her fame as a male impersonator Although officially retiring from the stage in 1929, she reappeared many times, notably in 1948 at the royal command performance at the Palladium, London

Sidgwick, Nevil Vincent, British chemist (b Oxford, May 8, 1873—d. Oxford, March 15), was educated at Rugby school, Christ Church, Oxford (of which he was elected honorary student [fellow] in 1935), and the universities of Leipzig and Tubingen, Germany. He was elected a fellow of Lincoln college, Oxford, in 1901, and was professor of chemistry, Oxford, 1933-45. From 1920 Sidgwick was mainly concerned with the examination of the structure of molecules and compounds in the light of the Bohr-Rutherford nuclear theory. His results were set out in his book *The Electronic Theory of Valency* (1927). He also wrote *The Covalent Link in Chemistry* (George Baker lectures, Cornell university, 1931; published 1933) and his important " summing up ", *The Chemical Elements* (1950). He had been elected F.R.S. in 1922.

Slansky, Rudolf Salzmann, Czech politician (b. Nezvestice, District Plzeň, Czechoslovakia, July 31, 1901—d. Prague, Dec. 3), became editor of *Rude Právo*, organ of the Czechoslovak Communist party, and Communist party secretary in Moravska-Ostrava in 1924. He was elected a member of the central and executive committees of the party in 1928 and was its secretary-general from 1945. A member of the Czechoslovak national assembly, 1935-37, he flew to the U.S.S.R after the Munich agreement of 1938 and worked among Czech groups there, becoming a member of the partisan general headquarters, Kiev, in 1944. He was leader of the partisan movement in Slovakia from 1944 to 1945 when he re-entered parliament and became chairman of the defence committee of the national assembly. In Sept. 1947 he was a delegate to the foundation conference of the Cominform, held in Wilczagora, Lower Silesia In Nov. 1951, shortly after being " promoted " vice-premier, he was arrested on a charge of being the ringleader of a Jewish plot to overthrow Communism in Czechoslovakia In Nov. 1952 Slansky, with ten others, including Vladimir Clementis (*v supra*), was sentenced to death by a People's court in Prague He was hanged on Dec. 3.

Taylor, Theodore Cooke, British industrialist (b. Carlinghow, Batley, Yorkshire, Aug 3, 1850—d. Grassington, Yorkshire, Oct. 19), entered his family's cloth manufacturing business in 1866 and became its head in 1901. He became sole owner of the firm in 1892 and began to put into effect the profit-sharing scheme for which he soon became renowned By 1896 the scheme included all his employees and the business was transformed into a private limited company Taylor was M P for the South-East division of Lancashire, 1900-1918, and actively championed the anti-opium movement in Great Britain Although a staunch Liberal he spoke publicly, at the age of 99, in support of the Conservative candidate for the Batley and Morley division in Feb 1950

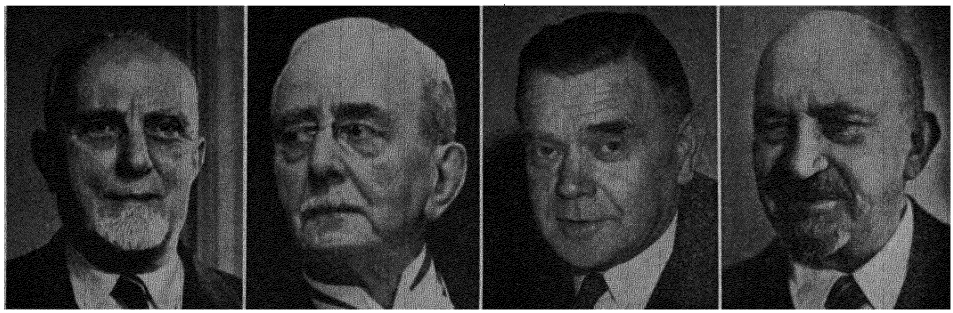
Thomas, Sir Henry, British bibliographical scholar (b Eynsham, Oxfordshire, Nov 21, 1878—d Birmingham, July 21), was educated at King Edward's school, Aston, Birmingham, and at Birmingham university. He joined the printed books department of the British Museum in 1903 and worked under A W Pollard on the museum's *Catalogue of Fifteenth Century Books*, soon gaining recognition as an outstanding bibliographer, particularly of early Spanish literature He gave the Norman MacColl lectures at Cambridge on " The Spanish and Portuguese Romances of Chivalry " in 1916 and was Taylorian lecturer at Oxford in 1922 He was deputy keeper of printed books, British Museum, 1924-43, keeper, 1943-45, and principal keeper, 1946-47 He had also been president of the Bibliographical society, 1936-38, and was vice-president of the Library association in 1948 His published works include *Short-title Catalogue of Spanish Books printed before 1601 in the British Museum* (1921), *Spanish Sixteenth Century Printing* (" Periods of Typography " series, 1926), *Andrés Brun, Calligrapher of Saragossa* (with Stanley Morison, 1929) and *Shakespeare in Spain* (1949) He was knighted in 1936

Tilley, Vesta (MATILDA ALICE, LADY DE FRECE), British comedienne (b. Worcester, May 13, 1864—d. London, Sept 16), was playing in two different music-halls in one evening in London before she was 14 and from then until her retirement in 1920 she topped the bill as a male impersonator in London, in the provinces and in the United States, becoming famous for such songs as " The Piccadilly Johnny with the Little Glass Eye " In 1890 she married Walter de Frece, the composer of many of her songs, who was knighted in 1919 She published *The Recollections of Vesta Tilley* (1934)

Tomlinson, George, British politician (b. Rishton, Lancashire, March 21, 1890—d London, Sept 22), began work in a cotton mill when he was 12 Although failing in an attempt to enter the Methodist ministry, he was a lay-preacher throughout his life An active trade unionist, after serving as chairman of the Farnworth education committee and as a member of the Lancashire county council, in 1935 he became secretary of Rishton Weavers' association Elected Labour M P for Farnworth in 1938, he was made parliamentary secretary to the Ministry of Labour in Winston Churchill's all-party government in 1941 In the Labour government he was minister of works, 1945-47, and minister of education (succeeding Ellen Wilkinson), 1947-51 As minister of education he owed much of his success to his patent belief in the value of education for all, his broad sympathies, and his happy eloquence

Tristram, Ernest William, British authority on mediaeval art (b. Carmarthen, Dec. 27, 1882—d Newton Abbot, Devonshire, Jan. 11), was professor of design at the Royal College of Art, London, from 1925 to 1948. He was chiefly known, however, as a restorer and student of mediaeval wall paintings. he was responsible for the conservation of murals at Westminster abbey, and at Canterbury and other cathedrals; his reconstructions of badly damaged paintings were remarkable. A large collection of Tristram's copies of mediaeval paintings is at the Victoria and Albert museum, London. He also undertook the restoration of the Norwich cloister roof bosses and was co-founder of the East Anglian Weaving company. His publications included *English Mediaeval Painting* (with T. Borenius, 1927) and the definitive *English Medieval Wall-Painting* (1945-50).

Verneuil, Louis, French playwright, actor and producer (b. Paris, May 14, 1893—d. Paris, Nov. 3), began his career as a journalist but in 1912 became assistant to the manager of the Théâtre Femina. In 1911-14 he produced ten one-act *revues* in Paris. His first three-act comedy was *La Charette anglaise* (with Georges Berr, 1916) and he made his *début* as an actor in his own *La Jeune Fille au bain* (1917). Thereafter he played the lead in almost all his plays, which include *Daniel* (1920), *La Dame en rose* (1921), *La Maison du passeur* (1922) and *Le Fauteuil 47* (1923), and the highly successful *Ma Cousine*



Count Carlo Sforza *Sir Charles Scott Sherrington* *George Tomlinson* *Chaim Weizmann*

de Varsovie (which he wrote for Elvire Popesco, 1923). In 1940 he went to live in the United States where he wrote books on the theatre and numerous film scripts. Verneuil's only English play, *Affairs of State* (1950), ran for over 600 performances in New York and was running in London at the time of his death.

Ward, Fannie, U.S. actress (b. St. Louis, Missouri, Feb. 22, 1872—d. New York, Jan. 27), made her first stage appearance in 1890 and after starring in several Broadway plays, including *Sinbad*, went to London in 1894. There her flamboyant acting made her a public favourite, and she also received considerable acclaim from critics. She retired from the stage in 1915 except for occasional appearances and thereafter remained in the public eye chiefly because of her well-publicized and successful attempts to retain a youthful appearance.

Weizmann, Chaim, Israeli statesman (b. Motol, near Pinsk, Byelorussia, Nov. 27, 1874—d. Rehovoth, Israel, Nov. 9), was educated at Pinsk, and later studied at the universities of Berlin and Freiburg, Baden. A distinguished chemist, he was appointed a lecturer at Geneva university in 1901 and three years later went to England where he became reader in biochemistry at Manchester. In 1916 he was appointed director of the Admiralty laboratories by Winston Churchill. This appointment brought him into contact with political leaders, including Herbert Samuel (later Viscount Samuel) and A. J. Balfour (later the Earl of Balfour). His activities for Zionism led to the Balfour declaration on Nov. 2, 1917, and early in 1918 he went to Palestine as head of the Zionist organization. In 1919 he presented the Jewish national claims at the Versailles peace conference. He was president of the World Zionist organization from 1921 to 1931—when he resigned in protest at the British white paper on Palestine—and again from 1935 to 1946. In 1929 the Jewish Agency for Palestine was created and he was appointed president. In 1939 he offered his services to the British government and was honorary adviser to the Ministry of Supply until 1945. By then he was in favour of the partition of Palestine into Jewish and Arab states, and the Zionist congress at Basle, Switzerland, in Dec. 1946, did not re-elect him as president. When the independent state of Israel was founded in May 1948 he was chosen as provisional president. He was elected first president on Feb. 16, 1949, and re-elected, although ill and confined to his home, on Nov. 19, 1951. He had settled in Palestine in 1934 when he was appointed director of the Daniel Sieff Research institute, Rehovoth; he was later appointed director of the Weizmann Institute of Science. In 1932 he became chairman of the board of governors of the Hebrew university. His autobiography *Trial and Error* was published in 1949.

Witt, Sir Robert Clermont, British art connoisseur (b. London, Jan. 16, 1872—d. London, March 26), served in the Matabele war and was a war correspondent with Cecil Rhodes before entering practice in London as a solicitor. He was prominent in the foundation of the National Art-Collections fund in 1903 and was its chairman from 1920 to 1945; he was also a trustee of the National and Tate galleries, London. He formed the Witt library of over 500,000 photographs of works of art, which he presented to the University of London Courtauld Institute of Art. Among his writings were *How to Look at Pictures* (1902), *One Hundred Masterpieces of Painting* and *The Nation and its Art Treasures*. Witt was knighted in 1922.

OBSTETRICS: *see* GYNAECOLOGY AND OBSTETRICS.

OCEANOGRAPHY.

Emphasis in oceanographical research during 1952 was on the interaction between the oceans and the atmosphere. It was maintained that although we have a more or less adequate knowledge of the "climate" of the oceans—the mean monthly values of meteorological variables and water movements—we know little about the "weather"—the short period interactions. It is not known, for example, how the current on a particular day depends on the wind and weather at the time. Attention was called to the need for intensive studies of the vertical and horizontal transfer of energy in the water and air across significant stretches of ocean. Notable progress was made by Joanne S. Malkus and others, using data from weather ships in the Pacific ocean, and by P. A. Sheppard, H. Charnock and J. R. D. Francis, using experimental observations from the Scilly islands and inland waters. Günther Dietrich demonstrated the importance in the English channel of mixing, due to tidal streams on the water layering, heat budget and evaporation.

A. T. Doodson and R. H. Corkan added to our understanding of tides by theoretical work on tidal oscillations in a rotating square sea. K. F. Bowden and L. A. Fairbairn made new measurement of tidal friction which agreed fairly closely with the earlier work of Sir G. I. Taylor and S. F. Grace. J. Darbyshire showed that a better understanding of the generation of sea waves could be obtained by theoretical and practical study of the whole range of component wave-trains in a wave-generating area, instead of by attempting to find and deal with average wave characteristics. A number of workers studied the statistical height distribution of waves over half an hour or so, during which time the mean height does not change appreciably. The distribution is of Gaussian type: the maximum wave-height is about twice the mean wave-height, and one-third of the waves are higher than 1·6 times the mean. The British National Institute of Oceanography made a wave recorder which was contained entirely within its research ship; the highest waves measured during cruises between May and October in the eastern North Atlantic ocean were 40 ft.

Fresh examination in Woods Hole Oceanographic institution of detailed observations in the Gulf Stream and other areas suggested that the water circulation expected from the action of the wind is considerably modified by density differences due to heating, cooling, precipitation and evaporation. Willem V. R. Malkus developed a current meter which can be towed slowly through the water at depths down to 2,000 ft. The forward movement is measured by a Pitot tube which gives the forward movement relative to the ships with reasonable accuracy. The depth of the observation is known from a simultaneous recording of the static pressure. The instrument was expected to prove to be one of the most important developments in oceanography for many years.

Among the new echo soundings were notable surveys in the Gulf of Lyons by French scientists and off the coast of tropical west Africa by Belgian scientists. M. Ewing in the United States and M. N. Hill in the United Kingdom continued their studies of the bottom sediments and submarine geology by seismic refraction methods.

The Danish research vessel "Galathea" returned from her world-cruise, her greatest contributions being to knowledge of the topography and biology of the deepest parts of the ocean. H.M.S. "Challenger" returned from an extended commission in the Pacific and Atlantic oceans devoted to survey work and seismic studies of the sea bed.
(G. E. R. D.)

OIL: *see* PETROLEUM.

OILS AND FATS, VEGETABLE AND ANIMAL: *see* VEGETABLE OILS AND ANIMAL FATS.

OLYMPIC GAMES. Helsinki had been allotted the Olympic Games of 1940, but, owing to the war, they could not take place. This was a great disappointment to the Finns, and they were delighted when the traditional celebration of the XVth Olympiad was given to them for 1952. Although Finland is a small country, its people threw themselves with enthusiasm into the organization of this gigantic undertaking; and, in particular, the chairman of the organizing committee, Erik von Frenckell, accomplished miracles. A new hotel was built; a special track was prepared in an enlarged stadium; the Olympic villages were completed, a new air-strip was laid down; and a whole host of other major and minor facilities was provided.

Towards the middle of July, some 6,000 competitors and officials, from 69 nations, poured into Helsinki by sea and air, and found the arrangements admirable. There were 18 events and nearly 6,000 competitors. Competitors were housed in two large "villages", of which the larger was composed of permanent houses to be used by citizens of Helsinki at the conclusion of the games. One village provided accommodation for the teams from countries behind the the "Iron Curtain" and the other for the remainder. In spite of this division, competitors from each village visited and were entertained at the other village. For the first time in the history of the Olympic Games, the great bulk of competitors actually travelled by air to and from Helsinki, with the result that just before and after the games there was tremendous pressure on the new airport. The International Olympic committee held its main meetings before the games started, and the international federations all took the opportunity to hold their council and congress meetings. J. Sigfrid Edstrom (Sweden) retired as president of the International Olympic committee at the conclusion of the games and was succeeded by Avery Brundage (U.S.).

The Games themselves were opened on July 19 with the traditional ceremony by the president of Finland, J. K. Paasikivi, supported by many distinguished visitors from overseas. The secret of the bearer of the torch had been well kept, and it was to universal acclaim that the great Finnish athlete, Paavo Nurmi, entered the arena and triumphantly circled the track, lit the sacred flame and handed the torch on to his famous compatriot, Hannes Kolehmainen, who carried it up the tower to light the sacred flame there. Immediately afterwards an unexpected minute was spent by the crowd in mild amusement caused by a lady, dressed in a white robe, who got into the arena and circled half the track with the intention of making a speech from the rostrum. It was explained to her that this was not the time or the place for such an oration, and she left the arena with the officials.

The very fact that the number of competitors was an all-time record meant immense pressure on the programme to complete the 18 events in the permitted 16 days, and, in a number of them, extra rounds became necessary. Nevertheless, the competitions went through without a hitch, and the new world champions were acclaimed. The general impression left on all minds was the astonishingly high standard of performance. World and Olympic records were broken about 200 times. As an instance of the general standard achieved, it is interesting to note that had the times of the XIVth Olympiad in London been good enough to win in the athletic events in Helsinki, Great Britain would have received ten gold medals

In athletics, the eight countries which provided Olympic champions were the United States (14), Czechoslovakia (3), Jamaica (2), Brazil, Hungary, Italy, Luxembourg and Sweden. The decathlon was again won by R. Mathias (U S) The outstanding runner was undoubtedly E Zatopek (*q v.*) of Czechoslovakia. Not only did he, as expected, win the 10,000 m. and 5,000 m., but he followed this up by romping home an easy winner in the Marathon as well This did not complete the number of gold medals to be taken back to his home in Czechoslovakia, for his wife also won the gold medal for the ladies' javelin-throwing event. Another athlete whose name will always be connected with the 1952 Games was H. McKenley (Jamaica). He surprised everyone by almost winning the 100 m. (he was beaten by L Remigino in a photo-finish); he achieved the same time as the winner, another Jamaican, V. G. Rhoden, in the 400 m.; and on the last day he gained a gold medal in the 4 × 400-m. relay.

The first six places in the various events were fairly widely distributed amongst the 69 competing nations. The one British gold medal was gained on Aug. 3, the last day of the Games, in the team event in the *Prix des Nations*, when Lieut.-Col H. Llewellyn, on his horse Foxhunter, Lieut.-Col. D N Stewart, on Aherlow, and W. H. White, on Nizefella, retrieved their morning performance, which had placed them in sixth place, by magnificent rounds in the afternoon, which gave them a lead of five points over the second team. Two competitors from Great Britain gained silver medals: C. Currey, in the Finn class of the yachting; and Mrs. Sheila Lerwill, in the women's high jump. Nor was there absence of bronze medals: John Disley just failed to get second place in the 3,000-m. steeplechase, and E. MacDonald Bailey was third in a photo-finish in the 100 m., in which the first four finished within a yard. He was also fourth in the 200 m. K. Richmond secured a bronze medal in the freestyle heavyweight wrestling, while two more were added by ladies: Shirley Cawley was third in the women's long jump, and Helen Gordon, in the swimming, got a bronze medal in the 200-m. breast-stroke. Another three bronze medals, making eight in all, were achieved by Great Britain for team events: in the cycling (the 4,000-m. team pursuit), in the hockey, and in the women's 4 × 100-m. relay. In the rowing events, although Great Britain reached five finals for the first time, in every case the crews came in fourth.

The Indian countries kept their lead in hockey, for India won the championship for the fifth successive time, and Pakistan was second. Japan, returning to the Games for the

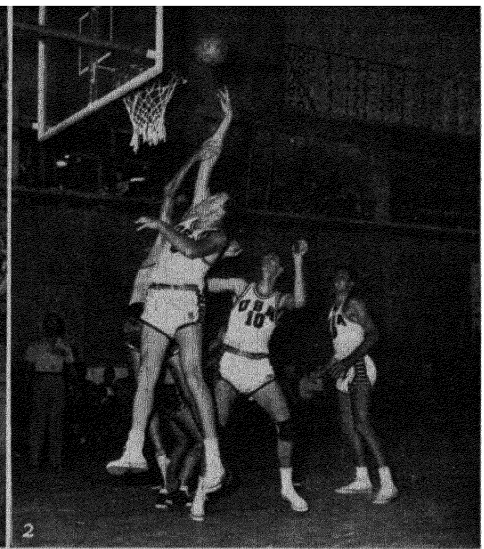
COMPETING NATIONS IN THE XVTH OLYMPIC GAMES, HELSINKI, 1952

Argentina*	Finland*	Lebanon*	Portugal*
Australia*	France*	Liechtenstein	Puerto Rico
Austria*	Germany*	Luxembourg	Rumania*
Bahamas	Gold Coast	Mexico	Saar
Belgium*	Great Britain*	Monaco	Singapore
Bermuda	Greece*	Netherlands*	South Africa
Brazil	Guatemala	Netherlands West Indies	Spain*
British Guiana	Hong Kong	New Zealand*	Sweden*
Bulgaria*	Hungary*	Nigeria	Switzerland*
Burma	Iceland*	Norway*	Thailand
Canada*	India	Pakistan	Trinidad
Ceylon	Indonesia	Panama	Turkey
Chile*	Ireland	Paraguay	U S S R.
China	Israel	Persia	United States*
Cuba*	Italy*	Peru	Uruguay
Czechoslovakia	Jamaica	Philippines	Venezuela
Denmark*	Japan*	Poland*	Vietnam
Egypt	Korea		Yugoslavia*

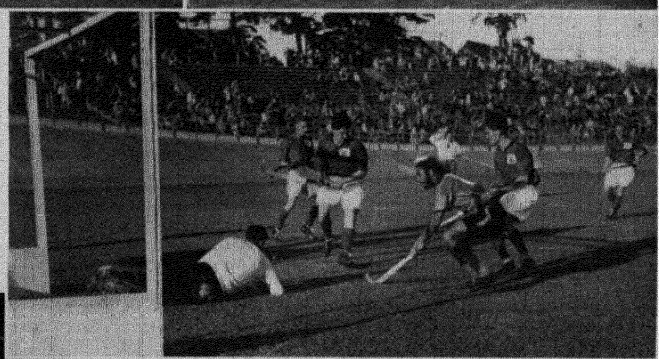
* Also participated in winter Games at Oslo

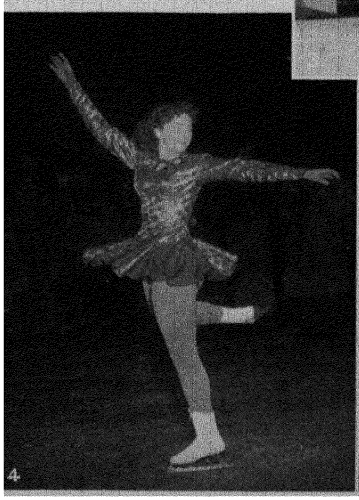
(Continued on page 455.)

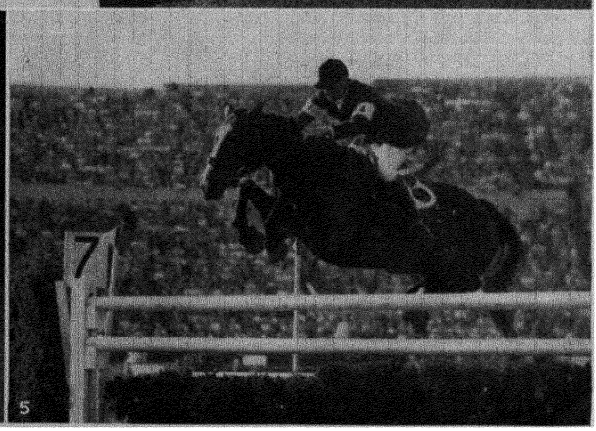




(1) The Olympic flame being kindled by Paavo Nurmi, Finland's great distance runner, on July 19. (2) Play in the basketball match between Brazil and the United States. The U.S. won the competition. (3) India playing Britain in the semi-final of the hockey tournament, which was again won by India. (4) Jeannette Altwegg, who won the figure skating event in the Winter Olympics. She was the only British competitor to win an individual gold medal. (5) A British team received gold medals in the Prix des Nations event; W. White, who finished 5th, is seen jumping on Nizefella.







THE XVth OLYMPIC GAMES, HELSINKI, COMPLETE LIST OF WINNERS

Athletics

100 m	L Remigino (U S)	10·4 sec.
200 m.	A. W Stanfield (U S)	20 7 sec
400 m.	V G. Rhoden (Jamaica)	45 9 sec.
800 m	M. G Whitfield (U.S)	1 min 49 2 sec.
1,500 m	J Barthel (Luxembourg)	3 min. 45 2 sec.
5,000 m.	E. Zátopek (Czecho)	14 min. 6 6 sec.
10,000 m.	E. Zátopek (Czecho)	29 min. 17 sec.
110-m hurdles	H. Dillard (U.S)	13 7 sec.
400-m hurdles	C H. Moore (U S)	50·8 sec.
3,000-m steeplechase	H. Ashenfelter (U S)	8 min. 45·4 sec
Marathon	E Zátopek (Czecho)	2 hr. 23 min 3 2 sec
10,000-m walk	J F Mikaelsson (Sweden)	45 min. 2·8 sec
50,000-m walk	G. Dordoni (Italy)	4 hr 28 min. 7 8 sec.
4 × 100-m relay	United States*	40 1 sec.
4 × 400-m relay	Jamaica†	3 min 3 9 sec.
Long jump	J. C Biffle (U S)	24 ft 10 in
High jump	W. Davis (U S)	6 ft. 8¼ in.
Pole vault	R. Richards (U S)	14 ft. 11½ in
Hop, step and jump	A Ferreira da Silva (Brazil)	53 ft. 2½ in.
Putting the weight	W P O'Brien (U.S)	57 ft 1½ in
Throwing the discus	S. Iness (U S.)	180 ft 6½ in.
Throwing the javelin	C. Young (U S)	242 ft. 0¾ in.
Throwing the hammer	J. Csermák (Hungary)	197 ft 11¾ in.
Decathlon	R. B. Mathias (U S)	7,887 points

Women

100 m	M. Jackson (Australia)	11 5 sec.
200 m	M Jackson (Australia)	23 7 sec
80-m hurdles	S Strickland (Australia)	10 9 sec.
4 × 100-m relay	United States‡	45·9 sec.
Long jump	Y. Williams (New Zealand)	20 ft. 5¾ in
High jump	E. Brandt (South Africa)	5 ft. 5¾ in.
Putting the weight	G Zybina (U S S R)	50 ft. 1¼ in.
Throwing the discus	N Romachkova (U S S R)	168 ft. 8¼ in
Throwing the javelin	D Zatopekova (Czecho)	165 ft 7 in

* F Smith, H Dillard, L Remigino, A W Stanfield
† A S Wint, L Laing, H McKenley, V G Rhoden.
‡ M. Faggs, B Jones, J Moreau, C Hardy.

Basket Ball

Winners . . . United States

Boxing

Fly-weight	N Brooks (U S)	Welter-weight	Z Chychla (Poland)
Bantam	P. Hamalainen (Fin)	Light middle	L Papp (Hungary)
Feather	J Zachara (Czecho)	Middle	F Patterson (U S)
Light	A Bolognesi (Italy)	Light heavy	N. Lee (U S)
Light welter	C Adkins (U S)	Heavy	E Sanders (U S)

Canoeing

Single kayak, 1,000 m	G. Fredriksson (Sweden)	4 min. 7·9 sec
Double kayak, 1,000 m.	K O. Wires, Y L. Hietanen (Finland)	3 min. 51 1 sec.
Single Canadian, 1,000 m.	J. Holecek (Czecho)	4 min 56 3 sec.
Double Canadian, 1,000 m.	B Rasch, F Haunstoft (Denmark)	4 min 38 3 sec.
Single kayak, 10,000 m	T Stromberg (Finland)	47 min 22 8 sec.
Double kayak, 10,000 m	K O Wires, Y. L Hietanen (Finland)	44 min. 21 3 sec.
Single Canadian, 10,000 m	F Havens (U S)	57 min. 41·1 sec.
Double Canadian, 10,000 m	G Turlier, J Laudet (France)	54 min 8 3 sec.
Women's kayak, 500 m	S. Siamo (Finland)	2 min 18 4 sec.

Cycling

1,000-m sprint	E Sacchi (Italy)	
1,000-m. time trial	R. Mockridge (Australia)	1 min 11 1 sec
2,000-m. tandem	L. Cox, R. Mockridge (Australia)	
4,000-m. team pursuit	Italy*	4 min 46 1 sec
Road race (118 mi)	A Noyelle (Belgium) 5 hr 6 min 3 4 sec.	
Team	Belgium 15 hr. 20 min. 46 6 sec	

* M. Morettini, G Messina, N. De Rossi, L Campana

Equestrian Events

	Individual	Team
Dressage test	H. St. Cyr (Sweden)	Sweden*
3-day event	H. Von Blixen-Finecke (Sweden)	Sweden†
Prix des Nations	P. Jonquères d'Oriola (France)	Great Britain‡

* H St Cyr (Master Rufus), G Boltenstern (Krest), G Persson (Knaust).
† H. Von Blixen-Finecke (Jubal), N Stahre (Komet), K Frolen (Fair). ‡ D. N. Stewart (Aherlow); W. H. White (Nizefella), H. M Llewellyn (Foxhunter).

Fencing

	Individual	Team
Foil	C. d'Oriola (France)	France
Épée	E. Mangiarotti (Italy)	Italy
Sabre	P. Kovács (Hungary)	Hungary
Women's foil	I. Camber (Italy)	—

Football

Winners . . . . Hungary

Gymnastics

12 exercises combined	V. Tchoukarine (U.S.S.R.)
Horizontal bar	J Gunthard (Switzerland)
Parallel bars	H. Eugster (Switzerland)
Rings	G. Chaguinian (U S S R.)
Pommelled horse	V. Tchoukarine (U.S.S.R)
Long horse	V. Tchoukarine (U.S.S R)
Free standing	K. Thoresson (Sweden)
Team championship	U S S R.

Women

8 exercises combined	M Gorokhovskaja (U.S S R)
Beam	N Botcharova (U.S.S R.)
Parallel bars	M. Korondi (Hungary)
Long horse	E. Kalinthouk (U S S.R)
Free standing	A. Keleti (Hungary)
Team drill	Sweden
Team championship	U S S.R

Hockey

Winners . . . . India

Modern Pentathlon

Individual	L Hall (Sweden) 32 points
Team	Hungary 166 points

Rowing

Single sculls	J. Tjukalov (U S S R)
Double sculls	T. Cappozzo, E Guerrero (Argentina)
Coxswainless pairs	C Logg, T Price (U S.)
Coxed pairs	R. Salles, G. Mercier, B. Malivoire (France)
Coxswainless fours	Yugoslavia
Coxed fours	Czechoslovakia
Eights	United States

Shooting

Free rifle (small bore, 50 m)	E Kongshaug (Norway)
Free rifle (300 m)	A Bogdanov (U S S R)
Clay pigeon	G Genereux (Canada)
Running deer	J Larsen (Norway)
Silhouette	K Takács (Hungary)

Swimming

100-m free style	C. Scholes (U S)	57 4 sec
400-m. free style	J. Boiteux (France)	4 min. 30 7 sec
1,500-m free style	F. Konno (U.S)	18 min. 30 0 sec
200-m breast stroke	J. Davies (Australia)	2 min 34 4 sec
100-m. back stroke	Y. Oyakawa (U.S)	1 min 5 4 sec
4 × 200-m. relay	United States*	8 min. 31·1 sec
High diving	S. Lee (U.S)	
Springboard diving	D G. Browning (U S)	
Water polo	Hungary	

Women

100-m. free style	K. Szoke (Hungary)	1 min. 6 8 sec.
400-m free style	V. Gyenge (Hungary)	5 min 12 1 sec.
200-m breast stroke	E. Székely (Hungary)	2 min 51·7 sec
100-m. back stroke	J. Harrison (South Africa)	1 min. 14·3 sec
4 × 100-m. relay	Hungary†	4 min. 24·4 sec
High diving	P. McCormick (U S)	
Springboard diving	P. McCormick (U S)	

* W. Moore, J. Maclane, D. Sheff, R. Thoman. † I. Novak, E. Novak, J Temes, K. Szöke.

Weight Lifting

Bantam-weight	I. Udodov (U.S.S.R.)	694 lb.
Feather	R. Chimishkyan (U S.S.R.)	743½ lb
Light	T. T. Kono (U S.)	798½ lb.
Middle	P. George (U S.)	881½ lb.
Light heavy	T. Lomakin (U S.S.R.)	920½ lb.
Middle heavy	N. Schemansky (U.S)	980½ lb
Heavy	J. Davis (U.S.)	1,013½ lb

Wrestling

Freestyle		*Greco-Roman*	
Fly-weight	H. Cecimi (Turkey)	Fly-weight	B. Gurevich (U.S S.R.)
Bantam	S. Ishii (Japan)	Bantam	I. Hodos (Hungary)
Feather	B. Sit (Turkey)	Feather	Y. Punkin (U.S.S.R.)
Light	O. Anderberg (Sweden)	Light	S. Safin (U.S.S.R)
Welter	W. Smith (U.S)	Welter	M. Szilvasi (Hungary)
Middle	D. Cimakuridze (U.S.S.R.)	Middle	A. Gronberg (Sweden)
Light heavy	B. Palm (Sweden)	Light heavy	K. Grondahl (Finland)
Heavy	A. Mekokishvili (U.S.S.R.)	Heavy	J. Kotkas (U.S.S.R)

Yachting

6-metre	U.S. (Llanoria)	Star	Italy (Merope)
Dragon	Norway (Pan)	Finn	P. B. Elvstrom (Denmark)
5·5-metre	U.S. (Complex II)		

(*Continued from page 452.*)

first time since World War II, reached a high level of achievement, particularly in gymnastics, wrestling and swimming, in all of which Japanese competitors won silver and bronze medals. In gymnastics outstanding individual and team performances were given by the U.S.S.R., who were making their first Olympic appearance as gymnasts. Australia was particularly distinguished in the cycling events, where R. Mockridge won two gold medals and, with L. Cox, came first in the 2,000-m. tandem race.

Before leaving for Helsinki, the British and Commonwealth teams were received at a special tea-party at Buckingham palace by the queen. The personal interest of the royal family was shown by the presence of the Duke of Edinburgh, who visited Helsinki for much of the Games and dined with Commonwealth teams at the Olympic village. (BLY.)

Winter Games. The VIth winter Olympic Games were celebrated at Oslo during Feb. 1952. Previously these games had been held at winter sports resorts where there was little accommodation for an influx of spectators, and no great stir had been created. But the people of Oslo, and of Norway as a whole, took the games to their heart. All events were crowded, and the unbounded enthusiasm of the Norwegians was matched only by their efficiency in the organization of the games. Thirty nations took part and for the first time at the winter games, teams lived together in Olympic villages specially built for the occasion.

The winter Olympic Games opened officially at Bislett stadium on Feb. 15, 1952, and the flags of all competing nations were dipped in homage to King George VI, whose funeral was taking place at the time.

In the skiing events, the eclipse of Sweden and Switzerland was soon evident and the Norwegian skiers established their supremacy when Stein Eriksen won the grand slalom as the first champion. Othmar Schneider (Austria) then succeeded in beating Eriksen for the gold medal in the special slalom. In the long distance races, H. Brenden (Norway) was victor in the 18 km., V. Hakulinen (Finland) in the 50 km., and Finland also won the 4 ×10-km. relay. Zeno Colo (Italy) dared disaster in the downhill event, which he won from two Austrians, and once again Norway's flag was at the masthead for the combination event when S. Slattvik won from the favourite, H. Hasu (Finland).

THE VITH WINTER OLYMPIC GAMES, OSLO

	Skiing (Men)		
18 km.	H. Brenden (Norway)	1 hr. 1 min	34 sec.
50 km.	V Hakulinen (Finland)	3 hr 33 min.	33 sec.
Combined ski-jump	S Slattvik (Norway)		
Jumping	A Bergmann (Norway)		
4 × 10-km. relay	Finland	2 hr. 20 min	16 sec
Downhill race	Z Colo (Italy)	2 min. 30	8 sec
Slalom	O Schneider (Austria)	2 min.	
Giant slalom	S Friksen (Norway)	2 min. 25	sec.
	Skiing (Women)		
Downhill race	T. Jochum-Beiser (Austria)	1 min. 47	1 sec.
Slalom	A M Lawrence (U.S)	2 min. 10	6 sec
10-km cross-country race	L. Wideman (Finland)	41 min	40 sec
Giant slalom	A M Lawrence (U S.)	2 min	6 8 sec.
	Figure Skating		
Men	R. Button (U S)		
Women	J Altwegg (Great Britain)		
Pairs	P. Falk and R. Falk (Germany)		
	Speed Skating		
500 m.	K. Henry (U S)	43	2 sec
1,500 m.	H. Andersen (Norway)	2 min	20 4 sec.
5,000 m.	H. Andersen (Norway)	8 min. 10	6 sec.
10,000 m.	H Andersen (Norway)	16 min. 45	8 sec.
	Bobsleigh		
4-man bobsleigh	Germany	5 min. 07	83 sec.
2-man boblet	Germany	5 min. 24	54 sec.
	Ice Hockey		
Winners	Canada		

In the women's event A. M. Lawrence (U.S.) won both the slalom and giant slalom, T. Jochum-Beiser (Austria) won the downhill, and L. Wideman (Finland) the 10 km. But all Norway was waiting for the ski-jump at Holmenkollen where a crowd of 130,000 saw Norway give a matchless performance in which A. Bergmann was the winner.

The speed skating was a personal triumph for Hjalmar Andersen (Norway), who won the 1,500, 5,000 and 10,000 m. Ken Henry (U.S.) won the 500 m. In the figure skating, Germany won the pairs, and in the individual events, Dick Button (U.S.) towered head and shoulders above all others, and Jeannette Altwegg (Great Britain), with her classical style and accuracy, eclipsed the flamboyant challenge from France and the United States. The bobsleigh was dominated by the avoirdupois of the Germans, who won both the 2- and 4-man bob. In the ice hockey Canada was once more the winner.

This ended the most successful winter Olympic Games ever held in which Norway gained 16 medals, the United States, 11 and Finland, 9. (*See* also articles on individual sports.)

(K. S. D.)

OMAN AND MUSCAT: *see* ARABIA.

ORGANIZATION OF AMERICAN STATES.

The Inter-American conference, the supreme organ of the Organization of American States, did not meet in 1952, but preparations were begun for the tenth conference which was scheduled to meet in Caracas, Venezuela, in 1953.

No Meeting of Consultation of Ministers of Foreign Affairs was held in 1952, but various agencies of the organization were active in giving effect to the resolutions adopted at the meeting held in Washington, D.C., in 1951, which had been called to consider the aggressive policy of international Communism and the measures that should be taken by the American republics to meet it. The Inter-American Defence board continued its study of measures relating to military co-operation for the defence of the Americas. The Pan American Union completed a study of the legislation enacted and the measures adopted by the American republics for their internal security; and the Inter-American Economic and Social council and the Pan American Union undertook a series of studies relating to emergency economic co-operation.

During 1952 the Council of the Organization continued its study of the structural development of the inter-American system. An agreement was concluded with the Inter-American Commission of Women whereby this agency was recognized as an inter-American specialized organization. In May 1952 an agreement was also signed with the U.N. Food and Agricultural organization. The agreement was similar to that previously signed with the United Nations Educational, Scientific and Cultural organization and the International Labour organization, and provided for co-operative relations between the regional and world organizations.

During 1952 the Economic and Social council, which has for its purpose the promotion of the economic and social welfare of the American nations, undertook a series of studies relating to scarce materials and products in accordance with decisions taken in 1951 at the fourth Meeting of Consultation of Ministers of Foreign Affairs. It also sponsored a programme of technical co-operation which was to be carried out with the co-operation of the member states. Technical assistance projects were initiated in the field of agriculture with the co-operation of the Inter-American Institute of Agricultural Sciences; in public health and sanitation through the co-operation of the Pan American Sanitary bureau; in child welfare with the collaboration of the International American Institute for the Protection of Childhood; in housing and co-operatives through the Pan American

Union; and in statistical education with the co-operation of the Pan American Union and the Inter-American Statistical institute.

The committee for Cultural Action, the permanent committee of the Cultural council, was set up in Mexico City in 1952 and began to carry out studies agreed upon at the 1951 meeting of the council. The Inter-American Juridical committee prepared a series of studies on international law during the year Of the Inter-American specialized organizations, the Pan American Institute of Geography and History, the Pan American Sanitary bureau and the Inter-American Commission of Women held meetings during 1952.

(W. Mr)

ORNITHOLOGY. The great interest in migration studies which had been evident for the previous few years was maintained in 1952, and in the kindred subject of orientation G. Kramer published some of his recent discoveries in English (*Ibis*, *94*, 265-85, London, 1952), showing that at least his experimental species, the starling *Sturnus vulgaris* and the racing pigeon, navigated largely by means of the sun. This marked a great advance towards the elucidation of one of the most baffling problems in ornithological research Field migration studies in western Europe developed further along two main lines, through the permanent bird observatories at important focal points and through mobile observations on visible migration, in which Dutch and British workers had taken the lead. In the United States, on the other hand, a spectacular method was developed for measuring the volume of nocturnal migration: the numbers of birds crossing the disc of the moon were counted through a telescope by observers at various stations over fixed periods. Large-scale banding or ringing continued all over the world and by its work on swallows, *Hirunda rustica*, and palaearctic waders in their winter quarters the South African Ornithological society hoped to throw light on the " receiving end " of the movements familiar to European ornithologists

The other main group of studies that deserved special mention were those on bird behaviour or comparative ethology associated principally with K Z. Lorenz in Austria and N. Tinbergen at Oxford. Although Lorenz's translated book, *King Solomon's Ring* (London, 1952), dealt with vertebrate animals as a whole, his work with birds was described at length and his challenging and original ideas, expressed in simple and effective language, made a great impression far beyond the ranks of professional zoologists The ethologists had been accused of reducing animals to mere automata living by means of a series of instinctive reactions to appropriate stimuli, but their position was brilliantly defended by Tinbergen in a radio review of Lorenz's book. Because they did not believe it possible to understand an animal's mind in human terms, ethologists felt bound to adopt a strictly objective attitude, but that did not mean they denied the possibility of animal intelligence, indeed, one of their principal aims was to separate the instinctive and " higher " elements in animal behaviour, and this had obvious bearings on human psychology. Birds were perhaps the best group of animals to watch under field as opposed to experimental conditions and that was why so much of Tinbergen's work in particular had been concentrated on them. In this field also an important contribution was made by E. Fabricius on the ethology of young Anatids (ducks and geese), though published in 1951 (*Acta Zool. Fennica*, *68*, 1-178, Helsinki), it was not generally reviewed till 1952.

Problems of bird protection were brought into prominence by the conference of European sections of the International Committee for Bird Preservation, held at Bologna in May. Seven unanimous resolutions were passed, of which the most important dealt with oil pollution and with the need to reconcile national legislation with the International Convention for the Protection of Birds, especially with regard to mass methods of capturing birds. The menace of oil discharged at sea was clearly a matter for international action, but an ironic cartoon in the British magazine *Punch* suggested that it was only when human interests were directly touched, for example by the pollution of bathing beaches, that effective protests were likely to be made. The use of bird plumage in millinery again became a live issue with disquieting reports of illegal egret-hunting expeditions in South America being carried out quite openly

R. E. Moreau's paper on Africa since the Mesozoic (*Proc. Zool. Soc. Lond.*, *121*, 869-913, London) and Hans Johansen's on ornithology in Russia (*Ibis*, *94*, 1-48) were two outstanding reviews published during the year and H. N. Kluijver's study of the population ecology of the great tit, *Parus major* (*Ardea*, *39*, 1-135, published in Leiden, in English), though actually appearing in 1951 must also be mentioned as the most comprehensive study yet made of a bird population. (*See* also Wild Life Conservation.)

(B. Cl.)

ORTHODOX EASTERN CHURCHES. Archbishop Athenagoras of Thyateira led a small Orthodox delegation, representing the Oecumenical patriarchate, the patriarchate of Antioch and the Church of Cyprus, to Lund, Sweden, in August, for the Conference on Faith and Order of the World Council of Churches No other Orthodox Church was represented, although in April the Greek primate, Archbishop Spyridon, had appointed a delegation of six to be led by the Metropolitan Panteleimon of Salonika, who had been prominently associated with the World Council of Churches. It was not clear why this delegation was withdrawn. The Archbishop of Thyateira made it clear that he was present only as an observer, under instructions from the Phanar " not to be involved in dogmatic disputes ", the others might have attended on the same terms. The Moscow Orthodox congress in 1948 had recommended a negative attitude to the World Council of Churches, but it was improbable that this decision was regarded as binding by the Greek Church.

Early in the year *Orthodoxia*, the journal of the Oecumenical patriarchate, published the report of a visit to Mount Athos made by a delegation of three metropolitans and the second secretary of the Holy Synod. Recommendations were put forward with a view to making Mount Athos an even more worthy centre of spiritual life, learning and pilgrimage. The proposed Oecumenical council would be held here; but this project was not further advanced during the year. The Greek Orthodox in Turkey were much encouraged by the visits to Ankara of the Oecumenical patriarch and the King of the Hellenes, and of the Turkish prime minister to the Phanar, and the Athens daily *Akropolis* suggested that now was the time for restoring Hagia Sophia to Christian worship. Special authorization was granted by the Turkish government to permit Orthodox priests to wear their vestments in public for the blessing of the seas on the feast of the Epiphany, and the Orthodox living on the Bosphorus and the Sea of Marmara were able to witness this rite for the first time since 1926.

For the Serbian Orthodox life continued to be little easier than for the Catholic Croats and Slovenes. The Orthodox faculty in the University of Belgrade was closed by the government in February, and real trouble came in June, when the Sobor decided, by 14 votes to 4, with the Patriarch Vikentije among the abstainers, not to recognize the government-sponsored League of Serbian Orthodox Priests. *Borba*, the official organ of the Yugoslav Communist party, denounced this decision in strong terms, naming six bishops in particular as enemies of the state: the Metropolitan Arsenije Bradvarević of Montenegro and Bishops Jovan Ilinić of Niš, Emiljan Piperković of Zaječar, Josip Cvijanović of Šabac, Makarije

Djordjević of Prijepolje, and Vasilije Kostić of Banja Luka. Speaking at Niš on July 6, Marshal Tito declared, in a phrase to which no one could take exception, that relations between church and state were on slippery ground.

The patriarchate of Moscow continued to reflect the views of the Soviet government on the war in Korea and other topics; while the Orthodox Church in Czechoslovakia, in Rumania, and in Poland under the Russian Metropolitan Makary, endeavoured to reconcile the members of the liquidated Uniate Churches in those countries. In Jerusalem the year was marked by renewed attempts by the Russian Church to gain control of the patriarchate. The former Russia-Palestine society was recreated and laid claim to extensive church property; and the Archimandrite Ignaty Polikarp, arriving to replace the Archimandrite Vladimir as head of the Russian Church in Palestine, immediately embarked on an intensive campaign to win the favour of the Greeks.

The new cathedral of Hagia Sophia was opened in Los Angeles on Sept. 30 by the Metropolitan Michael of New York, exarch of the Greek Church for North and South America. The Georgian *katolikos* Kallistrat died on Feb. 3; the newly-appointed Russian Metropolitan of Lwów and Tarnopol died suddenly at the end of August, only a few months after his translation from Wilno, where he had been replaced *ad interim* by Archbishop Philaret, of Riga. News was received in the spring of the death in Siberia of Archbishop Simon Ivanovsky, bishop of Ostrog in the prewar Poland and afterwards archbishop of Chernigov. (M. Dk.)

OSTEOPATHY. During 1952, 12 students graduated from the British School of Osteopathy and the membership of the register of osteopaths rose to 207. Although these figures suggested that the progress of the profession was being well maintained there was some apprehension at a slight reduction in the numbers of young people applying to enter the school for training. It was felt that the falling off was due partly to the fact that government grants, scholarships and other forms of assistance open to those beginning most forms of professional training were not available to those wishing to study osteopathy. It was to be hoped that the attitude of government departments and local authorities towards osteopathy would become more friendly, but in the meantime the profession took steps to meet students' difficulties by raising, through the Osteopathic Educational foundation, a fund out of which grants and scholarships could be provided for promising students with limited means.

As osteopathic treatment was not available to the public under the national health service, a constant effort was being made to provide clinical facilities for the poorer sections of the community. Much progress was made in this respect during 1952. No less than 26,000 treatments were given in the clinic attached to the British School of Osteopathy, and a new clinic was opened in Maidstone through the efforts of a member of the profession and his friends in that district. Flourishing clinics had been in operation in Sheffield and Glasgow for some time and it was hoped that others would be opened soon in London and the provinces to meet the growing demand for this type of service. (J. C. P. P.)

OXFORD UNIVERSITY. In June 1952, 6,005 men and 1,088 women were in residence, a total of 7,093, which was 701 below the largest number since World War II and 114 less than in 1951. The distribution between arts and other subjects remained about the same, the proportion of those reading art subjects and medicine having increased and of those reading science having declined slightly. The number of men matriculating increased by nearly 300 or 16·8%. This probably indicated the final disappearance of the men whose studies had been interrupted by military service.



Recipients of honorary** doctorates in procession at Oxford on June 25. **Right** to left: R. A. Butler, chancellor of the exchequer; Dean Acheson, **U.S.** secretary of state; Justice Read, Judge of the International Court of Justice; Sir Oliver Franks, British ambassador in Washington; Sir Charles Webster, Stevenson professor of international history, University of London; and (centre of far group) W. Somerset **Maugham.

Charters of incorporation were granted to Keble college and St. Anne's society. To give the fullest academic status attainable by men and women to these two societies, parallel legislation by the university was necessary. The most interesting of the results was, perhaps, that the warden of Keble now became, like any other *collegii praefectus*, eligible to be appointed vice-chancellor. St. Anne's (now entitled college) received the same status as the other women's colleges.

The government grant amounted to about 55% of the total income of the university, exclusive of the income of the colleges. In 1947-48 the percentage was 46·23. The constant increase in the amount of the grant was not, as often supposed, almost wholly due to the expansion of the science departments, for since 1938 the proportion of the total expenditure attributable to each of the main activities of the university had remained stable. The proportion attributable to the science departments had increased by about 12%, but the main need for bigger government grants arose simply from the fall in the value of money. Extensions of university activities in Oxford were evenly spread over all subjects.

The following professorial changes occurred in 1952: surgery, Sir Hugh Cairns died; political economy, J. R. Hicks succeeded Sir Hubert Henderson; George Eastman visiting professorship, D. A. Stauffer died; eastern religions and ethics, Sir Sarvepalli Radhakrishnan resigned on appointment as vice-president of India; jurisprudence, H. L. A. Hart succeeded A. L. Goodhart who had resigned on election as master of University college; moral philosophy, J. L. Austin succeeded H. J. Paton; comparative philology, L. R. Palmer succeeded G. E. K. Braunholtz; American history, H. S. Commager succeeded L. H. Gipson, agricultural economics, C. G. Clark succeeded A. W. Ashby. Eight American professors or senior scholars were in residence under the Fulbright scheme, and 15 from European universities visited Oxford under the British Council exchange scheme.

Restrictions on building continued to delay the provision of essential accommodation but the government made a special grant for the repair of historic stonework in order that apprentices would be attracted to this ancient but moribund craft. The university supported the city in resisting an attempt by the Southern Gas board to disregard a recent decision of the House of Lords and extend the existing gas works in Oxford; and the board subsequently announced its "intention and fixed policy" as being to remove the gas works entirely, the part of these works on the north side of the river to be vacated within ten years. (*See* also UNIVERSITIES AND COLLEGES.)

See *Oxford University Handbook*; *Oxford University Gazette*, Oct 9, 1952, suppl. no. 2754 containing the vice-chancellor's review of the year, *Oxford*, magazine of the Oxford society. (D. V.)

PACIFIC ISLANDS, BRITISH. Territories administered by the high commissioner, western Pacific, of which the most important are: Gilbert and Ellice Islands (colony; 369 sq.mi.; pop. 1947 census, 36,000; 1951 est., 39,000); Solomon Islands (protectorate; 11,500 sq.mi.; pop. 1950 est., 100,000); Tonga (protectorate; 269 sq.mi.; pop. 1951 est., 49,000); New Hebrides (*q.v.*). Populations: Micronesian; Polynesian; Melanesian. Administration: resident commissioners, agents or administrative officers appointed by the high commissioner; (Tonga) sovereign; privy council (premier and cabinet); legislative assembly. High commissioners (1952): Sir Brian Freeston and (from July 3) Robert Stanley; ruler of Tonga, Queen Salote Tupou.

History. A very severe storm struck the Solomon Islands on Jan. 25, 1952, and did a great deal of damage including the destruction of those wharf facilities at Honiara that had survived World War II. A temporary port was opened at Tulagi, and Gizo was also opened for ocean-going vessels. The Gilbert and Ellice Islands had an outbreak of poliomyelitis between February and May but only a few cases were fatal. On April 1 the administrative separation of the Western Pacific High commission from Fiji came into force, the high commissioner assuming responsibility for the Gilbert and Ellice Islands, the Solomons and the New Hebrides condominium; at the same time responsibility for Pitcairn and Tonga was transferred to the governor of Fiji. The new high commissioner arrived in Fiji in July and left shortly afterwards for a tour of the islands. He hoped to transfer his headquarters from Suva to Honiara early in 1953. (K. G. B.)

Education. Solomon Islands: 1 government school at Auki; several missionary schools. Gilbert and Ellice Islands: free compulsory education to 16; 234 primary schools (4 government, remainder mission), 8,108 pupils. Tonga: free compulsory education to 14; 132 primary, 10 secondary schools; 1 teacher training college. Many pupils were sent from the Gilbert and Ellice Is. and Tonga to New Zealand and Fiji for higher education.

Finance and Trade. Monetary unit: Australian pound (£A 125 = £100 sterling); Tonga issues its own notes.

	Revenue (1952 est.)	Expenditure (1952 est.)	Imports (1951)	Exports (1951)
Solomon Islands	£A 480,508	£A 460,949	£800,872	£916,511
Gilbert and Ellice	365,755	270,971	192,582	425,922
Tonga . .	443,832	443,832	889,373	1,388,564

Main exports: copra; phosphate of lime (Gilbert and Ellice Is.); bananas (Tonga).

See *Introducing the British Pacific Islands* (H.M.S.O., London, 1952); Sir Arthur Grimble, *A Pattern of Islands* (London, 1952).

PACIFIC ISLANDS, FRENCH. Two overseas territories of the French Union and the Anglo-French condominium of the New Hebrides (*q.v.*):

	Area (sq mi.)	*Population* (1936 est.)	(1946 est.)
New Caledonia and dependencies	7,654	53,245	61,250
French Settlements in Oceania	1,545	43,962	55,734

Population, *New Caledonia* proper (6,533 sq.mi.) and dependencies: Melanesian with Polynesian admixtures, Europeans (1946) 18,737, mostly French; Javanese 8,600; Annamese immigrants 4,100. Seat of commissioner-general: Nouméa (pop., 1946 est., 10,466). Commissioner-general for the Pacific ocean, Raoul Angammare.

The French Settlements in Oceania consist of the Society Islands (the largest of which is Tahiti), the Marquesas, Tuamotu and other smaller islands. Pop.: Polynesian, majority Christian; Europeans (1946) 1,700 (incl. 900 French and 500 British); Chinese immigrants 6,390. Seat of governor: Papeete (pop., 1946 est., 12,428), on Tahiti. Governor, René Petitbon.

History. New Caledonian affairs had hitherto been controlled by the General Council, which consisted of white colonists. The granting of electoral rights to the natives under the 1946 constitution seemed likely to change things very considerably. During the debates in the National Assembly in Paris on the composition of the future General Council two solutions were recommended: some wanted a double-college electoral system with Europeans voting apart, others a single-college one. The latter prevailed, and the General Council was to consist of 25 members elected in five constituencies by universal suffrage and simple majority.

Also in the French settlements in Oceania the single-college system was adopted: a Territorial Assembly of 25 members would be elected in 19 constituencies.

Because many Javanese workers had been repatriated at the request of the Indonesian government, New Caledonia contemplated the introduction of 2,000 Japanese to work in the mines.

An international conference on south Pacific fisheries was held at Nouméa, the seat of the Pacific commission. In the New Hebrides a French ethnologist investigated the interior of Malicolo island, hitherto unexplored.

Modernization work was in progress at Papeete. A complete map of Tahiti and the Sous-le-Vent islands was completed.

Education. Pupils and students (1952): *New Caledonia*, primary 11,340, secondary 500, technical 130, bursaries in France 35; *Oceania*, primary 11,500, secondary 300, technical 100, bursaries in France 23.

Mining ('000 metric tons, 1951): Nickel ore 252; chrome ore 88; manganese ore 20; phosphates 230.

Finance and Foreign Trade (1951; million francs C.F.P.) *New Caledonia*: imports 1,027 (incl 450 from the French Union and 275 from Australia); exports 688 (incl. 500 to the French Union), mainly nickel, chrome and coffee *Oceania*: imports 700 (incl. 282 from the U.S. and 208 from the French Union), exports 643 (incl 440 to France), mainly copra and phosphates Monetary unit: franc C.F.P. (Colonies Françaises du Pacifique) = metropolitan Fr. 5·50. (HU. DE.)

PACIFIC ISLANDS, U.S. Under this heading are grouped the possessions and trust territory of the United States in the Pacific.

American Samoa. An unorganized U.S. possession consisting of the islands of Tutuila, Tau, Olosega, Ofu, Aunuu and Swain and the coral atoll Rose island, 2,200 mi. S. of the Hawaiian islands. Total area: 76 sq.m. Pop. (1952 est.): *c.* 19,000 (*c.* 80% on Tutuila). Capital, Pago Pago (pop., 1949, *c.* 1,000), on Tutuila. Governors (1952): Phelps Phelps, succeeded by John C. Elliott.

Education Schools (1951) 51 elementary and junior high, 1 senior high, 1 vocational, 6 private, total pupils 5,301, teachers 208.

Finance, Production and Trade. Budget (1950-51 actual). revenue $397,009, expenditure $632,001, deficit met from accumulated surpluses Main crops ('000 metric tons, 1950) copra 2 4, breadfruit 7 7, bananas 19 5, taro 2 9. Foreign trade (1950-51) imports $790,978; exports $197,655 Principal export copra.

Guam. Southernmost island of the Marianas, unincorporated U.S. territory. Area: 206 sq.mi. Pop. (mid-1952): 59,498 (incl. *c.* 15,000 U.S. military and civil service). Guamanians are Chamorros. Religion: mainly Roman Catholic. Chief towns: Agaña (pop., 1940, 10,004), Sinajana; Inarajan. Governor: Carlton Skinner.

In 1952 jurisdiction of the public domain lands of Guam (*c.* 30,000 ac.) was transferred from the U.S. Department of the Interior to the government of Guam. The land was to be used for the rehabilitation of those who lost their homes during World War II.

Education Schools (1951): 21 elementary and junior high and 1 high, pupils 9,225, teachers 311; 4 parochial, 1,164 elementary and secondary pupils Literacy (1940): 84%

Economy Budget (1950-51 actual): revenue $4,168,867; expenditure $5,114,405 (U.S. grant-in-aid $1,200,000). Livestock ('000 head, 1951) pigs 10, cattle 4, chickens 100, goats 1 1 Foreign trade (1950-51): imports $10,504,246, exports $2,231,192. Principal exports: scrap metal and salvage

Communications Roads (1952) 80 mi. paved, 60 mi. improved secondary Air communications. Pan-American and Philippine airlines services, 5 military airfields

Marshall, Caroline and Marianas Islands. These constitute, with the exception of Guam in the Marianas, the U.S. trust territory in the Pacific Islands, which contains *c.* 2,130 islands in 96 groups, of which 64 are inhabited. Total land area: 687 sq.mi. Pop. (mid-1952): 57,205 (*c.* 60% live on the six principal groups, Saipan, the Palaus, Yap, Truk, Ponape and Majuro). Languages: 11 are spoken, incl. English and Japanese. Religion: Christian. High commissioner, Elbert D. Thomas.

A new contract was concluded in April 1952 between the high commissioner and the Phosphate Mining company of Tokyo to continue the shipment to Japan of phosphate rock mined on Angaur island in the western Carolines.

Education. Schools (mid-1952): 139 elementary, 6 intermediate and the Pacific Islands central school (combined advanced, technical and teacher-training) at Truk, total teachers 329, pupils 7,061; 20 mission schools, teachers 84, pupils 1,695.

Finance and Trade. Budget (1951-52 actual): revenue $602,242, expenditure $5,062,639; U.S. grant-in-aid $4,511,509. Foreign trade (1950-51). imports $1,848,885, exports $1,750,162, incl. copra $1,100,000 (production, 1951-52, 102,290 long tons), phosphate $500,000. (S. NR.)

PACIFIC ISLANDS UNDER TRUSTEESHIP: *see* TRUST TERRITORIES.

PAINTING. Unlike the previous year when the Festival of Britain had afforded British painters a chance to show their mettle and to experiment in different styles, 1952 provided small scope for diversity and little occasion for any major change in the direction of painting. One painter, above all others, won an international success when exhibitions at the Venice *Biennale* and the Musée de l'Art Moderne, Paris, introduced Graham Sutherland to a European public. His recent works, however, though gentle in colour and decorative in effect (not a little was owed to his stay in the south of France) had not increased in power or intensity. They suffered rather from a certain limpness of structure; he did not persist in that daring grasp of the forms of nature which marked his earlier and more romantic phases. However, he had not suffered from that painful deflection from the business of painting which had afflicted so gifted an artist as Victor Pasmore, whose earlier style gave way to experiments in design that were not altogether convincing

It was apparent during the year that painters still felt considerable indecision as to which route should be taken Realism, in its many forms, tempted some artists, though not all experiments in this direction proved successful One of the most gifted and curious of the younger generation, Francis Bacon, adopted a style that can be best termed a poetical version of realism. His images, which sprang from a tight-rope of nervous sensibility, were projected on to a canvas, often neutral or violet in tone, that owed not a little to Whistler and Velasquez. They assumed the aspect of flashbacks from the memory. Intense in their appeal, these paintings revealed some of the tensions of the age. Bacon's sense for the unusual, not to say unnatural, approximated him to a writer such as Angus Wilson.

Bacon's attitude to realism was more convincing than that of many of the artists who sailed under this flag at the Whitechapel Art gallery exhibition He sought to find poetical equivalents for his sensations, whereas their sensations were often absent. In England realism was generally couched in a grim monotony, and allegiance could be traced to the Camden Town and Euston Road groups of earlier days The new realists failed to succeed either to discover new and valid images of their time or to make their paint vivid; comparison with Sickert or Harold Gilman revealed their fundamental lack of quality. English realism was more successful in portraiture; Rodrigo Moynihan's submissions to the Royal Academy, if more honest than original, more sober than subtle, had at least the virtue of sincerity.

The " old masters " of the period, Picasso, Matisse, Braque, Léger and others, seemed very distant from the strivings of the realists, though in certain particulars Derain in 1913 had forestalled their efforts. The year 1952 revealed that the affiliations of the movement were international: as a style it embraced the Soviet Union and other countries behind the Iron Curtain, as well as western Europe In Belgium and France, its exponents tended to be more aware of the pleasures of colour than their British counterparts. Bernard Buffet and André Minaux, to name only two of the leading practitioners, with one eye on Haim Soutine and another on contemporary gauntness, formed their iconography of sharply outlined features—bare tables, stricken interiors and strangled birds. That such painting was often honest in its appeal, though lacking real painterly distinction, was shown by one of the most active of the younger set, Paul Rebeyrolle; his vigour, however, did not mask a real lack of composition. His painting, which owed much to Expressionism, brought a welcome diversity to the younger school.

In Italy realism continued to be shared by two groups, one

composed of the young Communist painters Gabriele Mucchi and Renzo Vespignani and centred on Rome, the other forming the *Fronte Nuova* and headed by Renato Guttoso and Armanda Pizzinato. Their work, couched in *Fauve* colours and Cubist forms, tended towards an examination of contemporary drama, machine guns and workers' demonstrations abounded The style was not without its echoes in Poland and elsewhere

Though the battle between the realists and abstract or near-abstract painters was fierce, the former did not gain the upper hand. The abstract wing still enjoyed great influence in the United States, their stock was rather higher than that of the surrealists, though the position of Max Ernst was increasingly realized. Among the abstract painters, Hans Hartung proved most effective when he unleashed the naturally expressionist qualities of his work. Attempts to secure the succession of Paul Klee were numerous but only one painter, Fritz Winter, the young Munich artist, suggested this older master's depth and emotional appeal.

The most heartening feature of the modern movement was Nicolas de Stael's development. Eager to break away from contemporary mannerism, he used his powerful sense of colour to paint a brilliant series of sky and landscape pictures. Delighting in what lay before his eyes, he continued the great tradition of 19th-century landscape painting (D STN)

United States. In Feb 1952 Paris had an opportunity of seeing the work of 20 American *avant-garde* painters selected by Sidney Janis. The reaction of the Paris critics was generally adverse, implying immaturity and failure to comprehend modern art. In the United States this criticism seemed insincere to many, while others considered American painters neither inferior to nor very different from their French colleagues.

Although the critic Dorothy Drummond found the 147th Annual of the Pennsylvania Academy of the Fine Arts a "fairly true cross-section of United States art today," she reflected the views of many in observing that both the representational and abstract work manifested "its own brand of monotony" Yesterday's monotony, she stated in the *Art Digest*, was in the "paint-what-you-see" school, while today's "constant repetition—even of explosive forms, colors, and thoughts—breeds its own sameness." While most exhibitions of contemporary American painting were overwhelmingly abstract or semi-abstract, the director of the California Palace of the Legion of Honor, San Francisco, who toured the country to select material for that institution's fifth annual exhibition, stated, "There will be rather more representational art than previously and rather less of the non-objective or abstract. This reflects a trend that has become noticeable, to my eye, in American painting in general."

The Museum of Modern Art, New York, continued to foster the *avant-garde* movement in American painting with an exhibition entitled "Fifteen American Painters and Sculptors," emphasizing such artists as Jackson Pollock, Mark Rothko, Clyfford Still, William Baziotes, and Bradley Walker Tomlin. At the Venice *Biennale*, the only U.S. painters presented were Edward Hopper, Yasuo Kuniyoshi and Stuart Davis. (*See* also ART EXHIBITIONS; ART SALES; DRAWING AND ENGRAVING.) (L. D. L.)

PAINTS AND VARNISHES. Despite a somewhat depressing general drop in paint sales, 1952 saw a definite improvement in the supply of raw materials and a relaxing of controls. The total world supplies of oils and fats were estimated to be equal to or in excess of effective world demand, and prices were expected to fall well below the postwar peaks. The government at last relinquished to private importers the buying and selling of linseed, and the industry therefore hoped eventually to buy its linseed at an economic price; indeed, since the resumption of private trading in lead, lower prices in this metal had already brought down the price of some types of lead paint. This fall in the prices of raw materials, together with the latter's more ready availability, though coming too late to assist the industry in 1952, was expected to play its part in 1953

Although most oils were in fairly good supply, tung oil remained scarce. This stimulated research for substitutes. One of the most interesting of these appeared to be a new fast-drying oil which was being evaluated at the National Chemical laboratory in India and was said to be superior in many respects to tung oil; the new oil is extracted from the seeds of the Indian kamala tree, and dries to a natural wrinkle finish without the application of heat.

There were few important developments of machinery and equipment, and emphasis was more on the modification of existing designs than on the development of completely new ones. One improvement in design was that machines were becoming self-contained, the advantage being that they were consequently easier to keep clean and also took up less factory space. An interesting development in 1952 in paint laboratory equipment, although one still hardly out of the experimental stage, was the use of radioactivity to investigate certain paint problems.

In formulations, the emulsion paints, both latex emulsion and polyvinyl acetate types, made immense progress and their popularity showed no sign of abating. A new beaded paint also caused much interest. This paint contains glass beads, and it was developed for making painted lines on a road more easily visible at night.

An investigation which took place during the year was also likely to cause further developments. For many years dirt had been believed to be the primary cause of early discolouration of paint, but it was now thought that mildew was the cause. (E. N. T.)

PAKISTAN. Self-governing member of the Commonwealth of Nations, a federation of five provinces (four under governors and one—Baluchistan—administered centrally through a chief commissioner), 2 princely states, a states union (under a *khan-i-azam* or prince-president) and frontier regions (controlled centrally, but education, economy, etc. administered by North-West Frontier Province). Areas and populations are·

	Area (sq.mi.)	*Population* (1951 census)
Provinces		
Baluchistan	54,456	622,000
East Bengal (E. Pakistan)	54,501	42,063,000
North-West Frontier Province*	13,560	3,253,000
Punjab (former West Punjab)	62,245	18,828,000
Sind	50,397	4,608,000
States†		
Bahawalpur	17,471	1,823,000
Khairpur	6,050	320,000
Baluchistan States Union‡	79,546	552,000
Frontier regions	25,699	2,647,000
Karachi, federal capital area	812	1,126,000
Total	364,737	75,842,000

* Incl acceded states (Amb, Chitral, Dir, Swat), but excl frontier regions. † Excl Kashmir (*q.v.*), under dispute between Pakistan and India. ‡ Kalat, Kharan, Las-Bela and Makran

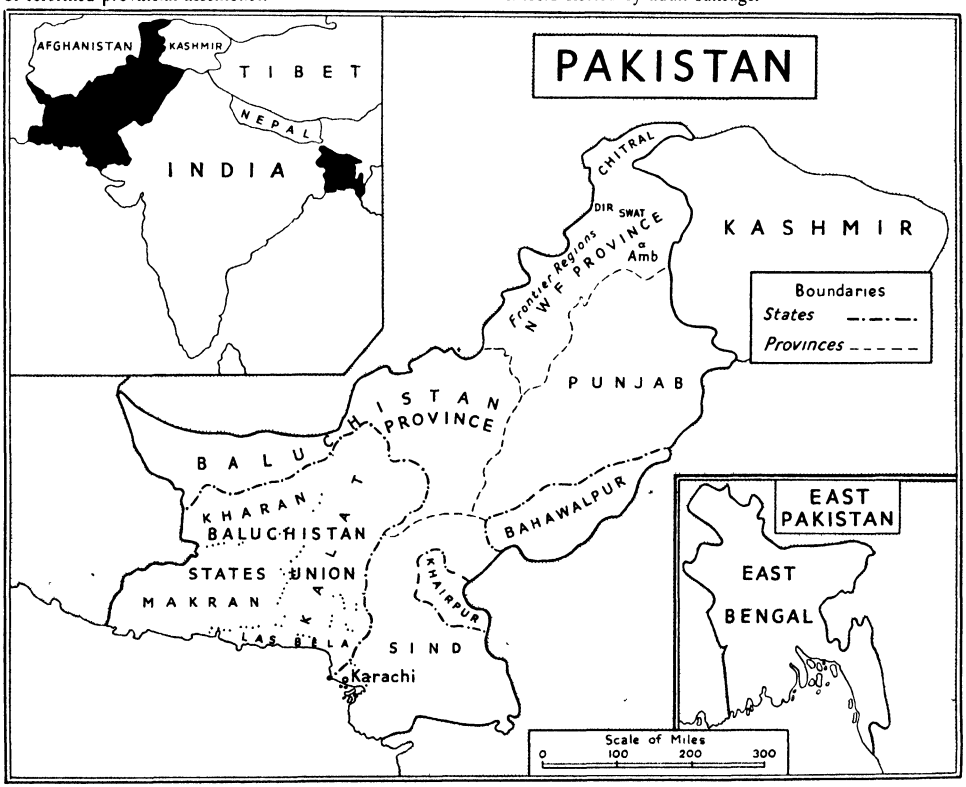
Language: Urdu, Punjabi, Sindhi, Pushtu, Baluchi and Gujerati in West Pakistan and Bengali in East Pakistan; English used for higher education. Religion: Moslem (72·9%); Sikh, Hindu, Christian, Parsee and other minorities. Chief towns (1951 census, prelim.): Lahore (849,000); Dacca (401,000); Rawalpindi (243,000); Multan (190,000); Lyallpur (180,000); Sialkot (152,000); Chittagong (126,000); Gujranwala (124,000); Peshawar (114,000). Governor-general, Ghulam Mohammad; prime minister, Khwaja Nazimuddin (*q.v.*).

History. Despite the tragic loss of Liaquat Ali Khan the year before, there was no serious disturbance in 1952 of Pakistan's political stability and progress. The country's leaders and people were still sustained by the constructive impulses released at its birth, and by M. A. Jinnah's watchwords "unity, faith and discipline". Some unrest was threatened by a whispering campaign against the government, attempts to exploit provincialism and demonstrations against the Ahmadiya sect, to which the able minister for foreign affairs, Mohammad Zafrullah Khan, belonged. The prime minister, Khwaja Nazimuddin, a universally respected East Bengali, therefore took the opportunity of the fifth anniversary of Pakistan Day (Aug. 14) to warn the public against fomenters of provincial jealousies, sectarian discord and Communist-inspired class hatred.

The policy of co-operation in the Commonwealth of Nations and of cultural alliance with other Islamic countries was continued. The work of framing the final constitution still went on. The constituent assembly had distributed the initial work among several committees, including one on basic principles, whose objective—to find a correct synthesis of the Islamic and modern secular states—necessitated a careful approach. The assembly therefore decided to invite suggestions from the public on the committee's first report. Many suggestions were received and considered. The delay in settling the constitution and electing a new central legislature had not prevented the assembly adopting such interim measures as the introduction of adult suffrage for the election of reformed provincial assemblies.

The second election to be held on the new franchise was that in the North-West Frontier Province, the centre of the Pathan separatist movement, and resulted in a remarkable victory for the government: 67 out of 85 seats were won by Moslem league candidates, including two women. In April 1952 the assembly prepared the way for an election in East Bengal by an enactment increasing the number of seats in the provincial assembly and abolishing the representation of special interests. On another question, whether Bengali as well as Urdu should be made an official language of Pakistan, a decision was postponed. The assembly had under consideration the report of a committee on constitutional reform in Baluchistan. Meanwhile the Baluchistan states, Kalat, Makran, Las-Bela and Kharan, agreed in April to amalgamate into a union with a legislative assembly and a council of rulers assisted by a council of ministers.

In December the Constituent Assembly received a further report from the basic principles committee This recommended that the head of the state, who should be a Moslem, should constitute a board of experts in Islamic law to advise regarding new laws which might be repugnant to the Koran and the traditions of the prophet, and that such laws should then be reconsidered by the legislature whose decision would require a majority of its Moslem members The report also recommended that the federal legislature should consist of a House of Units (*i.e.*, provinces and acceding states) of 120 members, elected by the legislatures of the units and exercising limited powers, and a House of the People of 400 members elected by adult suffrage.



Relations with India. Any real improvement in relation with the Indian republic was prevented by the prolongation of the Kashmir (*q.v.*) dispute and the deep resentment which this caused. There were other matters of dissension in connection with pre-partition assets and liabilities, and in the legacy of difficulties left by the mass migrations, among them the problem of the disposal of the property of evacuees. There was, however a continuance of the facilities for trade which had resulted from India's acceptance of the valuation of the Pakistan rupee and from the trade agreement of Feb. 1951. The latter remained in force till June 30, 1952, and was followed by a new agreement for the period to June 1953, signed in Aug. 1952. The basis of this differed somewhat from previous agreements in that it was not confined to certain scheduled commodities, but contemplated that licences for imports from, or exports to, the sterling or other soft-currency areas would also be valid for trade between India and Pakistan; it also provided for the export of specified quantities or values of some scheduled commodities, including timber, railway material and certain types of machinery and categories of iron and steel from India, and hides, skins and fish from Pakistan. But these special provisions did not include Indian coal or Pakistan jute, the two most important single items in the previous agreement During the year ended June 1952 Pakistan had a large favourable balance in its trade with India.

Economic Position. After its separation from India the strength of Pakistan's economy lay in the value of its cash crops and in the fact that it was normally self-sufficient in food, and its weakness in the initial lack of manufacturing capacity and the country's dependence on primary products. The policy of the government from the start was therefore to pay special attention to industrial development while maintaining agricultural efficiency. In recent years up to 1951 Pakistan's economy as a whole had benefited from the rise in world commodity prices, but progress with industrialization plans was retarded by the difficulty of importing capital goods and obtaining technical assistance. In 1952 the position gradually altered in two ways: industrial plans took better shape and some of them began to mature; on the other hand the country's basic economy was gravely affected by the end of the commodity boom.

The first year of the national development programme, which was incorporated in the Colombo plan (*q.v.*), ended in June 1952. This six-year programme was under constant review in the light of requirements and resources, but its general scope may be gauged from its original form, which was estimated to cost Rs. 2,600 million divided between agriculture (32%), the three heads of transport, industry, and fuel and power (totalling 57%) and supplementation of provincial provision for social welfare (11%). It included many large and long-term projects (involving preparatory work on surveys and detailed planning) such as irrigation and land settlement, 3 major hydro-electric power schemes, 6 jute and 24 cotton mills. But the speedier satisfaction of minimum requirements was provided for by giving priority to urgent specific items of the programme, including some of the jute and cotton mill projects, and the expansion of thermal power pending completion of hydro-electric schemes. Moreover in 1952 there was already in some directions a modest measure of achievement: two smaller hydro-electric stations started functioning, at Rasul in the Punjab and Malakand in the North-West Frontier Province where a third was nearing completion; a start was made with jute manufacture, and the original small cotton textile capacity was doubled.

For financing the first year of the programme some external assistance was available from contributions under the Colombo plan, a loan of $27 million for railways from the International Bank for Reconstruction and Development and an offer of $10 million from the United States under the Mutual Security programme; but the great bulk of the finance was found from internal loans subscribed during 1948-50, from normal revenues and from surpluses accruing during the boom and set aside for development. The government encouraged the use of private capital in industry by numerous fiscal concessions, and in the 1952 budget exempted from tax personal incomes (up to one-tenth of total income) subscribed to new industrial undertakings. It also enlarged the sphere of state initiative by establishing an industrial development corporation which participated in new undertakings where large investment was required. The budget, presented in March by the new finance minister, Mohammad Ali, showed a surplus for the year 1951-52 of Rs. 76 million. The government accepted a report, submitted at their request by Sir Jeremy Raisman, on the re-allocation of revenues between the centre and the provinces, which would result in an increase of provincial resources.

The economic misfortunes of 1952 included a partial failure of the wheat crop resulting from drought; not only was there no surplus, but considerable quantities had to to be imported. The main trouble, however, was the recession in world commodity prices. Cotton prices began to give way in February, and in the summer the government, which in March had announced a policy of support, had to purchase some of the new crop and reduce the export duties. The export duty on tea was removed in September. Jute was also supported by government purchases and reductions of export duties, but this valuable export was severely hit both by the general recession and by such special factors as the increasing use of substitutes and the development of jute production in India. The general position continued to deteriorate, and led the government to impose credit restrictions, import controls and an increase in the duty on cloth. The report of the state bank for the year ended June 30, 1952, showed a reduction of Rs. 467 million in the gold, sterling and dollar reserves as a result of that year's transactions. The report emphasized the difficulty of the situation facing Pakistan, but expressed confidence that it could be overcome. (J. WN.)

Education. *Baluchistan* Schools (Oct. 1949) primary 186, secondary 23, private 4, European 2, institutions of higher education 1, total pupils 18,500 *North-West Frontier Province* Recognized educational institutions (1947-48) for males 1,059, students 101,377; for females 156, students 11,035 *Sind* Schools (March 1946): boys' primary 2,327, pupils 165,653, girls' primary 398, pupils 40,257, secondary, for boys 206, pupils 34,810, for girls 37, pupils 9,262 Universities in Pakistan (1949-50) mainly teaching 2 (Dacca and Punjab), students 34,101, professors and lecturers 287, mainly affiliating 2 (Peshawar and Sind), central professional and supervisory staff *c.* 20

Agriculture. Main crops ('000 metric tons, 1950; 1951 in brackets) rice 12,490 (11,820), wheat (1951, 1952 in brackets) 4,016 (3,109), barley 157 (164), maize (1951) 396, sugar, raw value, excl palm sugar production, 570 (573), jute 808 (1,148), cotton, ginned (1949, 1950 in brackets) 221 (253); linseed 10 (10); rapeseed and mustard seed 282 (307), sesame 34 5 (34 5), chick peas (1951) 700, tea (1949, 1950 in brackets) 17 6 (23·8); tobacco (1949) 66·8. Livestock ('000 head, 1947-48) cattle 24,296; buffaloes 5,600; goats 10,067; sheep 6,145; camels 454, horses 470, mules 41, geese 61, chickens 22,248; ducks (1949) 5,063 Wool production, clean basis (1951) 6,000 metric tons. Meat production (1950) · 264,000 metric tons Milk production (1949): 5,917,000 metric tons Fisheries (1949-50) · total catch 250,000 metric tons.

Industry. Employment (1949): all industries 662,000; manufacturing 200,000. Fuel and power · coal and lignite ('000 metric tons, 1951; 1952, six months, in brackets) 516 (323), crude oil ('000 metric tons, 1951; 1952, six months, in brackets) 152 4 (71·8); electricity (million kwh, 1950) 164 4. Raw materials ('000 metric tons) chromite (1949; 1950 in brackets) 16 7 (18·7), salt (1948) 339. Manufactured goods (1951, '000 metric tons) cement 498, cotton yarn 8 8; cotton cloth (million m) 116 8.

Finance and Banking (million rupees). Budget · (1950-51 actual) ordinary revenue 1,237, ordinary expenditure 947; (1951-52 est.) ordinary revenue 1,163, ordinary expenditure 955. Internal debt (March 1951): 952. Currency circulation (July 1951; July 1952 in brackets):

1,990 (2,103). Bank deposits (July 1951; July 1952 in brackets): 1,258 (1,154). Gold and foreign exchange (million U.S. dollars, July 1950; July 1951 in brackets): 456 (597). Monetary unit: Pakistan *rupee*, with an exchange rate of Rs. 9·27 to the pound sterling and Rs 3 31 to the U.S. dollar

Foreign Trade. (Million rupees, year beginning April 1, 1951, 1952, six months, in brackets). Imports 1,931 (1,195), exports 2,302 (1,062). Main sources of imports (April-Sept. 1951). Japan 28%; U K. 21%, India 9%; U.S. 6%. Main destinations of exports. India 35%; U K. 13%; France 10%; U.S. 5%. Main imports (April-Sept. 1951) cotton yarns and manufactures 42%; machinery and vehicles 17% Main exports: raw jute 41%; raw cotton 31%; tea 4%; hides and skins 4%

Transport and Communications. Roads (1949) 55,913 mi. Licensed motor vehicles (Dec. 1950). cars 17,000, commercial vehicles 12,000 Railways (1951): 6,994 mi ; (1950) passenger-mi. 5,456 million, goods ton-mi. 2,500 million Shipping (1951). merchant vessels of 100 tons and over 2,201; total gross tonnage 5,816,585. Air transport (1949-50) mi. scheduled per week 136,030. Telephones (1951) 18,771 Radio receiving sets (1949). 75,000

See S. M. Akhtar, *Economics of Pakistan* (Lahore and London, 1951); *Five Years of Pakistan (August 1947—August 1952)* (Pakistan Publications, Karachi, 1952).

PALAEONTOLOGY. Advances were made in 1952 in almost every major group, although spectacular achievements were not recorded. As in every year since World War II, important studies were made on the primates where the distant ancestry of man might be sought. In Quito, Ecuador, a conference was held to consider the antiquity of man in America. Robert Hoffstetter reviewed the evidence presented and recorded the conclusion that man is certainly not indigenous to the new world but was an immigrant from the old. The invasion apparently took place about 10,000 B.C. This is in agreement with the views already held by many and was attained in part by the realization that some so-called pieces of evidence of man's antiquity in North America are misidentifications.

The work on the ancestry of the anthropoid apes and of man's most distant forbears was continued by W. E. le Gros Clark and D. P. Thomas on further fossils from east Africa collected by Louis S. B. Leakey. The work and prescience of Leakey in this field are among the outstanding achievements of this decade. The materials last discussed were lemuroids of Miocene age. It was generally recognized that the ancestor of the stock that gave rise to man is somewhere in this primitive group of primates and that a study of its early members would reveal the foundation of habits and osteological specializations of great importance. These African studies had certainly shown that some of the major divisions of groups were made long ago and some of these points were confirmed by the latest publication.

Le Gros Clark and Thomas described excellent skull remains, a lower jaw fragment and teeth, as well as a brain cast, of *Progalago*. This had been considered as an ancestor of the living *Galago* or " bush baby " of Africa, and the new material seemed to support the theory, the modern form showing significant advances in almost every aspect. The work drew attention to the remarkable parallel evolution between the lorisid and the lemurid groups of the Lemuridae which were thought to have been differentiated as far back as the Eocene. In Italy, G. L. Sera gave an interesting, if somewhat controversial, review of the fossil and living lemurs which he had been studying for over 20 years. He discussed the implications of some morphological characters of little-known forms and made general conclusions. B. J. Marples made an interesting study of fossil penguins of New Zealand. Some of the remains go back to the early Tertiary.

Among studies in the lower vertebrate groups there was the remarkable discovery by Joseph T. Gregory of Yale university that the lower jaws of the well-known Cretaceous toothed bird, *Ichthyornis dispar*, in the Peabody museum were, in fact, the jaws of a swimming reptile, a mosasaur. Fossil fishes were the subjects of two important investigations: Bobb Schaeffer of New York gave an account of the evolution of the coelacanths which are themselves important in the fish-amphiban chain, and E. I. White of London discussed Australian Arthrodires, primitive armoured forms with jointed skulls.

Invertebrate fossils evoked, as usual, a large series of descriptive papers from many parts of the world. N. de B. Hornibrook dealt with Tertiary and Recent ostracods of New Zealand, and other Crustacea, and the trilobites from the Ordovician of Girvan, Scotland, were described by W. F. Whittard. Cretaceous and Tertiary Echinoidea from Cuba yielded 33 new species to Mario Sanchez Roig. Further studies on the fossil fauna of the Urals were made by V. E. Ruzhenzev and E. D. Soshkina who dealt respectively with the Upper Carboniferous ammonites and Devonian rugose corals. The Oligocene lamellibranchs and gasteropods of Kassel, Germany (Julius Gorges), and the Mollusca of the Morrison Formation of the United States (Teng-Chien Yen) were also important contributions to palaeontological literature.

Many papers on the Foraminifera appeared, since these tiny shells are of great importance stratigraphically and to the oil industry. They included descriptions of the Macroforaminifera of Italy and the Foraminifera of Japan.

Palaeobotany. W. Gothan wrote an account of the history of this subject and its exposition in Berlin. Though published in 1951 this work only became generally available in 1952. Also in Germany, Adolf Straus continued his valuable and well-illustrated account of the Pliocene flora of Willenhausen. The latest part carried the story up to the Gymnosperms. In the United States, Chester A. Arnold re-examined remains of *Prototaxites* and decided that, after all, it was not a seaweed but indeterminable. His new material came from Upper Devonian shale from Ontario, Canada. *The Palaeobotanist* published a memorial volume to the distinguished Indian worker, Professor Birbal Sahni, containing Indian, Australian and U.S. contributions. The results of the third congress for the study of the stratigraphy and geology of the Carboniferous, held at Heerlen in June 1951, were published late in 1952 and include many short papers on coal measure plants of Europe.

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(W. E. SM.)

PALAU (PELEW) ISLANDS: *see* PACIFIC ISLANDS, U.S.

PALESTINE: *see* ARAB LEAGUE; ISRAEL; JORDAN.

PANAMA. Republic of Central America adjoining South America and bisected by the Canal Zone (leased to the U.S.). Area: 28,575 sq.mi. Pop. (1950 census, prelim. fig.): 805,000. 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 1952: Alcibiades Arosemena and (from Oct. 1) Colonel José Antonio Remón (*q.v.*).

History. Following the chaotic events of 1951, Panamanian politics moved on to a more stable keel in 1952. Arnulfo Arias, who was forcibly deposed from the presidency in 1951, was released from prison on Feb. 7 on condition that he never hold public office in Panama again. On March 28 the Federal

Trust company, which Arias had closed the year before in an action which precipitated his dismissal, reopened its doors. Thereafter, Panamanians prepared for the presidential election held on May 11. The government candidate was Colonel Remón, who had led the coup which unseated Arias. Remón had two major political assets: the loyalty of the 3,300-man national police, Panama's only armed force, and the political activity of his wife, Cecelia, whose campaigning was reminiscent of Argentina's Eva Perón Two other candidates entered the presidential race. These were Roberto Francisco Chiari, standard-bearer of the Civil Alliance, and Pedro Moreno Cortea, the Conservative candidate Election day was relatively peaceful According to the official returns, Remón received 133,208 votes as against 78,094 cast for Chiari and 1,957 for Moreno, he was inaugurated as Panama's new president on Oct. 1. (G I. B.)

Education Schools (1951-52) state, primary 904, teachers 3,153, pupils 110,038, secondary 20, teachers 718, pupils 15,963, vocational 7, teachers 253, pupils 5,552 Private (mainly Roman Catholic) primary 70, teachers 200, pupils 5,544, secondary 57, teachers 292, pupils 5,474 National university, students 805

Agriculture. Exports of bananas in 1951 were 4,896,776 bunches, almost all of which went to the U S Other exports included abaca 2,984 metric tons, cacao 1,327 tons Production of rice (rough) was c 85,000 tons 1951-52 Livestock (1950) cattle 576,488, pigs 198,511

Industry. Production figures in 1951 included rum 756,665 l., sugar 16,600 short tons In 1951, 74,755,000 kwh of electric energy were generated in Panama city and 13,408,000 kwh in Colón

Finance. Budget (1951 actual): revenue $34,479,981, expenditure $34,480,984 National debt (Dec 31, 1951) $34,574,125, of which $10,946,902 external Monetary unit *balboa*, at par with the U S dollar

Foreign Trade. Exports in 1951 totalled $11,690,008, imports, $66,121,893 Chief exports bananas 48%, abacá 10% and cacao 8% Main destinations of exports U S 81%, Venezuela 5%, El Salvador 5% Main sources of imports U S 69%, Canal Zone 7%, U K 4% The traditionally adverse balance of trade is generally offset by invisible exports to the Canal Zone in the form of tourist expenditures, sales to ships and wages to Panamanians employed there

Transport and Communications. Railways (1952) 223 mi Highways (1949) 1,071 mi., of which 348 mi paved Merchant marine (June 30, 1951) 607 vessels (100 tons and over) aggregating 3,609,395 gross tons (J W. Mw)

PANAMA CANAL ZONE. A United States military reservation comprising a ten-mile strip across the Isthmus of Panama, leased for the protection and administration of the Panama canal. Area: 553 sq.mi., incl. 191 sq.mi. of fresh water. Pop., excl. military personnel (1950 census): 52,822. Administrative centre. Balboa Heights (pop., 1946, 12,623). Governors in 1952: Brig. General Francis K. Newcomer and (from June 9) Brig.-General John S. Seybold

During 1952 considerable attention was given to economic development in the canal zone. Plans were drawn up for an International Commercial exposition, to open in Feb. 1953. This exhibition was expected to draw attention to the zone's facilities and to attract new commercial and industrial enterprises to the area.

Education. Schools (1951) white, 14, pupils 4,368, a junior college with 149 students, non-white, 13, 3,592 pupils and a junior college.

Finance. Total canal revenues (1950-51, fiscal year) $24,121,068; net expenses $22,731,829, net capital investment (June 30, 1951) $626,708,619

Canal Traffic. During 1950-51, 5,593 ships (300 net tons and over) aggregating 27,180,425 canal net tons passed through the canal Canal net tonnage of vessels by nationality included U.S. 12,469,276; British 5,780,215, Norwegian 2,325,651; Panamanian 1,009,048; Honduran 906,398

GOODS IN TRANSIT THROUGH THE PANAMA CANAL

('000 metric tons, year ending June 30)

	1939	1946	1949	1950	1951	1952
Atlantic-Pacific	9,156	6,216	10,056	9,636	11,316	15,371
Pacific-Atlantic	19,152	9,000	15,648	19,704	19,248	18,777
Total	28,308	15,216	25,704	29,340	30,564	34,148

PAN AMERICAN UNION: *see* ORGANIZATION OF AMERICAN STATES.

PAPER AND PULP INDUSTRY. An appreciable trade recession in many parts of the world seriously affected the paper and pulp industry during 1952. As this was preceded by a two-year period of heavy stockpiling which created the impression of world pulp and paper shortage and led to exceptional price advances, the reaction was naturally prolonged. Purchasing declined as soon as buyers realized that prices were being stabilized at their then high level. From that time existing stocks covered current consumption and buying almost ceased

In Great Britain, just before the beginning of the year, purchase of imported pulp at about 80% of immediate buying was introduced by government control and the reaction by the supplying countries was a decline in prices to accommodate this restriction. An additional 20% reduction for the second half of the year led to further price falls. Concurrently paper prices were reduced, by easy stages, to approximately 30% below peak. These downward price movements only accentuated the buyers' determination to resist purchasing, except for necessary items. At the end of the year it appeared that prices would be held temporarily at this reduced level which was about 100% above end of 1949 quotations

The extent of the recession in Great Britain was confirmed by pulp purchases during the first nine months of 1952 which, despite declining prices, were down on 1951 by 20% and paper and board imports (restricted by control) by 33%. As many other countries, due to adverse economic conditions, followed a similar trend it was expected that when complete returns for 1952 were collated they would disclose a substantial reduction on the peak year of 1951.

Despite prevailing conditions world potential consumption continued to increase and it was thought that this would be reflected in a sudden upswing in purchasing as soon as prices declined to a point within world purchasing power.

In an effort to satisfy pressing demands before the current recession pulp and paper production reached totals never before recorded O E E.C. (Organization for European Economic Co-operation) countries during 1951 returned 10,228,000 tons of paper and paper boards and 6,413,000 tons of pulp, representing an advance of 25% over 1949.

Latest available returns covering world production of wood pulp gave 32 6 million metric tons for 1950, an advance of 16% on the previous year. Canadian capacity moved up from 8·1 to 8·5 million tons, 1950-51, and the U.S. 14 7-15·9 million tons If these two countries continued their current scheduled expansion and received necessary demand it was expected that their combined production would be 25·5 million tons during 1952.

Reports from European countries showed that both Finland and Sweden increased pulp production in 1951 and Norway reached its highest total since 1937 (520,000 tons); similar news came from the German Federal Republic, France, Austria and Italy.

Several countries continued their efforts to make themselves independent of external paper supplies. Burma, for example, was planning a newsprint mill to produce 50 tons a day by 1954. The Netherlands opened a new straw pulp mill at Arnhem with a potential of 12,000 tons high-grade bleached pulp. Production in India increased from 93,000 tons in 1947 to 130,000 tons in 1951. It was expected that by 1956 production would reach 312,000 tons. Spain produced 179,569 tons of pulp in 1951, an increase of 50% on the previous year, and paper and board production reached a peak of nearly 300,000 tons.

But greatest progress was being made in North America. Canada was stated to be investing $600 million during 1951-55, 70% more than during the previous five years Newsprint production was to be increased by 914,000 tons by 1960, giving capacity of 6,977,000 tons. By 1954, United States' paper and board capacity would reach 27 2 million tons.

The importance of the paper trade to Canada was disclosed by publication of current pulp wood production This had increased from nearly 6 million cords in 1930 to nearly 13 million cords in 1950. Pulp, paper and lumber industries accounted for 15% of the country's manufacturing production and the timberlands produced $6 million of new wealth every day. In all, the forest lands covered nearly 2 million sq.mi. (*See* also NEWSPAPERS AND MAGAZINES.)

See *Unasylva*, VI, 1 (F A O , Rome, 1952), Canadian Pulp and Paper Association, *The Pulpwood Harvest* (Montreal, 1952) (V. S S)

PAPUA-NEW GUINEA. From 1949 the territory of Papua and the trust territory of New Guinea have been administered as a single area by the Australian Commonwealth government. Areas: Papua 90,540 sq.mi., New Guinea 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 Pop · Papua (1941 est) native 300,000, white 3,070; New Guinea (including the islands) native 690,000, white 4,200; (1951 est.) total, native 1,049,014, white 8,669. Capital of joint administration, Port Moresby. Administrator, Colonel J. K. Murray.

History. The legislative council for Papua and New Guinea, opened in Nov. 1951 by the governor of New South Wales, Sir John Northcott, was described during 1952 as a "short step" towards democratic government in the territories but another observer, G. W. Holland, president of the Returned Soldiers association, expressed the opinion that the territories should be included in the Commonwealth of Australia as another state. It was clear that the council lacked power and was of an unrepresentative nature. All its ordinances had to receive the assent of the administrator of the territories before becoming law, and each had to be tabled in the Commonwealth parliament at Canberra and might be disallowed by it. Further, the governor-general might disallow any ordinance despite the administrator's consent and the administrator had to refer to the governor-general the matters of divorce, land transactions involving natives, money or land grants, disposal of land or any interest in it, defence forces, employment of natives, arms, ammunition, explosives, intoxicating liquor, opium, immigration, emigration, deportation and the public service.

Economic development of the area continued both extensively and intensively and coffee exports took place during the year. In June the Commonwealth government decided to change the decision of its predecessor to establish the capital at a new site, and to rebuild the capital Rabaul on its old site. This was the outcome of acceptance of expert opinion that Rabaul was safe from volcanic action.

During the year Australian administration of the territories of Papua-New Guinea was criticized before the United Nations. The validity of the criticism was denied by the Australian representative. Indonesia renewed during the year its claim for the territory of Dutch New Guinea but the Australian representative stated that Australia both recognized Dutch sovereignty over the area and considered it should continue. This was related by the representative to what he considered the most important matter, the prevention of the spread of Communism in southeast Asia. (J. F. C.)

Economy: Papua. *Agriculture* (production in tons, 1949-50). rubber 1,634; copra 10,191; coconut 318; coffee beans 6.

Finance and Trade (1949-50) Total revenue fund £A 3,071,145 (Australian government grant £A 1,903,313); expenditure £A 2,325,203. Total imports (1949-50) £A 4,684,028, exports £A 1,202,694 Principa exports (1949-50 values). rubber £A 361,339, copra £A 574,511, desiccated coconut £A 58,321, gold bullion and Nahwe gold £A 10,875. Principal imports metals and machinery £A 1,605,347, agricultural products and groceries £A 1,134,129, oils, paints and varnishes £A 358,247, tobacco and tobacco manufactures £A 214,427

New Guinea. *Agriculture and Mining* (1950-51) desiccated coconut 939 tons, copra 641,301 tons, cocoa beans 317 tons, coffee beans 32 tons Timber (cu ft) logs 1,894,459, sawn 1,670 Gold 87,593 fine oz

Finance and Trade (1950-51) Internal revenue £A 1,219,411 (Australian government grant £A 2,356,311), expenditure £A 3,575,721 Total imports (1949-50, 1950-51 in brackets) £A 4,791,799 (£A 6,186,669), exports (incl exports not of local origin) £A 4,234,978 (£A 5,436,617) Principal exports of local origin (1950-51) cocoa beans £A 60,934, desiccated coconut £A 95,024, copra £A 936,601, gold £A 145,393, trochuo shell £A 95,709 Principal imports metals, machinery and metal manufactures £A 1,350,608, food and drink £A 1,779,791, oils, fats and waxes £A 514,890

Currency. Australian pound used throughout Papua-New Guinea (£A 1 25 = £1 sterling)

PARAGUAY. South American republic bounded N. and E. by Brazil, S by Argentina and W. by Bolivia. Area: 157,047 sq.mi. Pop. (1950 census, prelim. fig.): 1,405,627; homogeneous mixture of Spanish and Guarani (with some Portuguese and Italian) Language: Spanish, Guarani is secondary and recessive. Religion: Roman Catholic. Chief towns: Asunción (cap , pop. 1950, 205,605); Coronel Oviedo (1945 est , 33,098), Villarica (1945 est., 31,081) President, Federico Chaves.

History. In 1952 the executive power and the Chamber of Deputies continued in the hands of the recently purged Colorado party, which held its convention in June and proclaimed Federico Chaves its candidate for the period 1953-58 No significant disorders had occurred since Chaves took control in 1949. The Paraguayan Confederation of Workers, established in July 1951 with 80,000 members, had been supported by the government in connection with sporadic labour strikes and had avoided affiliation with the labour movement organized by the Perón régime in Argentina. The vigorous governmental programme of economic improvement made substantial progress in fostering new industries and rehabilitating old ones. The International Bank for Reconstruction and Development granted Paraguay late in 1951 a loan of $5 million for agricultural development, elaborately planned and in part under way. The International Monetary fund, at the invitation of the Paraguayan government, sent a special mission to co-operate with the Bank of Paraguay on matters related to currency and foreign exchange and the implementation of its proposals appeared imminent. (W FT.)

Education. Schools (1949) primary 1,262, teachers 5,479, pupils 186,101, secondary 41, including 12 teachers' colleges, agricultural 4 National university (1950) students 1,800, professors and lecturers 100

Agriculture. Main crops (1951, '000 metric tons) mandioca 970, maize 119, sweet potatoes 81 4, cotton 36 4, rice 19 8; tobacco 8 8 The citrus fruit crop was more than 13 million boxes, of which oranges formed the greatest part Foodstuffs (1951 prod , '000 metric tons) sugar 561, oils 11 Livestock ('000 head) cattle (1950) 3,400, horses (1951) 250, sheep (1951) 200

Industry. The chief manufactured products were canned meat and textiles. The meat plants were closed in 1951 because of a shortage of cattle The textile mills showed considerable expansion over 1950, when the three largest mills produced 2 million m of cotton cloth and 1,600 tons of cotton yarn as well as good quantities of woollens and silks. Six new plants for the crushing of oilseeds and palm kernels were installed in 1951 The production of quebracho tanning extract rose to 44,000 tons in 1951

Finance (million guaranis) Budget (1950-51, 1951-52 in brackets) revenue 99 (140), expenditure 115 (171) Currency circulation (May 1951, May 1952 in brackets) 160 2 (295 0) Monetary unit *guarani*, with an official exchange rate (Oct. 1952) of Gs 15 to the U S dollar and Gs 42 to the pound, and a free rate of Gs 30 to the U S dollar and Gs 84 to the pound.

Foreign Trade. (Million guaranis, 1951). Exports 208 9, imports 168 4. Main destinations of exports (1950)· Argentina 36%, U K. 7%; U.S. 3% Main sources of imports (1950). Argentina 27%; U.S. 25%; U.K. 9%. Chief exports: timber, cotton, quebracho.

Transport and Communications. Railways. 278 mi , yearly traffic averaged 2 million passengers and 260,000 tons of freight. Roads

c 550 mi of modern gravel-crowned highways, 80 mi. of asphalt, *c.* 4,000 mi of primitive roads Motor vehicles (1950) cars 1,800, commercial 1,350 Telephones (1951): 5,111. Radio receiving sets, *c.* 30,000

PARIS. Capital and largest city in France. Population (1946 census), 2,725,374, estimated to have increased by about 100,000 by 1952. President of the municipal council (1952), Paul Coirre (since Nov. 1951).

A series of literary and artistic events, under the title of " L'oeuvre du XXème siècle ", was held in Paris during the summer of 1952. The idea came from the Congress for Cultural Freedom, an international anti-Communist organization under Denis de Rougemont.

Anniversaries celebrated in Paris included: the 20th of Aristide Briand's death (March); the 100th of the gynaecologist Joseph Récamier's death (June), and the 100th of the birth of Pierre Marie, collaborator with, and successor to, the great physician Jean-Martin Charcot (July). Louis Braille's ashes were moved to the Panthéon (June 22). From Oct. 8 to Oct. 19 the shopkeepers of the Faubourg Saint-Honoré celebrated the 50th anniversary of their trade association by arranging artistic window-displays: the fancy goods and jewellery of 1902 were again displayed in luxury shops throughout that elegant quarter; there was also a competition for posters on the same theme, and 35 were exhibited. On Oct. 3, on the other hand, began the " Old Boulevards' fortnight " (for the boulevards between the Bastille and the Place de la République, which have memories of Ninon de Lenclos, of the Revolution, of Cartouche, of Cagliostro and others): a plaque was set up on number 33, Boulevard du Temple, the residence of Charles Nungesser (hero of the Atlantic crossing with Captain Coli 25 years before).

The housing problem remained acute, and the number of people obliged to live in hotels or in furnished rooms let at excessive rents was only gradually diminishing. The municipal council's plan had evisaged building 5,000 flats a year from 1951. New building was most evident in the XIIth, XIIIth and XIVth *arrondissements*. The council asked the state to authorize its floating a loan of Fr.10,000 million to enable it to go forward with the undertaking.

The number of pupils attending kindergarten and primary schools and complementary courses rose to about 450,000. Some primary classes had 50, 60 or even 70 children. To meet the growing need the council would have to build new educational centres, for which Fr.2,500 million would be required; as in the case of housing, it was waiting for the state's permission to raise a loan. The council's budget for 1952 was estimated at Fr.63,000 million. Excess expenditure was covered by raising the taxes on real estate and on business houses and instituting new *centimes additionnels* (rate charges).

The cost-of-living index varied little in 1952, though the price of dairy produce went up. The butchers keenly resented the prices fixed for meat by the prefecture of police: in September and October a dozen butchers' shops were shut for periods of one or two weeks. Teachers, hospital staff and employees of the *métro* and road services were trying to get their wages increased. There were no serious strikes, and the Communist attempt to organize a political strike against General Ridgway on May 28 was a fiasco in Paris no less than everywhere else in France. (A. Pr.)

PARLIAMENT, HOUSES OF. On the morning of Feb. 6, 1952, King George VI died and immediately the sittings of both houses of parliament were cancelled. On the same day members began to take the new oath of allegiance to Queen Elizabeth II. Messages of condolence to the queen and to the queen mother were passed and both houses resumed normal business on Feb. 19. The session ended on Oct. 31 after a summer recess from Aug. 2 to Oct. 14. Queen Elizabeth delivered her first speech from the throne on Nov. 4 when she opened the new session. The Duke of Edinburgh sat on a chair of state near the throne thus reviving the practice of the prince consort a century before.

H. F. C. Crookshank, minister of health and leader of the House of Commons, vacated his portfolio and became lord privy seal, devoting his time to leading the house. Another peer joined the cabinet when on March 1 Earl Alexander of Tunis (who was raised from a viscount) became minister of defence. A. T. Lennox Boyd succeeded J. Maclay as minister of transport and civil aviation; I. Macleod became minister of health, and the Marquess of Salisbury succeeded Lord Ismay (*q.v.*) as secretary of state for commonwealth relations. In December the Marquess of Salisbury became lord president of the council, Viscount Swinton became secretary of state for commonwealth relations, Lord Woolton became chancellor of the Duchy of Lancaster, with a seat in the cabinet, and Sir Arthur Salter became minister of materials. Sir Hugh O'Neill (Antrim), father of the house since Oct. 1951, resigned in October. The new father, D. R. Grenfell, was first elected for Gower in July 1922. George Tomlinson (Farnworth), minister of education, 1947-51, died in September. The Earl of Scarbrough succeeded the Earl of Clarendon as lord chamberlain in October. Viscount Samuel celebrated the 50th anniversary of his entry into parliament. He was first elected Liberal member for Cleveland in Nov. 1902. Six by-elections were held up to the end of October: in none of these was there a change in party representation.

The committee of privileges was not summoned during the year. During an all-night sitting (March 26-27) Mrs. E. Braddock (Liverpool, Exchange) was suspended after she had refused to obey the order to withdraw from the chamber. In the period of three or four weeks before Easter the House of Commons sat after 10.30 p.m. (its normal hour of adjournment) for a total of 58 hr. 11 min.—the equal of nine parliamentary days The guillotine was imposed on two bills: the National Health Service bill and the Licensed Premises in the New Towns bill. Four Labour members submitted a motion of censure on the speaker. This arose from an incident on the night of April 23 when after a member had been called the speaker accepted the closure of the debate. The motion was discussed on May 7. After a short debate it was withdrawn. Another Labour motion of censure on the deputy speaker was withdrawn after debate on Dec. 9.

The House of Commons approved a new civil list (*q.v.*) for the reign of Queen Elizabeth. A Labour party amendment that sought to have a review every ten years was defeated by 239 votes to 211. Other unsuccessful amendments were moved to reduce the provisions made for the queen, the Duke of Edinburgh and Princess Margaret.

Four viscounts were created in the new year honours: Viscount Waverley (Sir John Anderson); Viscount Bracken (Brendan Bracken); Viscount Hudson (R. S. Hudson) and Viscount Thurso (Sir Archibald Sinclair). Earl Winterton, an Irish peer who sat in the House of Commons, 1904-51, was created a baron of the United Kingdom. In the birthday honours (June 5) two viscounts and two barons were created: Viscount Brookeborough (Sir Basil Brooke, prime minister of Northern Ireland), Viscount Norwich (Sir Alfred Duff Cooper), Lord Jeffreys (General Sir George Jeffreys) and Lord Simonds (*q.v.*), the lord chancellor. The committee of privileges of the House of Lords accepted the claim of H. J. Scrymgeour-Wedderburn, former M.P. for West Renfrewshire, to the title, honours and dignities of Viscount Dudhope and Lord Scrymgeour in the peerage of Scotland.

Commonwealth. The new Nigerian House of Representatives was formally opened on March 11. A message from Queen Elizabeth was read, and a delegation from the parliament at Westminster presented an inscribed copy of Sir T.

Erskine May's *Parliamentary Practice.* Later a similar gift was made to the legislative assembly of the Gold Coast. On March 19 a gold and silver mace was presented by the Malay rulers to the federal legislative council of Malaya. In the New Zealand House of Representatives a member was suspended for a day for refusing to withdraw a statement; this was the first parliamentary suspension since 1932. The House of Assembly in South Africa had its first all-night sitting (May 7-8) during the second reading of the High Court of Parliament bill.

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PATENTS. The year 1952 was not marked by any outstanding events in relation to patents. The protection of inventions proceeded generally under normal conditions, but many national patent offices still had serious arrears in pending applications for patents and delays in granting patents occurred in consequence.

Considerable interest attached to the project before the Council of Europe for the establishment and operation of some international office in connection with applications for patents in the member states of the council. Possibilities of co-operation between the states in the field of patents were explored, with particular reference to unification of patent laws and procedures and to the future of the International Institute of Patents which had already been established at The Hague by agreement between Belgium, France, Luxembourg and the Netherlands.

The date of the next conference of the International Union for the Protection of Industrial Property, which was expected to be held at Lisbon in the near future, was still not settled. The International Association for the Protection of Industrial Property met at Whitsuntide in Vienna and considered what amendments of the convention of the union were possible and desirable.

Patent laws were under review and revision in a number of countries. In the United States an act was passed by congress for ensuring secrecy on certain inventions disclosure of which might be detrimental to national security, and a further act when codified and in minor respects revised the laws relating to patents and to the Patent Office. In Australia a new patents act was passed with several provisions resembling those in the United Kingdom Patents act of 1949, but with modifications to meet Australian requirements. In the Union of South Africa a new Patents act was passed with provisions resembling in many cases those in the United Kingdom act and in other cases those of the law of the United States. In Czechoslovakia a new patent law came into force and a new office for dealing with inventions was established.

The United Kingdom Patent Office celebrated its centenary towards the end of the year. The Great Exhibition of 1851 had stimulated interest in inventions and the office had been established as the sole office for granting letters patent for new inventions under the Patent Law Amendment act, 1852. The German Patent Office celebrated in July its 75th anniversary and arranged to resume full examination of applications for patents filed during the year. (J. L. BE.)

See K F. Shelley, *Terrell and Shelley on the Law of Patents* (London, 951).

PAZ ESTENSSORO, VÍCTOR, Bolivian statesman (b. Tarija, Bolivia, Oct. 2, 1907), received his law degree from the University of San Andrés at La Paz in 1927. He was an attorney with the Bolivian permanent fiscal commission in 1932, and in that same year became senior official of the Ministry of Finance In 1939 he was appointed professor of economics at the University of San Andrés. He served as representative for Tarija in the Chamber of Deputies from 1940 to 1943 and was vice-president of the chamber, 1940-41.

He was leader of the Nationalist Revolutionary movement (M.N.R.) when this organization overthrew the Bolivian government on Dec. 20, 1943, and installed Gualberto Villarroel as president. Paz himself became minister of finance. The M.N.R., a Leftist-Nationalist group, was overthrown by a revolt in July 1946; Villarroel was assassinated and Paz went into exile. During the next five years he led the M.N.R. from outside the country, and in 1951 he became a candidate for the presidency, conducting his campaign from Argentina. In elections held on May 6, 1951, he received more votes than any other candidate but fell short of the majority required by the Bolivian constitution. A military junta thereupon took over control, under the leadership of General Hugo Ballivián. Paz led another revolt which succeeded in ousting the junta on April 9-11, 1952; he returned to La Paz on April 15 and was sworn in as president the next day. In his first public pronouncement he promised nationalization of Bolivia's important tin industry.

PEASANT PARTIES. All western European peasant parties devoted much attention to the preparatory conference of the European Agricultural community which assembled in Paris from March 25 to March 28, 1952. The plan to be discussed by the conference, initiated as early as Jan. 1951 by Pierre Pflimlin, French minister of agriculture, aimed at organizing a single market for wheat, sugar, dairy products and wine. Sixteen European countries, including Great Britain, were represented. As the Pflimlin plan, sometimes referred to as the "green pool", threatened agricultural subsidies, it provoked criticism among farmers.

In France the two peasant groups in the National Assembly, the Republican Centre of Peasant and Social Action led by Camille Laurens, minister of agriculture in the Pinay cabinet, and the Peasant and Social Union group presided over by Paul Antier - formed on Nov. 29, 1951—decided on June 14, 1952, to re-unite under the name of Independent Peasant group. The sixth conference of the Peasant party held in Paris the following day elected Antier as president of the executive committee. Since the farmers were much dissatisfied with the Pinay cabinet's policy of economic and financial stabilization, an extraordinary conference of the party was held in Paris on Oct. 26. It adopted a resolution that the Peasant deputies would be asked to revise their attitude towards the government if it did not relinquish its policy of "anarchical import of foodstuffs", of excessive protection of industrial products, of *laisser faire* in distribution and of inadequate agricultural investments, a policy aggravated by a projected fiscal reform partly directed against the peasants.

In Sweden, the most important outcome of the general election held on Sept. 21 was that, in spite of losing 4 of its 30 seats, the Peasant league (Bondeforbundet) would have a stronger influence in the government coalition of Social Democrats and Peasants. The former gained 110 seats and therefore failed to secure the absolute majority for which they had hoped. Commenting upon the loss of a sixth of the votes received by the Peasant league in 1948, the *Skanska Dagbladet*, a party organ, explained that the most prosperous farmers, dismayed by the idea of a coalition with the Social Democrats, had voted for the Liberals or the Conservatives.

After a long debate, the Norwegian Storting on Nov. 26 abolished by 101 votes to 47 the "farmers' clause" of the 1814 constitution, which stipulated that 100 members of parliament should be elected in rural districts and the remaining 50 in towns; this had caused under-representation of

PEASANTS' PARLIAMENTARY REPRESENTATION IN WESTERN EUROPE
(Figures in brackets are those of the preceding election)

Country	*Party corresponding to Peasant Party*	*Date of last election*	*Votes obtained*		*Percentage of total votes*		*Peasants' seats*	*Total no. of seats*
Denmark	Venstre	Sept 5, 1950	437,952	(574,895)	21·4	(22 9)	32 (49)	151
Finland	Maalaisliitto	July 2-3, 1951	475,747	—	23·4	(24 2)	51 (56)	200
France	Parti Paysan d'Union Sociale*	June 17, 1951	2,496,570	(2,465,526)	13 1	(12 8)	42 (30)	627
Iceland	Progressive party	Oct. 23, 1949	17,659	—	24 5	—	17 (14)	52
Ireland	Clann na Talmhan	May 30, 1951	38,872	(71,686)	2 9	(5 4)	6 (7)	147
Norway	Bondepartiet	Oct 10, 1949	85,008	(73,537)	4 9	(4 9)	12 (10)	150
Sweden	Bondeforbundet	Sept 21, 1952	406,137	(480,360)	10 7	(12 4)	26 (30)	230
Switzerland	Peasants', Artisans' and Middle-Class party	Oct 27-28, 1951	—	—	—	—	23 (21)	196

* At the 1946 and 1951 election the French Peasant party was in alliance with the Conservative and Independent Republicans After the election it formed its own *groupe* in the National Assembly.

urban areas. The Labour party proposed its repeal, the Peasant party (Bondepartiet) opposed it. The new arrangement would divide the country into 20 electoral districts. It was estimated that under the new system the Labour party would have gained only 76 seats at the 1949 election instead of 85, while the Conservative, Liberal and Peasant parties would have slightly increased their representation.

In Finland Urho Kekkonen, the premier and leader of the Peasants' union (Maalaisliitto) in November reconstructed his cabinet. Although coalition with the Social Democrats was maintained, the reconstruction in fact strengthened his own and his party's position, being compelled by a corruption scandal involving two Social Democratic ministers.

In Rumania Petre Groza, leader of the Ploughmen's front (Frontul Plugarilor), ceased to be premier on June 2 and became chairman of the presidium of the National Assembly. He was the only "ploughman" in the government and even the minister of agriculture was a Communist. At the Nov. 30 election the number of peasant deputies was reduced from 75 to 5.

A similar exchange was made in Hungary, the only country behind the "iron curtain" with two peasant parties. On Aug. 14 István Dobi, premier and leader of the Smallholders' party (Kisgazda Párt), became chairman of the presidium of the National Assembly. In the new cabinet his party was represented by József Bognar, minister of domestic trade, while Ferenc Erdei, and József Darvas, leaders of the National Peasant party (Nemzeti Paraszt Párt), continued to serve respectively as ministers of agriculture and education.

In the new Polish government formed by Bolesław Bierut on Nov. 20 only 2 of the 34 ministers, Jan Dąb-Kocioł (agriculture) and Bolesław Podedworny (forestry), were of the United Peasant party. But of the 15 members of the state council there were four Peasants. Another Peasant was elected one of the three deputy speakers.

In Bulgaria the People's Agrarian union (Zemledelski Naroden Sayuz) had 50 seats in the National Assembly of 239 and Gheorghi Traikov, the secretary general of the union was deputy premier.

In the German Democratic Republic, Rudolf Albrecht, of the Bauernpartei, under secretary of state for food, was dismissed on Dec. 9, accused with others of responsibility for shortages of meat, fats, sugar and potatoes. (*See* also ELECTIONS.) (K. M. S.)

PEMBA: *see* ZANZIBAR.

PENNEY, SIR WILLIAM GEORGE, British scientist (b. Gibraltar, June 24, 1909), was educated at Sheerness Technical college and at the Imperial College of Science, London, later becoming a Commonwealth fellow at the University of Wisconsin and a senior student of Trinity college, Cambridge. In 1936 he returned to the Imperial college as professor of mathematics and during 1940-44 he was seconded to the Ministry of Home Security and the Admiralty, where he carried on research into blast waves. In 1944 he became principal scientific officer at Los Alamos laboratory, New Mexico, where the atomic bomb for use against Japan was being prepared. He was present at the first atomic explosion and was one of the two British observers of the Nagasaki raid on Aug. 9, 1945. After helping to plan the Bikini atomic tests in 1946 he went as scientific adviser to the British delegation to the United Nations discussions on the control of atomic weapons. In 1947 he became chief superintendent of armament research at the Ministry of Supply and was directly responsible for the successful explosion of the first British atomic bomb off the Monte Bello islands on Oct. 3, 1952. On his return on Oct. 23 it was announced that he had been created a K.B.E., and he was invested on Dec. 10.

PERFUMERY: *see* SOAPS, PERFUMERY AND COSMETICS.

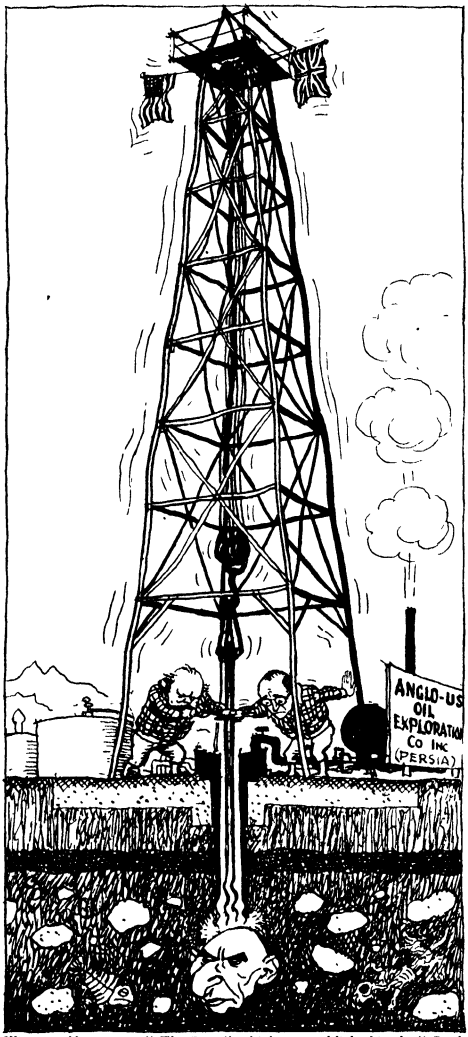
PERSIA. Independent kingdom of western Asia, bounded E. by Pakistan and Afghanistan, N. by the U S S R., W. by Turkey and Iraq and S. by the Persian gulf and Arabian sea. Area: *c.* 634,413 sq.mi. Pop. (1950 est.; no census ever taken): 18,772,000. Language: mainly Persian, but Turki and Armenian in the N.W., Kurd in the W., Arabic in the S. and Pushtu in the E. Religion: Moslem, mainly Shia but Kurds (750,000) are Sunni; Christian (*c.* 50,000 Gregorian Armenians, a few thousand Catholic Armenians and 40,000 Nestorians); Jewish 80,000; and *c.* 10,000 Zoroastrian Parsees. 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, prime ministers in 1952, Mohammad Mossadegh (*q v.*), Qavam es-Saltaneh (July 17-21) and again Mohammad Mossadegh.

History. The year 1952 opened with the long-delayed elections to the 17th Majlis (lower house of parliament) still in progress and the dispute between Great Britain and Persia over the ownership of the oil industry still unsettled. In Tehran the elections were completed during January, and all 12 seats were won by candidates of the National Front, Mohammad Mossadegh's government coalition. In the provinces, disorders and irregularities led to the suspension of the elections during February, when only some of the northern provinces had chosen their representatives; and even in some of these there was more than one claimant to some of the seats. When the Majlis assembled in April, only 80 members were certified as legally elected, out of a full complement of 156, so that parliamentary sittings regularly took place with a bare quorum of members.

An attempt initiated in Dec. 1951 by representatives of the International Bank for Reconstruction and Development to negotiate a settlement of the Anglo-Persian oil dispute ended in failure during Feb. 1952. At the same time the bitterness against Great Britain fostered by Mossadegh and his colleagues in the National Front, notably by the religious demagogue Ayatollah Kashani (*q.v.*), reached new extremes. On Jan. 14 Mossadegh ordered the closure of all British consulates in Persia (except the administrative consulate at

Tehran) by Jan. 21, on the grounds that the consuls were habitually interfering in Persian affairs; but none of the documentary evidence produced in support of this charge was more recent than World War II and most of it was much older. Later in January, Mossadegh's government publicly refused its *agrément* to the appointment of the new British ambassador, nominated in succession to Sir Francis Shepherd —an unprecedented discourtesy. In February the British Council, along with other foreign cultural institutions, was obliged to end its work in the provinces. Persian relations with the United States also became more uneasy, and it was only after a period of uncertainty that the contract for the U.S. military and police missions was renewed.

On the other hand, the Persian government pursued



Illingworth's cartoon "The Bore" which was published in the "Daily Mail" (London), Sept. 1.

friendly relations with most of the Iron Curtain countries. Trade agreements (including provision for the sale of oil) were concluded during the year with Hungary and Czechoslovakia, and were believed to be under negotiation with others Frontier disputes with the U S S.R. were tacitly suspended, and the contractual date of termination of the Soviet-Persian fishery concession on the Caspian sea was allowed to pass without any attempt to enforce it. Because of the shortage of oil tankers, however, the National Iranian Oil company had no more success in selling oil to these countries than to private firms in other parts of the world. Despite many enquiries and negotiations (including offers from the United States, Italy, Japan, India and South American countries), the only successful sale of oil made during the early part of the year was to an Italian company which was able to send a small tanker, the "Rose Mary", to take delivery. This ship was impounded at Aden during its return journey in July, pending a legal decision on the ownership of the oil.

As a result of the loss of oil revenues, the financial and economic position of the country became increasingly precarious, and the Communist-controlled Tudeh party became increasingly active and successful Government salaries and other official payments fell steadily into arrears, and revenue only kept pace with expenditure by means of repeated loans from the National bank. A national loan, launched by the government, was only moderately successful However, the winter of 1951-52 was mild and the mainly peasant population of Persia, which had never enjoyed any benefits from the country's oil revenues in the past, hardly noticed the effect of their loss, but in industrial centres unemployment increased and disorders spread Each successive decline in the economic situation was masked by fresh attacks on the British from politicians of the National Front. The next climax was reached at the end of May, when Mossadegh dramatically flew to The Hague to conduct Persia's case at the International Court of Justice, which met in June to determine whether or not it was competent to adjudicate in the dispute between the British and Persian governments

On June 24, when the International Court had completed its hearings, but before it had announced its decision, Mossadegh returned to Tehran. There followed an acute political crisis, arising from the growth of opposition to Mossadegh in the Majlis and especially in the Senate. He was constitutionally bound to present his formal resignation to the newly assembled Majlis, which he did early in July. The Majlis and the Senate then voted that he should be re-appointed prime minister, but did so in such a half-hearted manner that he refused to resume office unless he was granted full powers for six months to carry out an ill-defined programme of reforms. Part of his price was that he should himself be appointed minister of war; but the shah refused his consent, on the ground that such an appointment would infringe his own control over the army. Mossadegh thereupon resigned again and on July 17 the Majlis voted for Qavam es-Saltaneh in his place.

Qavam was prime minister for barely four days. On July 21 riots broke out in Tehran at the instigation of Ayatollah Kashani and with the skilled co-operation of the Tudeh party. The Tudeh party, although officially outlawed since Feb. 1949, emerged unopposed and took control of the rioting mobs of Tehran. The shah personally ordered his troops, which had been called out to control the riots, to return to their barracks; and Qavam, who was thus deprived of effective power, resigned in despair and went into hiding. On July 22 Mossadegh became prime minister again and the riots ended; on the same day The Hague court announced that, as Mossadegh had contended, it was not competent to adjudicate in the oil dispute, and the decision was hailed as a personal

triumph. But it seemed likely that he had at last paid too high a price for office. Power was passing partly to Kashani, who was elected president of the Majlis, and partly to the Tudeh party, a number of whose sympathizers were to be found in the new government.

The Majlis now voted to Mossadegh the full powers which he had demanded, but he made little use of them. His efforts were again concentrated against the British. On Aug. 7, in a new note he made a new but ambiguous offer to negotiate on the oil dispute. The reply, made privately on Aug. 27, was a joint Anglo-U.S. offer of apparently generous terms, but these were indignantly refused Encouraged perhaps by the arrival in Persia of Hjalmar Schacht, the German financial expert, and Alton Jones, president of an important U.S. oil company, Mossadegh was surer than ever that he could do without the British. On Sept. 24 he made written counter-proposals, which included a demand for £49 million (payable in dollars) as a pre-condition of any negotiation, this sum being allegedly owed to Persia by the Anglo-Iranian Oil company under the supplemental agreement of 1950 which the Persian government had refused to ratify. This "last offer" by Mossadegh was accompanied by public (but unofficial) threats to sever diplomatic relations if it were not accepted within ten days. Meanwhile Mossadegh had destroyed the last safeguard of security in Tehran by breaking up the 1st Guards division into five independent brigades.

After several more weeks of bluff and hesitation, while the U.S. and Indian ambassadors tried to act as intermediaries for a reconciliation, Mossadegh finally severed diplomatic relations with Great Britain on Oct. 22. Even after the last embassy official had left Tehran on Nov. 1, the anti-British vendetta was pursued by the arrest of a British private citizen, resident in Tehran, on charges of espionage. Mossadegh consolidated his personal position by dissolving the Senate, where opposition to his policies was more vocal than in the Majlis, and by circumscribing the shah's accessibility to foreign diplomats, a step which seemed finally to reduce the sovereign to a cipher. Attempts to break the deadlock in the oil dispute were not abandoned, however. Although the U.S. government openly withdrew its previous policy of restraining U.S. oil companies from buying Persian oil, it warned them of the legal consequences (which the British government was pursuing at the same time in the court of Aden against the owners and charterers of the "Rose Mary"); and at the same time officials of the State Department continued to seek a solution of the dispute acceptable to both Persia and Great Britain. The year ended in the same uncertainty as it had begun. (X)

Education. Schools (1948). elementary 3,229, pupils 386,266, teachers 14,781, secondary 284, pupils 36,353, teachers 2,350 Universities 2 (Tehran and Tabriz), university colleges 3.

Agriculture and Fisheries. Main crops ('000 metric tons, 1950; 1951 in brackets) wheat 2,263 (1,800), barley 875 (740), cottonseed 42 (41); jute 4, sesame seed 9 5; rice 450 (360), sugar (raw value) 61 (78), tea 7 6, tobacco 17 0, oranges and tangerines 45 (46), olives 12, olive oil 1. Livestock ('000 head, 1950-51) cattle (1951) 3,900, sheep (1951) 8,520, horses 365, mules (1948-49) 42, buffaloes 10; camels 600, goats 7,000; chickens 13,000. Livestock products ('000 metric tons, 1950)· wool (clean basis) 9; butter 40. Fisheries (production of Société Mahie). sturgeon catch *c.* 5,000 tons, giving *c* 30 tons of caviar.

Industry. Fuel ('000 metric tons) and power. coal (1948) 150, crude petroleum (1951; 1952, three months, in brackets) 16,848 (2,405); electricity (million kwh., 1948) 200. Raw materials (metric tons, 1950 est): copper ore 1,000, sulphur 600; red oxide 10,000, arsenic ore 500 Manufactures: cotton yarn ('000 metric tons, 1949) 12; cotton piece goods (million m , 1949) 30; cigarettes (millions, 1950) 4,192; tobacco ('000 metric tons, 1950) 3,848; cement ('000 metric tons, 1948) 58.

Finance and Banking (million rials). Budget: (1951 est.) revenue 10,060, expenditure 10,060; (1952 est) revenue 9,553, expenditure 9,550. Internal national debt (Dec. 1951). 7,360. Currency circulation (March 1951; March 1952 in brackets): 7,020 (6,810). Gold and foreign exchange (million U.S. dollars, Aug. 1951; Aug. 1952 in brackets): 221 (181). Monetary unit: *rial* with an exchange rate of 91 rials to the pound sterling and 32·50 rials to the U.S. dollar.

Foreign Trade (million rials, 1951; 1952, six months, in brackets). Imports 7,370 (2,740); exports 11,270 (2,020). Main sources of imports (1950): U S. 26%; U K 29%; India 10%; Germany 6%; U.S.S.R 5%. Main destinations of exports: U.S. 26%, India 8%; France 5%; South Africa 5%. Principal imports (1950)· cotton piece goods 13%, machinery and tools 12%, sugar 12%; tea 7%. Principal exports· petroleum 86%, rugs and carpets 2%.

Transport and Communications. Roads (1948): 17,000 mi (8,000 mi suitable for vehicles). Licensed motor vehicles (1950)· cars 12,000; commercial vehicles 12,000. Railways (1949): 1,750 mi ; passengers carried (1947) *c* 1 6 million; freight carried (1948) *c.* 1 million metric tons Iranian Airways unduplicated route miles (1950) 5,077. Wireless receiving sets (1950)· 184,000

PERU. South American republic, bounded N. by Ecuador and Colombia, E. by Brazil and Bolivia, S. by Chile and W. by Pacific. Area: 482,258 sq.mi., incl. islands. Pop. (1950 census, prelim. fig.): 8,405,000; *c.* 52% whites and *mestizos*; 46% Indians; some Asiatic and Negro elements. Religion: Roman Catholic. Language: Spanish; Indians speak only Quichua or Aymará. Chief towns (pop , 1950 est.): Lima (cap., 835,500); Callao (100,000); Arequipa (97,000); Cuzco (55,600). President, General Manuel A. Odría.

History. As the Odría administration continued to stress economic and fiscal reforms, the emphasis was placed during 1952 on public works projects. Major construction programmes were already under way by the middle of the year, when a new 1,970 million soles enterprise was announced. This undertaking involved the building and maintenance of new highways, and the expenditures were projected over a six-year period. Meanwhile, plans went forward for the modernization of the navy within the over-all structure of the defence system of the western hemisphere. Three U S.-built destroyers were commissioned on May 24, which doubled the effective surface strength of the navy. (G. I. B.)

Education. Schools (1951) primary, state 9,705, teachers 20,429, pupils 872,669, private 628, teachers 2,650, pupils 85,429, secondary, state 98, teachers 2,056, pupils 41,209, private 148, teachers 1,736, pupils 21,023 Universities. state 4 and the Catholic university of Lima.

Agriculture. Production (1951). cotton (ginned) 80,245 metric tons, centrifugal sugar 467,000 tons, rice (paddy) 215,000 tons Livestock (1950-51 est , million head). sheep 19; pigs 1 1, goats 1 1, cattle 2 5, alpacas and llamas (1948) 2 5

Industry. Mineral production (1951)· copper (smelter) 25,170 short tons, lead 90,774 tons, zinc (ore) 111,663 tons, gold 144,367 fine oz , silver 14,856,194 oz , antimony 1,115 metric tons, crude petroleum 16,109,896 bbl

Finance (million soles) Budget (1951 actual; 1952 est. in brackets) revenue 2,151·3, expenditure 1,979 9 (2,563·9). Public debt (Dec 31, 1951) 1,605 5 incl 375·0 external. Currency circulation (July 31, 1952)· 1,214. Gold reserves (July 1952) U S $45 7 million. Monetary unit· *sol* with a free exchange rate (Aug. 1952) of 43 40 to the pound sterling and 15 50 to the U.S dollar.

Foreign Trade. (Million soles, 1951.) Exports 3,740 6; imports 4,238 5. Leading exports: cotton 35%, sugar and derivatives 13%, lead and zinc 12%, petroleum and products 8% Leading imports. machinery and vehicles 33%, metals and manufactures 12%, chemicals and products 8%. Main destinations of exports· U.K. 25%, U S. 24%, Belgium 9%. Main sources of imports: U.S. 56%, U.K. 11%, Germany 5%

Transport and Communications. Railways (1947) 2,612 mi. Roads used by motor traffic (Dec. 31, 1949). 19,468 mi., of which 7,903 mi hard-surfaced. Motor vehicles (1950): cars 31,945, lorries 23,978, buses 3,459. Merchant marine (June 30, 1951) 44 steamers and motorships (100 tons and over) aggregating 91,167 gross tons. (J. W. Mw.)

PETROLEUM. Production of crude petroleum continued to expand in all areas of the world in 1952. The loss from the nearly complete shut-down in Persia had been made good by increases in other middle eastern countries. The task of building refineries in consuming centres instead of at oil fields, a movement accelerated after the events in Persia, was pursued throughout the year. Expansion of production of high-octane aviation fuel was discouraged, however, by the rapid development of jet engines using kerosene-type fuel.

The loss of Abadan, an important producer of high-octane fuel, was felt acutely in May and June during United States strikes at Gulf of Mexico and east coast refineries which were responsible for 90% of world production of this type of fuel in 1952. Airline operations in many parts of the world were restricted in consequence of the strikes.

Further and fruitless efforts were made to settle the Persian dispute. The British government had referred it to the International Court of Justice (*q.v.*) at The Hague. The court ruled on July 22 that it had no jurisdiction but made clear that it expressed no opinion on the merits of the case. On Aug. 30 a joint Anglo-American offer to Mohammad Mossadegh, the Persian prime minister, was publicly announced; this included a promise of U.S. financial assistance, but this was rejected and further demands were made. As the demands were not met Persia broke off diplomatic relations with Great Britain on Oct. 22. An attempt to move oil from Abadan by a tanker, the "Rose Mary", under charter to Italian interests was checked when the ship reached Aden and the Anglo-Iranian Oil company took legal proceedings to assert its ownership of the oil. These were continuing and the "Rose Mary" was still at Aden late in the year.

Relations between the companies and other middle east producing countries continued to be satisfactory. The most spectacular result from oil operations was in Kuwait where a new 75-yr. 50-50 agreement had come into force on Dec. 1, 1951. Income to this sheikhdom of 200,000 inhabitants was expected to be about £60 million a year—£300 for each man, woman and child. Qatar signed a similar agreement which was expected to provide about £4-£4·5 million a year from Sept. 2, 1952. The 50-50 agreement signed with Iraq in 1951 was ratified in April 1952. The government of Burma signed an agreement with Burmah Oil company for operations in that country in which the government would have a one-third interest. The United Kingdom lent Burma £2·5 million towards the £5 million needed for its subscription to the new project and the company permitted Burma to pay the balance over a period.

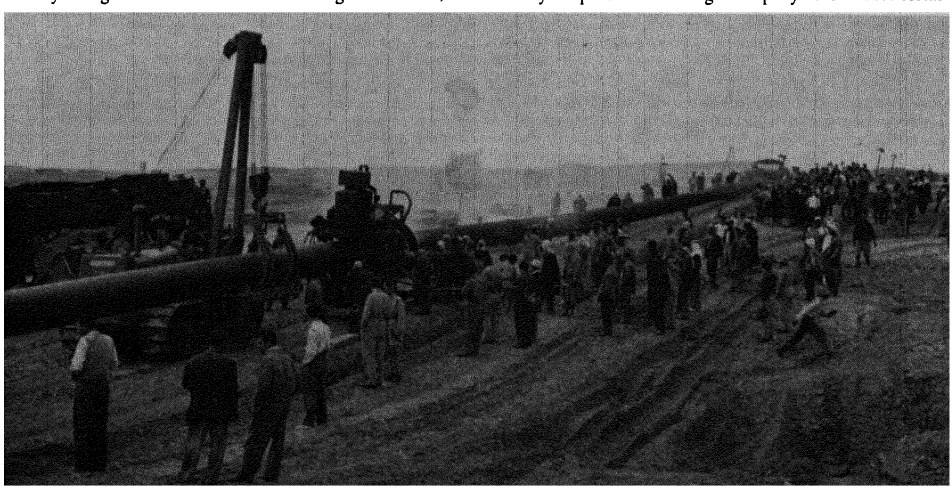
The Iraq Petroleum company's 30-32-in. pipeline from Kirkuk to Banias, Syria, began carrying oil in April and was formally inaugurated in November. Costing £41 million, it was already by November pumping at a rate near its 14 million tons-a-year planned capacity, but it was expected that with improved pumping arrangements this would be exceeded. A project for a 24-in. pipeline from Zuban to Fao on the Persian gulf was announced.

PRODUCTION OF CRUDE OIL
(monthly average, '000 metric tons)

	1950	1951	1952 (latest month)
Argentina	283	292	318 May
Bahrein	126	126	128 Aug.
Brunei	343	415*	—
Canada	312	516	694 June
Colombia	399	450	449 June
Egypt	195	194	—
German Fed. Rep.	93	114	152 July
Indonesia	534	620	622 March
Iraq	540	696	1,023 March
Kuwait	1,441	2,361	3,160 June
Mexico	858	915	930 June
Persia	2,688	1,404	112 March
Peru	166	178	181 June
Qatar	136	197	276 July
Saudi Arabia	2,242	3,123	3,413 Aug.
Trinidad	250	252	265 July
United States	22,529	25,622	25,872 July
Venezuela	6,520	7,419	7,832 July
World Production (excl. U.S.S.R.), million metric tons per annum	486·6	550·4	139·8†
World Production index (1948 = 100)	110	125	127†

* First quarter. † Second quarter.

In Great Britain the building of refineries neared completion, with six in operation, one partly working and an eighth under construction. They had a capacity of 24 million tons of crude oil a year, sufficient to provide all internal needs for refined products. This compared with a capacity of 2·5 million tons in 1946. It was announced in October that the wartime system of selling a single brand of petrol—"pool" spirit of 70-72 octane—would end on Feb. 1, 1953. The companies would also be able to sell their own brands of higher octane value. These were expected to cost about 4*s.* 7¼*d.*, or about 3*d.* more than pool. The companies had made a big drive throughout the early part of 1952 to tie up filling stations and garages by contracts which bound them to sell only the products of a single company in return for certain



The last section being laid of the Iraq Petroleum Company's 556-mi. 30-in. pipeline from Kirkuk, Iraq, to Banias, Syria. Begun in Nov. 1950, it was completed in April 1952 and was officially opened by King Faysal on Nov. 18.



Part of the new oil refinery of the Societé Industrielle Belge des Pétroles at Antwerp, Belgium, officially opened on June 23.

services and sales assistance. Much criticism of this system was voiced by the public but it seemed at the end of the year that it would have made considerable headway by the time brands were reintroduced. The system had already been introduced in Australia where, however, considerable resistance from garage owners had had to be overcome.

An important contribution to self-sufficiency in the sterling area was the construction by Lever Brothers of a factory at Warrington, Lancashire, to produce the catalysts required for refinery plant throughout the sterling area. These had formerly been obtained from the United States. Among new refinery projects announced were: one by Anglo-Iranian at Aden costing £40 million; two at Bombay under agreements with the government of India giving guarantees against nationalization for 25 years; and one at Fremantle, Western Australia, by Anglo-Iranian at a cost of £30 million. During the year Australia sold its shares in Commonwealth Oil Refineries to its co-participant, Anglo-Iranian, for £A 2,762,506. This was part of a policy of divesting itself of holdings in commercial undertakings.

Canada's oil expansion continued. The 24-in. Transmountain pipeline from Edmonton to Vancouver was completed at a cost of $80 million. The United States added 10,000 mi. of internal pipelines to its total of 160,000 mi. at the end of 1951.

The Paley commission on the energy and raw material needs of the United States reported that U.S. oil consumption might be expected to double between 1950 and 1975, but that supply prospects were better than for other materials. A U.S. Federal Trade commission report on supposed international oil cartels going back to 1922 was published on Aug. 22. This was followed by an action by the U.S. government against U.S. oil companies for $67 million which, it was claimed, was overcharged on oil supplied to European countries under Marshall aid. Later in August hearings began in Washington before a grand jury on charges of violating the anti-trust laws against five U.S. companies, Anglo-Iranian and Royal Dutch-Shell. Government counsel sought to have the records of the companies covering a considerable number of years produced in court. The British government directed Anglo-Iranian not to produce documents which were not already in the United States and which did not concern business there on the grounds that publication of many of the documents demanded "may well prejudice or endanger the economic, strategic or political interests of Her Majesty's government and of the western powers." The government of India also directed Standard Vacuum's Indian division not to disclose documents concerning operations in India without the prior consent of the government. (R. JA.)

PHARMACY. In 1952 a committee was set up by the Pharmaceutical Society of Great Britain to further the study of the history of pharmacy, in which there had been a revival of interest. Dr. George Urdang, emeritus professor of the history of pharmacy, University of Wisconsin, was elected the first president of a newly formed International Academy of the History of Pharmacy established in the Netherlands. On the closing of the museum of the Liverpool Chemists' association and the transference of the botanical collections to the city museum, there came to light a classic collection of Himalayan plants which had been lost since 1850 and which was identified as the Royle Herbarium. John Forbes Royle (1799-1858), at one time secretary of the British Association for the Advancement of Science, had been curator of the East India company's botanic garden in the hill station of Saharunpore and while there had prepared specimens of plants which had hitherto been unclassified.

A second edition of the *National Formulary*, on which prescribing under the national health service is largely based, was published in March and towards the end of the year the 23rd edition of Martindale's *Extra Pharmacopoeia* was issued. For the first time it incorporated *Squire's Companion to the Pharmacopoeia*, the copyright of which was acquired by the Pharmaceutical Society of Great Britain.

The use of Latin by physicians and pharmacists received a rebuff by announcements that the main titles of monographs in the new *British Pharmacopoeia* (1953) and the new *British Pharmaceutical Codex* (1954) are to be in English. It is not easy to latinize the names of many of the pharmaceutical chemicals and biological products now being used in medicine and although the decision meant a drastic break with tradition it indicated a realistic approach to modern pharmaceutical nomenclature. In its attempt to obtain uniformity in the names of medicinal substances the World Health organization's sub-committee on non-proprietary names selected or approved several hundred names which it asked member states to refrain from registering as trade names (see *Britannica Book of the Year 1952*). It was announced that a number of biological preparations used in veterinary medicine would be controlled in Britain as from Jan. 1, 1954, as the result of the Diseases of Animals (Therapeutic Substances) order made in Nov. 1952.

Proprietary medicines supplied in 1952 under the British national health service accounted for about 25% of the items prescribed and about 50% of the total cost of all ingredients. The gross cost of pharmaceutical services for 1952 was about £43 million. The Ministry of Health began negotiations with some of the manufacturers in an attempt to get them to reduce their prices. After a marked decline in the number of national health service prescriptions ordered in June, when the 1*s.* levy per prescription-form was introduced, the number steadily rose towards the end of the year.

The introduction of *iso*nicotinyl hydrazide (isoniazid) for the treatment of various forms of tuberculosis, with the

subsequent discovery that its indiscriminate use might lead to the production of resistant forms of the tubercle bacillus, resulted in a general warning against its uncontrolled distribution. Methods of assay of this new substance were described to the British Pharmaceutical conference (*J. Pharm. Pharmacol.*, *4*, 681-692, London, 1952). Confirmation was obtained of the germicidal activity, especially against gram-positive organisms, of soap containing 2% of hexachlorophene, and some workers, for example, J. W. Lord, Elsie M. Thomas and E. Parker (*Pharm. J.*, *115*, 115, London, 1952) recommended its use for the pre-operative sterilization of surgeons' hands. (W. K. F.)

PHILATELY. The death of King George VI affected philatelists very closely, as the stamps of his reign were widely collected. Some 750 different current British Commonwealth stamps showing his portrait became obsolescent. They and earlier King George VI stamps remained in great demand.

Much interest was taken in advance announcements of the Queen Elizabeth II stamps for the colonies, and disappointment was expressed that many of the new stamps were to be adapted from the old designs. An advance illustration of the crown colonies coronation stamp design was reminiscent of the beautiful Victorian Chalon Head stamps. No stamps portraying the young sovereign appeared until Dec. 5, when the first values of the Great Britain series were issued, followed on Dec. 19 by the first colonial stamp (Gold Coast 2½*d.*).

Among philatelic honours of the year were awards by the Royal Philatelic society, London, to D. Alan Stevenson, James Andrews and R. W. T. Lees-Jones, while in New York the first Alfred F. Lichtenstein Memorial award was made by the Collectors' club to Theodore E. Steinway for distinguished services to philately. The names of G. W. Collett, A. S. Mackenzie-Low and A. A. Jurgens (South Africa) were added to the British *Roll of Distinguished Philatelists*.

International exhibitions were held at Capetown, Luxembourg, Monte Carlo and Utrecht. At the Capetown exhibition (part of the South African tercentenary celebrations) the chief award went to Capt. C. Emerson Huston for Cape triangular stamps, while at Luxembourg, Monte Carlo and Utrecht the chief winners were E. Wiedemann (early European issues), Dr. H. Leemann-Geymuller (Swiss stamps) and Jan Poulie (Netherlands first issue) respectively.



The first issues of British and Commonwealth stamps of the reign of Queen Elizabeth II. Enid Marx designed the British 1½d. stamp and M. C. Farrar-Bell, the 2½d. The New Zealand stamps of Princess Anne and Prince Charles were the annual health issue.

The most expensive philatelic book ever produced, *The Royal Philatelic Collection*, by Sir John Wilson, keeper of the king's collection, was published at £63. It comprises chiefly a complete catalogue of the remarkable collection of nearly 250,000 stamps formed by King George V, but as a book it was planned to demonstrate the finest British craftsmanship in both printing and binding.

Much interest was aroused by reports in the general press of the discovery of a stamp purporting to have been used on a letter from Spittal in Austria in 1839, the year before the British Penny Black, the world's first government postage stamp, appeared. The status of the new discovery had not been finally determined by the end of 1952, but at best it would seem to have been a label indicating payment for some unspecified purpose, produced by the local postmaster without authority.

Waterlow and Sons celebrated their centenary as stamp printers, having first been responsible for two British Guiana stamps of 1852. Postage stamp centenaries were commemorated by special issues from Barbados, Germany (for the posts of Thurn and Taxis), Italy (for Modena and Parma), Luxembourg, Pakistan (for Scinde), Netherlands and Vatican City (for the earliest Papal stamps).

India installed its first photogravure press, producing from it a series showing saints and poets, Rabindranath Tagore being the best known.

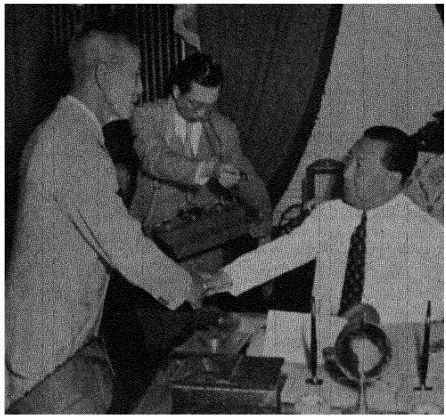
Among British Commonwealth new issues were New Zealand stamps showing Prince Charles and Princess Anne, two Kenya stamps for Princess Elizabeth's visit, tragically terminated by the king's death, and general issues from Falkland Islands, Seychelles, St. Christopher-Nevis-Anguilla, Virgin Islands and Tristan da Cunha. This, the first issue of the last-named place, was widely criticized as unnecessary. A combined Papua-New Guinea set appeared, the first since World War II.

A stamp honouring newspaper boys was an unusual issue from the United States, while Argentina had stamps commemorating Eva Perón.

BIBLIOGRAPHY. Outstanding publications of 1952 included: Sir John Wilson, *The Royal Philatelic Collection* (London); B. S. H. Grant, *The Postage Stamps of the Falkland Islands and Dependencies* (London); Wilfrid T. F. Castle, *Cyprus: Its Postal History and Postage Stamps* (London); *Handbook-Catalogue, Union of South Africa* (Johannesburg); H. D. S. Haverbeck, *The Postage Stamps and Postal History of Tibet* (New York). (S. Ps.)

PHILIPPINES. Island republic lying about 500 mi. off the southeast coast of Asia; an archipelago of 7,107 islands, the largest being Luzon (40,814 sq.mi.) and Mindanao (36,906 sq.mi.). Total area: 115,600 sq.mi. Pop.: (1948 census) 19,234,182; (1952 est.) 21,400,000, incl. 145,720 Chinese, 11,754 U.S. citizens and 8,200 Europeans. Languages: English (spoken by *c.* 5 million), Spanish (*c.* 800,000) and 87 dialects; Takalog, spoken by *c.* 3·5 million, was declared the national language. Religion: Roman Catholic (*c.* 80%); *c.* 2 million followers of the Independent Filipino (Christian) Church; 425,000 Protestants; 800,000 Moslems, 700,000 pagans. Chief towns (pop., 1948): Manila (cap., 1952 est., 1,350,000); Cebu (167,000); Iloilo (110,000). President, Elpidio Quirino.

History. During 1952 the political and economic situation of the Philippines continued to improve. The election of Nov. 1951 placed control of the Philippine Senate in the hands of the opposition, Nacionalista, party headed by José P. Laurel, and 1952 was marked by much political jockeying of the two major parties, Liberal (Conservative) and Nacionalista, for control of congress, but no major splits or problems endangered the operation of government. Quirino's emergency powers were cancelled by congress in February.



Shiganori Kuroda, former Japanese commander in the Philippines, calls on President Quirino to thank him for his release from prison.

The vigorous military campaign against the Communist Hukbalahap begun in 1951, together with issues of land to surrendering dissidents, led to claims that the serious Communist threat to the islands was ended. Small groups of Hukbalahap remained scattered throughout the main island of Luzon, but the double-barrelled programme reduced the number and strength of the Communist forces, and raised the confidence of the population in its government.

The small trickle of migrants in past years, moving from the overcrowded central and northern islands into the relatively empty southern frontier island of Mindanao, increased during the year to the point where more than 20,000 people per month were entering Mindanao, settling chiefly in the two southern provinces of Davao and Cotabato.

(J. E. Sp.)

Education. Schools (1952): state, *c.* 19,200, pupils *c.* 5 million; private 2,200, pupils *c.* 500,000.

Agriculture and Fisheries. Main crops ('000 metric tons, 1950; 1951 in brackets): rice, paddy 2,765 (2,831); maize 718 (595); sweet potatoes 573 (251); cassava 279; copra, exports 442 (486·5); abaca 164 (90); tobacco 32·0; sugar, raw value 848 (980). Livestock ('000 head, 1951): cattle 805; sheep 33; buffaloes (1950) 2,151; pigs 4,159; chickens 31,225; horses 230. Fisheries (total catch, 1950): 220,190 metric tons.

Industry. Raw materials ('000 metric tons, 1951; 1952, six months, in brackets): iron ore (metal content *c.* 60%) 888 (617·6); gold ('000 fine oz., 1950; 1951 in brackets): 300 (350). Manufactured goods ('000 metric tons 1951; 1952, six months, in brackets): cement 298·8 (164·2); cotton yarn 0·288 (0·209); woven cotton cloth (million m.) 9·6 (3·9).

Finance (million pesos). Budget (1951 actual): revenue 425·6, expenditure 226·0. Currency circulated (Sept. 1951; Sept. 1952 in brackets): 630 (582). Bank deposits (Aug. 1951; Aug. 1952 in brackets): 428 (465). Monetary unit: *peso*, with an exchange rate of 5·60 to the pound sterling and 2 to the U.S. dollar.

Foreign Trade. (Million pesos, 1951; 1952, six months, in brackets). Imports 961 (439), exports 819 (378). Main sources of imports (1951): U.S. 71%; Japan 7%. Main destinations of exports: U.S. 63%; Japan 7%; Netherlands 5%. Chief imports: textiles 16%; machinery and vehicles 11%; non-ferrous metals and manufactures 10%; petroleum and products 9%. Chief exports: copra and coconut oil 42%; sugar, centrifugal 21%; abaca 16%.

Transport and Communications. Roads (June, 1952): 17,900 mi., of which 85% were all-weather roads.

PHILOSOPHY. To judge by the number of new works appearing which librarians classify as " philosophy ", philosophical studies continued in 1952 to be actively prosecuted in all western countries. There were however few signs that the wide gap between the conceptions of their subject entertained by philosophers in the English-speaking countries on the one hand, and in Germany, France and Italy on the other, would be bridged in the immediate future. The intense discussion of world-outlooks, such as Marxism and Existentialism in its various forms, in which most continental philosophers were engaged provoked virtually no interest among professional students of philosophy in Great Britain and the United States; conversely there was little tendency on the part of the former to imitate the linguistic techniques and preoccupation with narrowly logical issues of the latter.

Some slight interest in recent work of the British analytic school was shown in continental periodical literature, and there was activity by small groups in Switzerland, Austria and Italy with an outlook akin to that of the prewar Vienna Circle; while the appearance of the first full-length study in English of the German writer Wilhelm Dilthey, by H. A. Hodges, indicated some curiosity among English-speaking professional philosophers in the immediate background to contemporary continental fashions. But in general it remained true that philosophers on the European continent, the Scandinavian countries apart, had little in common with their opposite numbers in Great Britain, the Commonwealth and the United States. In Europe the subject was still a part of general culture, concerned with issues intelligible in principle to most educated men, while in the English-speaking countries it was becoming steadily more specialized, more remote from everyday questions and more difficult for any but professional students to understand.

In Great Britain and the United States, though older traditions were not extinct—in the U.S. the influence of John Dewey remained especially important—the great majority of the younger and more active teachers of philosophy were ready to describe themselves as practising logical-analysis, a term first used by Bertrand Russell. But sharp differences prevailed about the proper understanding of the term. Russell himself originally used it in connection with his project for taking philosophical problems piecemeal and solving them scientifically by introducing carefully defined technical terms such as " sense datum " and " logical construction ". His approach and methods were followed by the early Logical Positivists, and were later developed, in close association with the study of formal logic and with a formidable array of technical apparatus, by Rudolf Carnap, formerly of Vienna and afterwards professor in Chicago.

In 1952 Carnap and his followers still enjoyed a wide prestige and influence in the United States. But in Great Britain there was a vigorous group which, influenced by the writings of G. E. Moore and, directly or indirectly, by the verbal teaching of Ludwig Wittgenstein, had repudiated any such programme as Carnap's. Accepting from Russell little more then his confidence in the teachings of formal logic and the bare name " logical analysis ", they approached their subject with an outlook notably different from his: philosophical problems were not to be solved but dissolved, by methods which were rigorous indeed but which did not involve the use of any special philosophical terms. Particular emphasis was laid on the genesis of philosophical "puzzles", as they tended to be called, in the strained use of everyday, non-philosophical language; it was maintained that the questions asked by the great philosophers of the past, about free-will, the reality of the external world or the justification of induction, for instance, could be seen to be misconceived. Much of the writings in British and, to a lesser extent, U.S. philosophical periodicals in 1952 was concerned with this conception of philosophy and the possibility of its detailed application, and the year was marked by some important additions to the small number of books by writers sympathetic to it. But above all the publication of Wittgenstein's posthumous *Philosophische Untersuchungen* was eagerly awaited by supporters and critics alike, since it was expected

that in it would be found definitive illustrations of this method of philosophizing.

Failing any such definitive statement, the formulation of a fresh alternative to this later conception of logical analysis was naturally not possible. Some shrewd criticism was, however, directed to the concept of " ordinary " language with which its less sophisticated exponents made such play, and a successful defence was made, in a striking article by R. B. Braithwaite, of a leading doctrine of the older analytic school, namely Russell's " reduction " of numbers to classes of classes. On this question of " reductionism ", as on some others, a certain confusion was apparent about the precise issues at stake. It was shown without much question that earlier writers were wrong in supposing that expressions of one kind (statements about physical objects, for instance) could be reduced to expressions of another kind (*e.g.*, statements about people's actual or possible experiences) without loss of meaning; but what general conclusion to infer from this was not equally clear. To unsympathetic observers the newer analysts seemed at times to be enunciating no more than the trivial theses that ethics is ethics, facts are facts, hypotheticals are hypotheticals and, in general, that everything is what it is and not another thing; assertions which few would be likely to dispute.

The rather unsettled nature of the philosophical atmosphere had several good results. One was that a number of doctrines long accepted without question were brought under fresh examination. The view that statements can be divided without remainder into analytic and synthetic was queried in Great Britain by F. Waismann and in the United States by W. V. Quine. There was much discussion of the notion of logical form, and an increasing realization of the gap between the meanings of terms like " implication " as used in formal logic and as used in everyday speech. Some writers showed a remarkable antipathy to accepting precise distinctions of any kind in philosophy; it was curious to see parallels between their arguments and outlook and those of Hegel, who also repudiated precise distinctions in philosophy. Another welcome feature was a continuance of lively discussion of ethical questions. It was generally agreed that moral utterances have, in the current jargon, " their own sort of logic "; the problem was to give substance to this unspecific statement. A short book by R. M. Hare, *The Language of Morals*, made some useful comparisons between decisions in moral and non-moral contexts, and brought out clearly some of the main features of moral discourse. A reader who sought in this or similar books for moral guidance would, however, do so in vain.

In the field of logic interest remained high in the subjects of inductive logic and probability, new works of importance being published by Carnap, G. H. von Wright and J. O. Wisdom. The problems of logic in the narrow sense and of the foundations of mathematics were studied vigorously in the United States, scarcely at all in Great Britain. There was welcome evidence that the Polish school of formal logicians, so influential before the war, was not extinct. The rising reputation of the late 19th-century German logician Gottlob Frege was reflected in the publication of a further volume of translations from his philosophical writings, which made available to English readers a number of important studies which it had hitherto been almost impossible to obtain.

A development worth remarking in work on the history of philosophy was the interest taken in the history of formal logic, which had not previously been treated by writers conversant with and sympathetic to the logic of Russell and A. N. Whitehead. During the winter of 1951-52 no less than three contributions of importance were made to this subject, by I. M. Bochenski, J. Lukasiewicz and P. Boehner, on ancient formal logic, Aristotle's syllogistic and mediaeval logic respectively. Lukasiewicz's book, a masterly treatment of the early chapters of the *Prior Analytics*, was especially noteworthy. Apart from this there was little significant work on the history of philosophy in English, though the subject was actively pursued by continental scholars. French philosophers continued to be preoccupied both with classical and more recent German thought, and the spate of translations of philosophical works from German into French was kept up.

Despite the increasingly esoteric character of philosophy as represented in the professional journals, there appeared in 1952 the first volumes in a popular series, published by Penguin Books, which it was hoped would have, for works of the kind, a very wide sale. The series made an auspicious start with a lucid exposition of the philosophy of Spinoza by Stuart Hampshire, and an interesting study of the American philosopher C. S Peirce, the first of its kind to appear in Great Britain, by W. B. Gallie.

Three philosophers of international repute died during the year: John Dewey on June 1, George Santayana on Sept. 26, Benedetto Croce on Nov. 20 (*see* OBITUARIES). Dewey and Croce had each acquired the status of major prophet in the eyes of their countrymen: their thought, expressing as it did much that was typical in the outlooks of educated Americans and Italians respectively, had an influence which extended far beyond the narrow bounds of philosophy proper. By comparison with them Santayana, for all his literary gifts, was a minor figure. Bertrand Russell, their nearest British equivalent, celebrated his 80th birthday on May 18. (W. H. W.)

PHOTOGRAPHY. The year 1952 was not an outstanding one in photography and no major inventions were announced, although it would appear that research was being actively conducted along a number of important lines, notably in attempts to find a substitute for gelatine in the manufacture of photographic emulsions. Gelatine, excellently as it has served photographers for many years, is an organic product and as such is liable to variations between batches, so that it is impossible to make sure that any two successive makings of emulsions otherwise the same in content will give the same speed. Researches in plastics suggested that a reliable and consistent substitute might be made available in the near future.

In monochrome photography perhaps the most noteworthy advance in negative materials was the introduction of the Ilford H.P.S. plate, designed for press work in abnormally poor lighting conditions. The first batch of these plates was distributed to the press at the time of the death of King George VI and enabled a remarkable series of photographs to be taken in the interior of Westminister hall during the lying-in-state. Its effective speed was three to four times that of the material previously considered fastest and although it was found to lose some speed if kept more than a few months this was no serious disadvantage to the pressman who for any special job would make sure that his material was fresh. The grain was rather coarser than that of the slower plates but was not noticeable up to four diameter enlargement.

Most manufacturers were constantly striving to improve their materials and discriminating users noticed improvements in quality in more than one brand of film, although no official statements had been made. This applied particularly to one of the popular high-speed roll-films which had improved in both grain and colour rendering. The makers were probably waiting until after the expiry date of all the older types of emulsion to make their announcement.

In the United States the makers of the Polaroid-Land " one-minute " camera distributed a number of rolls of what was called their " experimental emulsion ". The Polaroid-Land camera was so made that after exposure the negative

material was drawn through rollers which brought it into firm contact with a positive material which was simultaneously coated with a chemical compound containing the developing and fixing materials. After waiting for about a minute the back of the camera could be opened and the finished print taken out. As it would be only slightly damp, it would dry completely in a minute or two. Hitherto the negative and positive materials had both been paper The new experimental material used a film base for the negative and paper as before for the positive. The image colour was a pure black, but the most remarkable feature was its speed which was approximately six to eight times as fast as the fastest roll-films for ordinary cameras. There was however a serious drawback—the film must be used within two or three months of manufacture, which precluded its general distribution as no dealer would risk having out-of-date material on his shelves.

There was considerable progress in colour on both sides of the Atlantic. The biggest sale was undoubtedly of 35-mm transparency material which was processed by the manufacturer and returned to the user in standard 2 in. × 2 in. cardboard mounts as positives ready for showing with one of the numerous slide projectors available. The demand for colour prints on paper led to the production of several makes of colour negative material, notably Kodacolor in the United States and Agfacolor in Europe. During 1952 the Eastman Kodak company introduced a new service in which for a nominal charge they would make a colour negative from any 35-mm. Kodachrome transparency, and from this as many colour prints on paper as desired. The standard size of print was about 2½ in. × 3¾ in.—quite big enough for an album. The Eastman Kodak company also produced a transparency duplicating film, as also did Ansco. In view of the rapidly increasing interest in 35-mm. stereo work Kodak produced a special Kodachrome packing which gave 20 stereo pairs per loading. They were returned ready mounted in pairs for stereo viewing without extra charge

In Europe the quality of prints produced from Agfacolor negatives noticeably improved, probably because of the introduction of a new higher contrast paper. Five special processing stations were handling Agfacolor in England during 1952. During the year a new British colour negative process known as Pakolor came on to the market and made a good impression. This resembled Agfacolor in using a colour negative from which paper positive prints could be made. Kits of chemicals and all the necessary materials for consumer processing were being made available.

A number of new cameras made their appearance during the year, nearly all in the popular price class, and many of them taking 35-mm film, which was the only size in which colour could be used at a cost within the reach of the average photographer. Sockets for fitting synchronized flash apparatus were becoming standard. The Japanese were forging ahead in making cameras both at popular prices and for the luxury market. Indeed in the precision miniature class the Japanese manufacturers were proving serious competitors with the Germans in the U.S. market. The extent of Japanese competition was indicated by the fact that during 1951 the United States imported no fewer than 111,000 cameras from Japan—more than from any other country except Germany

In order to effect still further economies in the use of negative materials two manufacturers, one in Switzerland and he other in the United States, produced cameras which took wo rows of small pictures on each 35-mm. film. This was lone by first running the film through the camera so as to ake the upper row and then reversing it and running it hrough again to take the lower row. The Swiss camera, nown as the Biflex, was for single pictures, whereas the American Viewmaster took stereo pairs. Special accessories or punching out the small pictures were provided.

A French camera of unusual design, the Cyclope, attracted much attention at a photographic exhibition in Paris. In this instrument the lens, instead of being placed centrally, was near the top of the camera, and the film ran across the front of the camera instead of the back, with the emulsion facing backwards. The image reached the film *via* two internal mirrors. Although a 4-in focus lens was fitted, taking the usual 8 pictures 2¼ in. × 3¼ in., the overall thickness was only 3 in.

The Polaroid-Land camera, already referred to above when discussing materials, had originally been designed for the utmost simplicity of operation, and had a comparatively small-aperture lens (maximum f/11) which allowed a wide latitude in focusing. The special advantages of the camera led to a demand for a more elaborate model suitable for experienced photographers and this was met by the Path-finder, fitted with a fast lens, fully speeded shutter, coupled rangefinder, and flash synchronization. Like the simpler model, it took pictures 3¼ in. × 4¼ in. on the same material.

The Cologne Photokina fair was again held in April but produced few novelties, for which reason it was later decided not to hold it again until 1954. One new press camera worthy of notice was the Bertram, produced by a firm which had not hitherto entered the camera field. The Bertram, which took plates, sheet film, film packs, or roll-film in the 2¼ in. × 3¼ in. size, was fitted with interchangeable lenses, coupled rangefinder, a viewfinder the field of which was automatically changed as the lens was changed, four-way swing back, double extension, a special behind-the-lens synchronized Compur shutter, ground-glass focusing when needed, and several other features. Only the prototype was shown at Cologne and deliveries were promised for the end of the year.

Flash photography continued to grow in popularity and most of the new cameras, even the cheapest, were fitted with sockets to fire a flashgun automatically when the shutter release was pressed The popular Midget bulbs were reduced in price and even in size, while electronic flash outfits with increased efficiency and reduced weight were being produced One of the most successful introductions in 1952 was the Ultralite 300, weighing only 9½ lb. and with sufficient power for all normal monochrome requirements and even for close-up colour. Prices of this type of equipment were also falling with the growing competition, in some cases being little more than half of what they had been in 1950 for the same light output

Flashguns using consumable bulbs had been operated in the past mainly by two or three torch-type batteries. While perfectly satisfactory when fresh, these deteriorate rapidly as the current needed is rather large and a battery still good enough to operate a torch lamp may not be equal to the task of firing a bulb A big improvement was effected with the introduction of the battery capacitor type of flashgun operating from a 22½-v. deaf aid battery. This battery slowly charges a condenser which when short-circuited through the bulb fuse produces a large surge of current, more than enough to fire several bulbs at once. One of these batteries will last at least a year and the increase in internal resistance of the battery—the main trouble with the older type of gun—merely slows up the condenser charging rate without reducing the strength of current when the condenser is shorted. It was not surprising therefore that b.c. guns, as they were called, were steadily replacing the older type.

The still high cost of flashbulbs led to the production in Germany of small charges of flashpowder in sealed containers about as big in diameter as a sixpence, made to plug into a b.c. type of flashgun. Before firing, the paper seal on the top of the container was pierced with a pin so as to release the gas when fired and to avoid the loud "pop" which would otherwise occur. The powder was fired by a tiny fuse

concealed in the powder. These capsules, which were made in various graded sizes corresponding to different sizes of bulb, cost only half as much as the cheapest bulbs.

(P. W. H.)

PHYSICS. Elementary Particles. In 1952 the study of unstable elementary particles and of the interactions between high energy stable particles made rapid progress. Certain general tendencies of the postwar period became sharply accentuated. The "trons" (or high energy accelerators) were becoming more and more elaborate projects of electrical engineering and large-scale vacuum physics. The energy of the resultant particles increased, but the cost of a machine (and the time required to build one) increased more than in proportion to the increased energy. One machine completed in 1952 produced protons of about 3×10^3 Mev. The rest-mass energy of the proton is about 10^3 Mev. so the new machines were thought to be capable of studying processes involving the creation of protons and might provide information leading to the production of energy by thermonuclear reactions. During 1952, the cross-sections for the production of different types of mesons by the interaction of 350-Mev. particles with light nuclei were measured. The complicated processes occurring when 350-Mev. protons interact with the iron nucleus were studied and 30 product isotopes were identified. Towards the end of the year a new method was proposed for focusing the charged particles in a synchroton by passing them through a sequence of alternately converging and diverging magnetic lenses so as to reduce the amount by which the beam deviates from the desired path. It was claimed that, by this means, it will be possible to reduce the gap aperture in the synchroton magnet and that machines capable of producing particles of 10^5 Mev. or even of 10^6 Mev may be constructed.

The study of elementary particles by means of cosmic rays also progressed. At every stage in the advance the energy of the particles studied in the cosmic ray experiments had been much higher than that of the particles produced by the "trons". In 1952 this gap was maintained. Many of the "events" observed when cosmic rays interact with nuclei involved energies of 10^6 Mev. The magnetic spectrometer at Manchester was developed for measurements on particles of this energy. There was evidence of the presence in cosmic rays of particles whose energies are very much higher still. It was found, by the nuclear emulsion method, that there exist τ mesons of mass 955me (me = mass of an electron). These decay into three π mesons. The lifetime of the τ meson is uncertain and it was not known whether they are created in nuclear reactions or as the decay products of still heavier particles. Mesons with masses between 1,200 and 1,400me are directly produced in nuclear collisions. Another type of heavy meson (called X-mesons) have masses in the range 900-1,450me and decay into a π meson with probably one neutral particle. It was shown that there are two types of neutral V— particles, one of which decays into a proton and a negative meson. The other decays into two π mesons. A considerable number of decays of the charged V— particles were observed and it seemed probable that they are to be identified with one or other of the heavy mesons. The relation of the heavy mesons to the neutral V— particles was not understood.

Positronium. The mutual annihilation of two material particles (a positron and a negative electron) was studied in detail. Strong evidence for the postulate of a "temporary atom" called positronium was obtained. This unit consists of an electron-positron pair bound together somewhat like a hydrogen atom in which the negative and positive parts have equal masses. The spins can be either opposed (para states) or parallel (ortho states). In the para state, annihilation should occur in 3×10^{-10} sec. to yield two γ-ray photons. The ortho state should decay in 10^{-7} sec. and should yield three γ-ray photons whose directions are coplanar. By using Na^{22} which emits γ-rays and positrons the delay between the γ-ray photon emitted from the source and the photons emitted in the annihilation process was measured. The lives thus obtained agreed well with those calculated from theory. There was thus a good deal of indirect evidence in favour of the postulated "atom". Recently, much more direct evidence had become available. It was possible to calculate the energies of the different states of positronium and the splitting to be expected in a magnetic field. The problem differs from that of the hydrogen atom because it is necessary to include an exchange energy corresponding to the annihilation and recreation process. The energy difference between ortho and para states (measured by allowing a magnetic field to induce transitions) agreed with the calculated value within an experimental error of $\pm$ 10%. The splitting was measured by a radio-frequency magnetic-resonance method. The measured value agreed with the calculated value within 0·5%. This very detailed agreement confirmed the theory of the interaction between two fundamental particles.

Alignment of Nuclei. This development was of interest in respect of nuclear physics, magnetism and low-temperature research. Direct alignment of nuclear spins by an external field is difficult partly because of the very large field required. A partial alignment was obtained by using the large field which the electrons produce at the nucleus of a paramagnetic atom. A suitable salt, including a proportion of Co^{60} radioactive atoms was placed in a strong magnetic field at 1° K γ, thus aligning the electron magnetic moments. On switching off, the temperature fell to 0·01° K γ and the γ-ray emission (produced from Ni^{60} after emission of a β-ray by Co^{60}) became strongly anisotropic. The results agreed with theoretical predictions that the γ-ray emission should be greater at the nuclear equator than at the pole.

Theoretical Nuclear Physics. During 1952, work on the structure of the nucleus considered as an assembly of individual particles continued. No spectacular results emerged, but important progress was made, particularly in devising mathematical methods appropriate to the problem of the interaction of many bodies. The "shell structure" model of the nucleus was the basis of most earlier theories but Aage Bohr proposed a new model in which a nucleus is regarded as a system capable of spheroidal deformation. A nucleus of odd mass number contains a spheroid as core and one "satellite" nucleon which moves in the field of the core. The interaction between the satellite and the core is used to describe experimental results on the magnetic moments of nuclei and to predict quadrupole moments. The "spheroidal model" is an empirical theory with many adjustable parameters and some of the results which it predicted can also be obtained from the "shell structure" model which contains fewer adjustable parameters. It was at the time impossible to say whether the spheroidal model had more than a limited usefulness but it did offer a new point of departure.

New Classical Theory of Electromagnetism. Classical electrodynamics, based on J. C. Maxwell's equations for the field and H. A. Lorentz's equations of motion for the electrons, is an approximate theory valid when the accelerations are small. Attempts to make it accurate failed because of difficulties connected with an infinite self-energy of the electron. It was once hoped that quantum mechanics would remove these difficulties but it had not proved to do so. P. A. M. Dirac considered that it failed because the wrong type of classical theory had been quantized. He proposed a new electrodynamics which was simpler than Lorentz's from the Hamiltonian standpoint and which might be more

suitable for quantization. It gave exact equations of motion without involving any assumptions about the structure of the electron and it predicted that an infinitesimal element of charge introduced into an existing field would move in the way predicted by Lorentz's equations for the motion of an electron.

It was found that the original form of the theory did not include certain types of motion. Dirac modified the theory to include these motions.

The charge e of the electron does not appear in the theory although the ratio e/*m* does appear. It was assumed that the existence of an elementary unit of charge is a quantum phenomenon and, that when a method of quantization was found, e and *h* would appear simultaneously in such a way as to yield the value of the dimensionless constant $2\pi e^2/hc$.

Since the theory did not include e, it could not be expected to deal with any phenomenon which depends on the presence of finite "lumps" of charge. Such phenomena (which include the scattering of radiation by free electrons) must be regarded as essentially quantum phenomena which cannot be included in a purely classical theory.

Crystal Growth. Important progress, both on the theoretical and the experimental sides, was made in the study of the processes by which crystals grow. The growth of a *perfect* crystal requires the initiation of new layers on plane faces. An island monolayer on the surface has a higher vapour pressure than the infinite crystal and therefore small monolayers tend to evaporate. Thus the growth is a nucleation process and the theory predicted that the growth rate of a perfect crystal under certain typical experimental conditions is virtually zero. Crystals were known to grow at a measurable rate under these conditions so the theory was modified by assuming that real crystals contain dislocations and may therefore consist essentially of one layer of atoms which continually overlaps itself in spiral form. Such a crystal can grow without the nucleation of new layers. The relation between the rate of growth and the degree of super-saturation was correctly predicted. The growth spirals reach the surface and can be observed with a microscope of moderate power. The figure shows two growth spirals on Cd I_2, one of the simplest type with a single centre and one with a double centre. The steps on the single centre spiral are 185 Å high. Recent advances included observation of growth spirals on metals giving promise of visual evidence on the dislocation theory of crystal deformation.

It is not suggested that spiral growth is the only growth process. A crystal may also grow at low super-saturation at a re-entrant angle (due to twining) or by contact with foreign particles.

Microbeam X-Rays. The development of fine beams of X-rays (with diameters down to between 5 and 10μ) had been an important technical development of recent years. There was some controversy over the cause of the increase in breadth of the X-ray reflections from a metal when the material is cold worked. The broadening was ascribed either to the presence of internal strains in the metal or to the presence of very small crystallites. By using transmission and back reflection methods employing beams of diameter down to 8μ a limiting particle size was found in Fe, Cu, Au, Sn, Al, Pb and Zn varying between 10^{-3} and 10^{-5} cm.

The microbeam technique also showed some advantages in the investigation of small single crystals.

Solid State—Electrical Properties. The ferro-electric property of certain insulators received a good deal of attention and ferro-electric amplifiers (analogous to the magnetic amplifiers) were made. Power gains of up to 10^6 per stage were obtained. The understanding of electronic processes in semi-conductors was advanced by the development of methods whereby the concentration of free charge carriers and their activation energy can be inferred from measurements of the paramagnetic susceptibility as a function of temperature. Such methods are especially useful for semi-conductors which cannot be obtained in single crystal form. Detailed information also became available on the electrical properties of certain intermetallic compounds (such as CdSb) which behave as semi-conductors. Intrinsic conduction corresponding to an energy gap of 0·52 ev. was reported for material of nearly stoichiometric composition.



A phase contrast micrograph of a cadmium iodide crystal (×600) *by A. J. Forty. The step heights are 185±3Å on the single centre spiral, and 156±3Å on the growth hill with a double centre.* ($\text{Å} = 1 \times 10^{-10}$m.)

Theory of Diffraction. Modern theory of aberrations in optical instruments is basically a diffraction theory. It is usual to employ a scalar wave theory and to ignore possible changes of polarization as the light passes through the instrument. It is therefore desirable to show, by reference to the fundamental equations of electromagnetic theory, that the scalar wave method is a sufficient approximation. In a paper published in the *Proceedings of the Royal Society* (May 1952) this is done in an elegant way. The proof applies only to beams of light of moderate angle and is subject to certain other restrictions. These conditions are satisfied in most optical instruments except high aperture microscopes. (*See* also ASTRONOMY; ATOMIC ENERGY; ELECTRONICS; RADIO, SCIENTIFIC DEVELOPMENTS IN; ULTRASONICS.) (R. W. D.)

PHYSIOLOGY. Since 1915 when the dilution of a dye—vital red—was first used to determine the volume of circulating blood, a whole range of substances has been made available by which, through the dilution principle, the size of the various compartments of the body, red cell volume, plasma volume, extra cellular volume, transcellular volume, total body water, intra- and extra-cellular ions, fat- and lean-cell mass can be determined. J. S. Edelman *et al.* measured the body composition of a 32-year-old man and showed how such knowledge could aid the elucidation of the changes which occur post-operatively or under physiological stress.

Blood formation in infancy was followed in 25 healthy infants by examining simultaneously the circulating blood and the bone marrow at intervals from three minutes to three months. The results disclosed a probable adjustment within this period of a macrocytic erythropoiesis to a normocytic one in order to maintain an oxyhaemoglobin level of about 11 gm. per 100 ml. or 14·8 ml. of oxygen per 100 ml. of blood.

Nervous System. In 1952 five papers by A. L. Hodgkin and his collaborators were published concerning the flow of electric current through the surface membrane of a giant nerve fibre and the change in sodium and potassium conductance associated with an alteration of membrane potential. The responses of an isolated giant axon of *Loligo forbesi* to electrical stimuli are attributed to reversible changes in sodium and potassium permeability as a result of changes in the membrane potential.

From Japan came an analysis of the action currents in individual afferent cutaneous nerve fibres of the toad and the cat. Afferent fibres from the cat's skin were grouped into (1) touch, (2) pressure, (3) large and small nociceptive, (4) cold, (5) wide-receptive, (6) hair, (7) subcutaneous, (8) scratch and (9) unmyelinated fibres. Touch fibres (8-14 μ in diameter) innervated a single touch spot which adapted rapidly, whilst the nociceptive fibres varied between 3 and 11 μ in diameter with receptive fields of 2-9 (sometimes 50) sq.mm. Wide-receptive fibres (diameter 2-5 μ) each served a receptive field of 1,500 to 4,000 sq.mm. and responded to all kinds of mechanical stimuli.

Direct measurement of resting and action potentials of a single motor neurone in the spinal cord of cats anaesthetized with pentobarbitone sodium were made by a group of New Zealand workers who inserted a microelectrode into the motoneurone. The resting membrane potential averaged 70 mv., the spike potentials set up by orthodromic or antidromic stimuli reached 95 mv.

A quantitative analysis of the distribution of three enzymes, carbonic anhydrase, choline esterase and acetyl phosphatase in the central nervous system of the dog, cat and rabbit showed a species specific concentration pattern. Except for an anomalous distribution of carbonic anhydrase seen in the cerebrum of primates, grey matter contained more of each enzyme than white matter but the consistent patterns were not due to cellular concentration.

Kidney. The effects of removal of renal tissue in the young, almost full-grown rat were reported by R. Platt, M. H. Roscoe and F. Wemyss Smith. After preliminary tests of renal function the upper and lower poles of the left kidney were removed at operation leaving the pelvis and hilum intact. Some ten days later the right kidney was removed; the proportion of the total kidney tissue left varied from 14-32% of the initial amount. A 24-hr. collection of urine followed by an hydration test was made twice before and again about 7 and 14 days post-operatively. The animals were sacrificed after the last test and blood samples obtained by cardiac puncture. An apparent hypertrophy of the right kidney as judged by the ratio of kidney weight to body weight in nine control animals occurred between the two operations. The total amount of renal tissue removed ranged from 67 to 85% of expected initial kidney weight. The renal remnant had an hypertrophy of -15 to $+$ 187%; if hypertrophy was calculated by comparing the kidney remains with the whole right kidney less the part of the left kidney removed, hypertrophy was still present in all but three rats and averaged 33%. Microscopically the renal remnant showed tubular hypertrophy particularly in the middle and terminal parts of the proximal convoluted tubule. Functionally a significant increase in proteinuria was observed; creatinine excretion was practically unchanged whilst creatinine clearance per gram of kidney tissue was greatly increased. More sodium but less potassium was excreted post-operatively. Water diuresis was impaired.

Muscular Exercise. From Stockholm, P. Högberg reported an analysis of the length of stride, stride frequency and their influence on energy output in trained athletes running at 8 to 30 km. an hour. It was found that at low speeds a trained runner raised his speed mainly by lengthening his stride. At a certain rate, peculiar to the runner, increase in speed was effected by an increase in stride frequency. Whereas in walking the length of the stride equalled the greatest distance between the feet, with increasing running speed the length of stride increased more steeply than the greatest distance between the feet owing to leg drive. Leg drive and not length of leg proved to be the more important during fast running. The energy output was determined over a five-minute period when the subject was running at a steady rate either voluntarily or to a metronome. In a well-trained subject the most economical stride length always lay in the region of the freely chosen one. An increase in stride length above the freely chosen one incurred a larger increase in oxygen consumption than a corresponding shortening of the stride.

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PIGS: *see* LIVESTOCK.

PINAY, ANTOINE, French industrialist and statesman (b. Saint-Symphorien-sur-Coise, Rhône, Dec. 30, 1891), was educated at the Marist Fathers' secondary school at Saint-Chamond, Loire, and entered a tannery business in the same town. He was wounded in World War I in which he served as an artillery n.c.o. and won the *Médaille militaire* and the *Croix de guerre*. His first elective office was that of mayor of Saint-Chamond (1932). In 1936 he was elected to the Chamber of Deputies as an Independent Radical (that is, a moderate Conservative) and in 1938 as senator for the Loire *département*. He was one of the 569 parliamentarians who on July 10, 1940, voted at Vichy full executive and legislative powers to Pétain as head of the *État Français*. In 1941 he was appointed to the short-lived *Conseil national* set up by Pétain, but subsequently took a courageous stand against the Germans, as a result of which he was freed in 1945 from the "ineligibility" restriction imposed on deputies and senators who had supported the Vichy régime. In Nov. 1946 he was elected to the National Assembly as an Independent Republican (*i.e.*, Conservative) and re-elected in June 1951 with the same label. He was under secretary of state for economic affairs in the first Queuille cabinet (Sept. 1948-Oct. 1949) and became minister of transport in the first Pleven cabinet (July 1950), a post he had held in the three successive governments until his election to the premiership on March 6, 1952, by 324 votes to 206, with 89 abstentions. He resigned on Dec. 23.

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 on March 2, 1939, and was crowned pope ten days later. (For his earlier career see *Encyclopædia Britannica* and *Britannica Book of the Year 1952.*)

On Jan. 19, 1952, Pius XII addressed an apostolic letter, *Cupimus Imprimis,* to the clergy and faithful of China exhorting them to stand firm in their faith. On Feb. 6, on the death of King George VI, he sent a telegram of condolence to the queen mother and a telegram to Queen Elizabeth II on her accession to the throne. He addressed an apostolic letter, *Veritatem Facientes* (March 27), to the Catholic bishops, clergy and laity of Rumania in which he said " Our prayers and those of the whole Catholic world will assist you . . . " Delivering his Easter blessing *Urbi et Orbi* from the balcony of St. Peter's the pope called for " phalanxes of apostles " to disseminate Christianity. On Whit Sunday he broadcast an address at the closing of the International Eucharistic congress, Barcelona. On July 7 he addressed an apostolic letter to the people of Russia (*Ad Universos Russiae Populos*) which was of especial interest, and was unusual in being addressed not only to Catholics but to a whole nation: it reviewed the history of the Church in Russia over the previous 1,000 years and recalled instances when the Church had extended both spiritual and material aid to the Russian peoples in time of famine, particularly after World War I. Many important allocutions were delivered by the pope during the year including those on " moral existentialism ", to the girls of International Catholic Action (April 18), on religion and science, to members of the International Astronomical union (Sept. 7), on nuns in the modern world, to the superiors of religious orders of women (Sept. 12), on the political division of the world, to members of the Pax Christi movement (Sept. 13), and on psychology and moral theology, to delegates to the International Congress in the Histopathology of the Nervous System (Sept. 14). In a *Motu Proprio* dated Nov. 30 the pope ordered modifications in the robes worn by cardinals, and on Nov. 29 he designated 24 prelates whom he would create cardinals in Jan. 1953. On Dec. 30 Pius XII addressed an encyclical letter, to be called *Orientales Ecclesias,* " To the patriarchs, archbishops, bishops and clergy of the Eastern Churches having peace and communion with the Apostolic See " Persons received in private audience by the pope during the year included Cardinal Spellman, archbishop of New York, and King Talal of Jordan (January); Field Marshal Viscount Montgomery of Alamein (April); M. G. J. van Heuven Goedhart, U.N. high commissioner for refugees (July); and, in August, the Duke and Duchess of Windsor. (*See* also ROMAN CATHOLIC CHURCH, VATICAN CITY STATE)

PLAGUE: *see* EPIDEMICS.

PLASTICS INDUSTRY. Although the year was not characterized by any major developments, 1952 is likely to be remembered as a significant year in the history of plastics It saw the end of the postwar boom and sellers' market associated with wartime shortages and of the stockpiling which followed the outbreak of the war in Korea. The recession which had swept the United States hit Great Britain at the end of 1951, and in a few months the whole economic outlook in plastics suffered a complete and totally unexpected change. Materials which for years had been in short supply became easily obtainable, and in a few months raw materials in most branches, with the exception of nylon, polythene and its derivatives and some vinyl compounds, were generally available. Towards the end of the year came welcome indications that the cycle had spent its force, with the news from the United States of mild boom conditions Although business continued patchy in Britain, there were nevertheless, indications that the worst was past. The recession had been particularly difficult for Britain where some of the large plants which had been started at the end of the war were just coming into operation. Among these were the large undertakings for the production of chemicals based on oil, which had been projected to make Britain reasonably self-supporting. Similarly, the increased production of phenol and cellulose acetate came at a time when plastics and the related rayon industry was depressed. To complicate the picture from the British point of view came the restriction of imports into Australia and New Zealand and the growing competition from Europe and particularly from western Germany. The extent and serious nature of the latter was demonstrated by the first all-plastics postwar exhibition which was held in Düsseldorf in October, which clearly showed that Germany, which had done so much to pioneer plastics in the 1930s, must again be reckoned with in world markets.

Accurate evaluation of these markets was still difficult owing to the lack of reliable statistics. Only in the United States was there anything like a reasonable statistical survey elsewhere it was not clear what was included under the heading of plastics There was still some doubt as to whether world production of plastics proper far exceeded 1 million tons a year. U.S. production in 1951 was given as 1,080,000 tons, and, according to O.E.E.C. statistics, production in Europe was rated as 148,750 tons in 1947 with 468,740 tons projected for 1952-53. That these estimates might show serious discrepancies could be judged from the fact that O.F.E.C estimated the production of the German Federal Republic for 1952-53 as 97,670 tons, whereas production in 1951 was 160,000 tons. This alone was significant if it is remembered that the German wartime peak in 1943 was 200,000 tons and that in 1932 it was only 12,000 tons. As against the U.K. planned capacity of 183,000 tons for 1952-53 may be quoted the figure of the Association of British Chemical Plant Manufacturers, namely, 340,000 tons capacity a year.

During the year there was an all-round improvement in quantity and quality of many plastics raw materials and products. In Britain this was marked particularly in polystyrene (mainly from imported monomer), polythene, polyvinyl chloride and related co-polymers, and polyesters. The growth of the polyester side of the industry, and particularly of the glass fibre (contact) laminates produced therefrom may be characterized as the outstanding feature of the year. In addition, the production of melamine by the British Oxygen company was a notable step on the part of the British industry towards self-sufficiency Improvement in the production of plasticizers was notable for the manufacture by Geigy Hardesty of sebacic acid, a substance which in addition to its use in the manufacture of esters is of fundamental interest to the nylon industry. The production, by Imperial Chemical Industries and British Geon, of p.v.c., and in particular of polymers suitable for the manufacture of unplasticized sheet and extruded tube, so long a German monopoly, was again a significant advance for British industry.

During 1952 engineers did much to wipe out the traditional lag of plant behind raw materials. From the British viewpoint it was noteworthy that British products, in particular " Bipel " fully automatic compression moulding presses and R. H. Windsor multi-screw extruders, sold widely in the export markets, including the United States. From the United States also came news of largest injection machines yet made, capable of injecting in one shot refrigerator doors weighing 7·5 lb. in a mould weighing 5 tons and costing $50,000. But possibly the more important trend in this still

most progressive branch of the industry was in the opposite direction, namely, the development of small-capacity injection machines of very high output.

The year saw a marked change in appreciation of plastics as the specialist materials of construction. They were no longer considered as the materials for knick-knacks, but had entered serious industry. Most spectacular perhaps was the rise of the polyester (contact) laminates based mainly on glass fibre (fabric and mat) which was the centre of a successful convention organized by Fibreglass, Ltd., early in 1952. It was appreciated that these materials could be used in the production of stressed units ranging from fishing rods to motor car bodies and tankers. The availability of the necessary raw materials at reasonable prices permitted the British industry to advance in this field—hitherto virtually a U.S. monopoly.

Polyesters and special phenolics were also widely applied in the aircraft industry in the production of major units, as was exemplified by the Delta-wing structure which was exhibited by the Royal Aircraft establishment at the British Industries fair in London Also significant were the advances made in the use of plastics adhesives, such as the well-known "Redux" process of Aero Research, Ltd., which contributed to the success of the de Havilland Dove and Comet

Plastics also invaded the most traditional of British industries, the coal-mine and the foundry. Fire-resisting coal-conveyor belts were successfully introduced in Britain and, although much development work still remained to be done, the foundation was laid for what would be a considerable demand. In the foundry, plastics were increasingly used as sand-core binders, where they showed considerable advantages over the conventional materials. Of particular interest was the use of special phenolic plastics in the production of "shell" moulds. These were pioneered in Germany by Croning during World War II, and were perfected in Britain by the Polygram Casting company. It appeared certain that in this direction plastics would effect a mild revolution in precision casting.

Although novelty cannot be claimed for phenolic laminates, the extended use of "Warerite" laminated sheet after years of painstaking development deserves mention. The use of these materials in the construction of "pre-fab" kitchens and ships' cabins, which was shown in the Bakelite exhibition in various parts of Europe and Britain, not only proved the superiority of these materials, but also showed that constructors realized that fitness for purpose and not mere first cost was the important factor in choosing a material. This, among many current examples, demonstrated even more clearly that the future success of plastics would lie in their efficient functional integration with the conventional materials of construction. (*See* also MACHINERY AND MACHINE TOOLS; PAINTS AND VARNISHES; RAYON AND SYNTHETIC FIBRES; RUBBER.) (V. E. Y.)

POLAND. People's republic of eastern Europe bounded E. by the U.S.S.R., S. by Czechoslovakia, W. by Germany and N. by the Baltic sea Area: 120,359 sq.mi. Pop.: (1950 census) 24,976,926; (1952 est.) 25,500,000. Language: Polish. Religion: Roman Catholic. Chief towns (pop., 1950 census): Warsaw (cap., 650,064); Łódź (619,914); Cracow (330,046); Poznań (320,294); Wrocław (289,734); Gdańsk (193,530); Szczecin (178,210); Katowice (141,277). President of the republic, Bolesław Bierut; chairman of the council of ministers, Józef Cyrankiewicz. From Nov. 20 the chairman of the council of state was Aleksander Zawadzki and the chairman of the council of ministers was Bolesław Bierut.

History. Promulgation of a new constitution and new elections were the main events of 1952.

The Constitution. The new constitution was passed unanimously by the *Sejm* on July 22, the national day of the Polish people's republic, anniversary of the so-called Lublin manifesto and of the emergence into the open of the Moscow-sponsored Polish Committee of National Liberation. The main features of the constitution were familiar, since, as Stefan Jędrychowski, a deputy premier, claimed in the debate, it was "modelled on and inspired by the great Stalin constitution of 1936."

The supreme organ of state authority was the council of state (in the U.S.S.R. the presidium of the Supreme Soviet) composed of a chairman, four deputy chairmen, a secretary and nine members. The supreme organ of state administration was the council of ministers appointed by and responsible to the *Sejm*, or to the council of state if the *Sejm* was not in session. One original departure in the Polish version of the constitution was that it recognized and protected, "on the basis of existing legislation, individual property and the right to inherit land, buildings and other means of production belonging to peasants, craftsmen and persons engaged in domestic handicrafts" (article 12).

Under article 70 the Polish people were also guaranteed freedom of conscience and religion.

> The Church and other confessional communities (stipulated article 70) can freely fulfil their religious functions It is not permitted that the citizens should be prevented from participating in religious activities or ceremonies It is also not permitted that anyone should be compelled to participate in religious activities and ceremonies The Church is separated from the state The basis of the relations between the Church and state, as well as the legal position of the confessional communities, and their property, will be defined by law Misuse of the freedom of conscience and confession for purposes contrary to the interests of the Polish republic will be punished

It is not difficult to see how these principles might lend themselves to elastic interpretations. As in the U.S.S.R., parents and priests could be punished if they "compelled" children to learn their religion or to go to church. The laws concerning the church could be amended by the Communist *Sejm* and the Holy See be ignored. The property of the church, already partly confiscated, could be nationalized or heavily taxed; there would be small possibility of maintaining Roman Catholic schools or Catholic charitable institutions, for there was no specific guarantee for such rights. (*See* ROMAN CATHOLIC CHURCH.)

Elections. The Electoral law adopted by the *Sejm* on Aug. 1 accorded the franchise to all citizens of 18 years, including members of the armed forces; citizens of 21 years were eligible for election. There was one deputy for every 60,000 inhabitants; in every constituency there could be only one list of candidates equal in number to the deputies fixed for the constituency. As there was no choice, the electors, theoretically, might manifest their displeasure by mass abstentions or by striking out the names of all candidates on the list so that none would obtain the required absolute majority of valid votes. In both eventualities the Electoral law provided for a re-election. Possibly because the disclosure of any such boycott of the elections or of a mass rejection of the candidates would be embarrassing, the Electoral law laid down that the election results were to be published for the whole country by the National Election commission.

On Aug. 25 the council of state promulgated a decree dividing the country into 67 constituencies, the largest being that of Warsaw (15 deputies) and the smallest those of Szczecinek, Stargard Szczeciński and Gorzów (4 deputies each). The list for Warsaw was headed by Bierut, Marshal Konstanty Rokossowski, commander-in-chief of the Polish armed forces, and Jakób Berman, under secretary of state at the presidium of the council of ministers. Cyrankiewicz was head of the list in Cracow and Hilary Minc, deputy premier and chairman of the State Planning commission,

of whom little had been heard during the year, was at the top of the list in Katowice. The fact that Marshal Michał Żymierski, former commander-in-chief and one of the nine members of the council of state, was not among the candidates signified the end of his career.

The candidates were formally nominated by the three existing political parties, the Polish United Workers' (Communist) party, the United Peasant party and the Democratic party, and also by the trade unions, the Union of Polish Youth and other " mass social organizations of the working people "; *i.e.*, Communist party under other names. Out of 425 candidates there were only 60 Peasants, 20 Democrats and a few independent " Catholic leaders ", the remainder were Communists, including 19 former Socialists. The elections were held on Oct. 26. (*See* also ELECTIONS.)

The new *Sejm* met for the first time on Nov 20; professor Jan Dembowski, president of the Polish Academy of Sciences, was elected speaker A new council of state was also elected with Aleksander Zawadzki as chairman. Bierut formed a new government which comprised eight deputy premiers, including Cyrankiewicz and Marshal Rokossowski, and 34 ministers.

The Recovered Territories. At a congress of regained territories held at Wrocław on Sept. 21, Cyrankiewicz, the premier, proclaimed that the existing frontier along the Oder-Neisse line was " an eternal frontier of peace ", recognized as such by anti-imperialist Germany, the German Democratic Republic. Jędrychowski reported on the rehabilitation and reconstruction of the recovered territories where by mid-1952 a purely Polish population of about 7 million lived and worked There were, he said, 483,300 peasant families owning their own farms covering a total area of over 4 million ha.; there were about 2,000 collective farms comprising almost 50,000 farmsteads of a total area of 500,000 ha. (*i.e.*, about 57% of the country's total), there were 4,357 state farms comprising together 1,973,064 ha. (*i.e.*, about four-fifths of the country's arable land administered by the state farms) The value of industrial production in the recovered territories had more than trebled between 1947 and 1952 and represented 24% of the country's total industrial production.

Marshal Rokossowski, who also spoke at the congress, said that there was no power which could " wrench from our people the fruits of the victory won, at the price of so much blood, over Nazism, over the Prussian lust for conquest " Never again would the invader trample upon free Polish soil.

Armed Forces. During 1952 Marshal Rokossowski had four age-groups in the armed forces giving a total of over 650,000 effectives Four new divisions were in formation in addition to the existing 20 which included 3 mechanized and 3 armoured. The officially admitted military expenditure rose between 1949 and 1952 from Zł.1,800 million to Zł 6,600 million. Defence expenditure took officially 6 8% of the budget in 1950 and 10 5% in 1952 In fact it was much more, for a great amount of military expenditure was concealed under different headings. It was estimated that real defence expenditure amounted to 10% of the total national income.

Marshal Rokossowski reorganized and considerably developed the whole system of military education. In the autumn of 1952 it consisted of three military academies on the higher education level (General Staff academy, Technical Military academy and Military Political academy), two military high schools on the secondary education level (the infantry and the artillery high schools), at least 30 cadet officers' schools and many training centres. The system was able to produce sufficient junior officers, but certainly not enough seniors. The army was Polish so far as soldiers, n c.os. and junior officers were concerned. Commanders from colonel upwards and general staff officers were Russians or Russified Poles. Out of 25 officers of highest rank constituting the high command in 1952 only five were Poles, but even they were Moscow-trained Communists and their functions were purely political.

Industrial Expansion and the Position of Workers. Speaking in the *Sejm* on July 18, Bierut said that while there were only 2,730,000 wage earners outside agriculture in 1938, in 1947 this number had increased to 3,180,000 and by mid-1952 amounted to 5,340,000. Between 1938 and 1952 the proportion of wage earners outside agriculture rose from 8% to 21% of the total population. The economic plan for 1952 laid down that the production of coal should increase to 86 million metric tons, of crude steel to 3·3 million tons, of electricity to 12,675 million kwh. The greatest expansion was planned in the engineering industry, which was to show a 50% increase, with emphasis on mining machinery, shipbuilding, motor vehicles, rolling stock, heavy machine tools and agricultural machinery Of next importance was the chemical industry: a considerable effort was to be made to remedy the shortage of sulphuric acid and to expand the production of artificial fertilizers and artificial fibres. By the end of 1952 the share of industry in the national income was to be 53%. Expenditure on investments was to reach Zł.28,000 million; *i.e.*, some 25% of the estimated national income.

Although the national income was rising steeply, no improvement was noticeable in the standard of living. A letter from Łódź textile workers, smuggled abroad and published by the French Socialist daily *Le Populaire* (Aug 6), provided a direct confirmation of this.

> We have come to a point (said the letter) when we have to pay our day's earnings for 1 kg of sugar and at least a month's wages for a pair of shoes A new suit of cloth has become a dream, because to buy this, we must work 4 to 6 months We live like miserable wretches, driven by the Communist party to produce ever greater norms for ever lower pay and worse treatment Our trade unions do not protect us, they are against us, the workers Strikes are forbidden and are considered sabotage People advocating strikes are subject to penalties reserved for criminals . We are surrounded by spies who lie in wait for any rash word uttered in a fit of bitterness or misery For one such word you go to the forced labour camps

Miscellaneous. On April 5 the government signed an agreement with the Soviet government for the construction of a skyscraper in Warsaw A gift of the U.S.S.R., to be built by Soviet craftsmen with imported Soviet steel and other materials, this was to house the Polish Academy of Science and many research institutes and provide a congress hall for 4,000.

By mid-1952 the compulsory registration begun in Dec 1951 of every inhabitant over the age of 18 was completed. To secure a new registration certificate it was necessary to fill up a detailed form and present three photographs. Every change of residence and of employment was required to be reported to the police and indicated in the certificate. (*See* also EASTERN EUROPEAN ECONOMIC PLANNING)

Education. Schools (1951-52) kindergarten 7,700, pupils 350,000, elementary 22,980, pupils 3,300,000, teachers 77,000, lower-grade secondary 335, pupils 185,000, higher-grade secondary 486, pupils 140,000, technical 3,000 Teachers' training colleges 149, students 33,000 Institutions of higher education 83 (incl 8 universities), students 142,000

Agriculture. Main crops ('000 metric tons, 1934-38 average within post-1945 boundaries, 1950 in brackets) wheat 2,210 (1,854), barley 1,690 (1,077), rye 7,970 (6,503), oats 3,430 (2,126), potatoes 37,110 (36,835), sugar-beet 4,750 (6,377). Livestock ('000 head Feb. 1946, Dec 1950 in brackets)· cattle 3,910 (7,164); pigs 2,674 (9,408), sheep 727 (2,194), horses 1,730 (2,797). Meat production (1950) 1,252,800 tons, incl 859,200 tons of pork.

Industry. Employment outside agriculture (Jan 1947, in brackets Jan 1952). 3,358,000 persons (5,500,000). Fuel and power. coal ('000 metric tons, 1951; 1952 plan in brackets) 81,700 (85,800); lignite 5,000 (10,000), crude oil 184 (235); synthetic fuels 146; electricity (million kwh., 1951, 1952 plan in brackets) 11,101 (12,433) Raw materials ('000 metric tons, 1950, 1951 in brackets): steel ingots and castings 2,520 (2,712); zinc 115 (120); lead 17·7 (18·5). Manufactured goods ('000 metric tons, 1950, 1951 in brackets): cotton yarn 92·2; cotton fabrics

69 0 (73 8); wool yarn 41 9, rayon filament yarn 10 1 (11 2), cement 2,508 (2,683 6) Building bricks (1950) 1,464 million, (1952 plan) 2,260 million

Finance. Budget (million złotys, 1951 est , 1952 est. in brackets) revenue 55,972 (63,787); expenditure 51,891 (62,876), incl 21,800 (26,000) invested in the national economy Monetary unit *złoty* with official exchange rates of Zł 1 00 to the rouble, Zł 11 20 to the pound sterling and Zł.4 00 to the U.S dollar.

Foreign Trade. (Million U.S. dollars, 1938, 1950 in brackets) Imports 231 (844); exports 223 (631). Main sources of imports (1950)· U S S R. 40 1%; Czechoslovakia, Hungary, Rumania and Bulgaria 18 3%, Sweden 3 8%, U K. 2% Main destinations of exports the four eastern European countries 24 6%; U S S R. 23 2%, U K 7 8%, Sweden 5 7%

Transport and Communications. Railways (Jan. 1949) 21,415 km ; passenger traffic (1950) 26,352 million pass -km , goods traffic (1950) 34,944 million ton-km , goods carried (1950) 148,128,000 tons Roads (1947) 96,605 km Licensed motor vehicles (1948) cars 24,240, commercial vehicles 28,957 Shipping (1949) merchant vessels 46, total tonnage 164,989 gross registered tons Goods traffic in Polish ports (external trade, '000 metric tons, 1950) loaded 12,456, unloaded 3,216 Ships entered (1950) 7,248,000 net registered tons Air transport (1950) 30,468,000 passenger-km flown, 619 2 ton-km of cargo transported Telephones (1950) 225,000 Wireless licences (April 1952) 1,848,000 incl 800,000 served by relay stations

See R Dyboski, *Poland in World Civilization*, ed by L Krzyżanowski (New York, 1950), T Sulimirski, *The Pattern of Life in Poland The Universities, Professional Education and Science* (Paris, 1952), J Taylor, *The Economic Development of Poland* (Ithaca, N Y , 1952)

(K. M. S.)

POLICE. England and Wales. The departments concerned with police administration, local police authorities and chief officers of police continued in 1952, as in the previous year, to be pre-occupied with the all-important task of building up strength. In most, though unfortunately not all, areas, the year was one of consolidation The substantial increases in police pay which had been brought into effect in Aug. 1951 had given an impetus to recruitment in most areas, and the satisfactory recruiting position continued, though on a somewhat diminishing scale, throughout 1952. On Jan. 1, 1952, the aggregate authorized establishment of the police forces in England and Wales was 71,557 men and 1,811 women, the actual strengths were 61,610 men and 1,506 women, leaving deficiencies of 9,947 men and 305 women By the end of the year strength had risen to 64,007 men and 1,679 women, the actual deficiencies (allowing for some further increases in authorized establishment) being 7,858 men and 278 women.

Police establishments in many areas were stretched to the limit to deal with the serious crime problem and this served as a further stimulus, if one were needed towards improvements in efficiency designed to make the best possible use of available manpower. Wireless schemes were extended, further experiments were made with mechanized beat patrols and more policemen employed on office duties not calling for the physique or the training of a regular police officer were replaced by civilian employees.

Discussions continued both inside and outside the Police council on the fundamental recommendations of the Oaksey committee concerned with conditions and representation. In May 1951 a committee of the Police council had submitted to the council a report embodying a detailed scheme for the centralization of promotion examinations. It was, however, necessary to consider the project again in the light of the economic situation, which called for every possible economy that could be made without serious detriment to efficiency, and as the result the scheme was postponed. In June 1952 the Police council received the report of its committee on the detailed measures which would be needed to give effect to the Oaksey recommendations on representation and negotiation. Unfortunately, the committee found it impossible to reach agreement and the discussions that took place after the presentation of the report indicated that some of the divergences of opinion were deep-rooted. Towards the end of the year the field of dispute was substantially narrowed, but at the close of the year there was still no indication when it would be possible to bring the new scheme into effect.

In the latter part of the year new police regulations were made that brought about substantial reforms in disciplinary procedure and new pensions regulations extended to the dependants of police officers benefits similar to those conferred by the Family Allowances and National Insurance act, 1952, and the Pensions (Increase) act, 1952. (S. J. Bkr.)

Scotland. The number of policemen in the 33 Scottish forces increased from 7,263 at the beginning of 1952 to 7,380 at the end of Oct. 1952 and the number of vacancies dropped to 301, the number of policewomen rose during the same period from 149 to 157, leaving 23 vacancies. The authorized establishments increased during that period by 43 men and 9 women. On Oct. 31 the special constabulary numbered 9,296 (including 53 women) and was about 3,800 under its revised establishment.

Increased recruitment threw an additional burden on the junior division of the Scottish Police college at Whitburn and Glasgow, where 439 men and women went through a 12 weeks' initial course and 438 a 4 weeks' second-year course The senior division was transferred in Jan. 1952 to premises near Whitburn and two six months' courses for potential inspectors were held. The first stage of the adaptation of Tulliallan castle as the permanent home of the college was authorized

After consultation with the Scottish Police council, which met twice, the Police (Scotland) regulations were consolidated, new Police (Discipline) (Scotland) regulations were brought into force and the Police Pensions (Scotland) regulations were amended. Committees of the council considered the question of the extent to which policemen should carry out non-police duties and possible revisions of the pensions scheme The council also continued its deliberations about police representative organizations and negotiating machinery.

About 2,700 policemen were living in houses provided by police authorities. Some 750 houses had been built after World War II and 380 were under construction at the end of October. The equipping of the forces with the new style of uniform (open-necked jackets and peaked caps) was practically completed, although some forces preferred to keep " closed-neck " jackets of the old type for winter wear.

Continued attention was paid to road safety. The training of the police in civil defence made further steady progress, as did the training and organization of the warden section of the Civil Defence corps. (C. C. C.)

United States. In a police survey carried out in New York it was found that about one-sixth of the police manpower was assigned to tasks that should not be performed at all, or was discharging duties for which youthful cadets and employees outside the police would prove better fitted.

Despite the difficulties encountered in New York in securing witnesses against police charged with complicity in gambling, the administrative trials continued on a large scale and with few exceptions they resulted in dismissals. Frequent judicial appeals from rulings by the police trial commissioner were decided against the defendant police. A similar inquiry by a congressional committee into the nationally controlled police department of Washington, D.C., produced evidence of conditions that differed only in scale from those shown to prevail in New York.

The International Association of Chiefs of Police met in Los Angeles, California, in Sept. 1952 with 2,000 delegates and invited guests in attendance. The sessions were enlivened particularly by the vigorous objections taken by local police chiefs of the United States to the conclusions formed by a law enforcement committee of the American Bar association. These were to the effect that local police agencies in each of the 48 states should be subjected to standards, controls and

inspections imposed by the various state governments. Even the prospect of state subventions as a reward for those who conformed did not influence the unfavourable attitudes of the city, town and county police representatives.

Discussions of police unions and their possible influence on the future of police discipline and law enforcement also attracted attention. (BR. S.)

POLIOMYELITIS: *see* INFANTILE PARALYSIS.

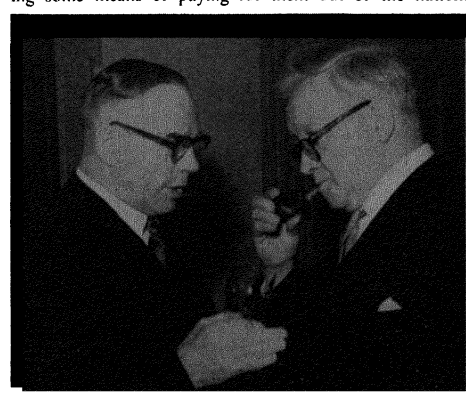
POLITICAL PARTIES, BRITISH. The Conservative party began 1952 with a majority of 26 over its Labour opponents in the House of Commons and of 17 over all other parties. The main outlines of its propaganda, if not of its policy, had already been clearly defined. It was to be the government which put "first things first", sweeping away cobwebs from the vast administrative machine which it inherited and cutting through red tape to the essentials of economic recovery. This was emphasized in the structure of the cabinet, with its group of co-ordinating ministers, known as "overlords", in the symbolic, self-denying ordinance imposing restrictions in ministerial salaries and a reduction in officially provided transport issued in its first week of office, in the resonant tone of the prime minister's speeches and in the sober caution of the chancellor of the exchequer's. The government, it was claimed, had succeeded to an economic crisis far graver than could have been inferred from the relatively optimistic pronouncements of its predecessors. It could make no promises save of greater austerity, and it would bring to bear to its task a national view of the nation's needs and a wholesome contempt for purely party government. In foreign policy it would seek to maintain unity by following broadly in the footsteps of Ernest Bevin and undoing as rapidly as possible the mistakes of Herbert Morrison. For the moment, preoccupations with the economic crisis must rule out controversial legislation, but the commitments to repeal the nationalization of steel and in part that of transport would eventually be honoured. In the meantime a serious attempt would be made to preserve or restore unity on essentials between the parties.

It was obviously only a matter of time before the political struggle resumed its pre-election violence, and by the spring even the pretence of an informal truce had been abandoned. Clearly, the government could not hope to tackle the economic crisis without violating at every point the strict creed of its opponents. "Gradualism", however, was the keynote of its economic policy. By still further reducing imports and imposing small additional charges for the health service it took action for which the policy of its predecessors provided excellent precedents although the latter measure was vigorously opposed by them. By raising the bank rate twice it seriously limited private borrowing and created a considerable slump in government securities. R. A. Butler's first budget provided a judicious instalment of what had come to be known as "disinflation"; for the first time in many years the chancellor's speech emphasized the positive need for more production rather than the negative need for more self-restraint; some small tax reliefs for the middle income groups were offered as "incentives", and a reduction of £160 million in food subsidies helped to bring prices into more direct relation with reality; on the other hand the heavy excess profits tax which had headed the Conservative election manifesto as a sop to the left introduced a totally discordant note. Otherwise the government broke few links with the past. Harold Macmillan, at the new Ministry of Housing and Local Government, gave more scope to private builders with substantial results but did not touch on the thorny questions of rent restriction and housing subsidies.

In the field of foreign policy the year was spent in fruitless exchanges with the U.S.S.R. over Germany and vain attempts to secure an armistice in Korea. The government came under fire from an opposition bitterly divided among itself about alleged subservience to U.S. policy in Korea and precipitate support for German rearmament; but the main lines of policy remained unchanged.

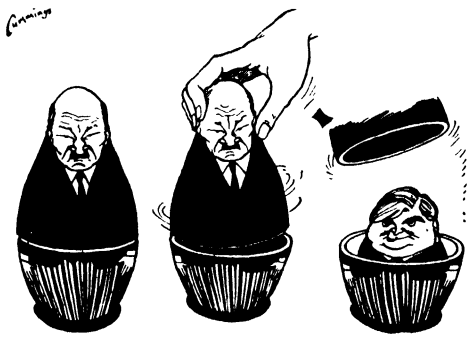
The spirit at the Conservative party conference at Scarborough in October was one of strictly qualified complacency. R. A. Butler was congratulated for having temporarily restored Great Britain's balance of oversea payments, mainly by stringent official restrictions on imports. It was realized, however, that the prospect of maintaining this balance in the face of ever-increasing competition from abroad depended on the decisive checking of inflation at home, and this had not been done. Wages had continued to rise, and the problem of how to maintain the social services at their existing level without either stimulating inflation or reducing rearmament had been largely avoided. Resolutions from the floor of the conference strongly urged the cabinet to greater public economy. Looking towards the Conference of Commonwealth Ministers in November and focusing attention again on the perennial question of how Great Britain could hope to hold its own in a free world market, the conference called on the government to work for some amendment to the General Agreement on Tariffs and Trade in the hope of strengthening and increasing imperial preference. The feeling was widespread that in its first year of office the government had pointed the way but had not followed with sufficient vigour. The extent to which this feeling would influence the government's conduct was not likely to become apparent until the budget of 1953 was presented. Meantime, the reassembly of parliament in November marked a new phase of the two-party conflict with the introduction of the controversial measures to denationalize steel and transport, measures which, however important in themselves, plainly did not constitute the real test of the government's competence.

Throughout the year the attention of political commentators was concentrated mainly on the internal affairs of the Labour party. There was an acute consciousness among Socialists that the party had reached a turning point in the development of its doctrine and policy. Two general elections had demonstrated to the satisfaction of its parliamentary leaders that nationalization could no longer be the main plank of its platform. It had gone to the country as the defender of the social services but this role imposed on it the duty of suggesting some means of paying for them out of the national



Harry Earnshaw (left), chairman of the Labour party conference at Morecambe, Sept. 29-Oct. 3, talking to Herbert Morrison.

income. The choice was clearly formulated in the last year of Clement Attlee's administration when Aneurin Bevan and Harold Wilson had resigned on the grounds that the country could not afford the vast government rearmament programme without making deep inroads into the welfare state The party leaders insisted on putting defence first but it became increasingly hard for them to resist the logic of the rebels who contended that this could only be done at the cost of such sacrosanct institutions as the health service. Over and above this critical question but intimately connected with it was the problem of what Labour, the party of social progress, could now offer in the way of new legislation. The party leadership favoured consolidation but to a party in the Radical tradition consolidation makes an unattractive motto, and many felt that the country was still in an unsatisfactory state of transition which could not be maintained. All this produced a ferment of intellectual activity issuing mainly from Aneurin Bevan and his associates.



Cummings' cartoon entitled "Party within a party", published in the "Daily Express" (London), Aug. 29

The Bevanite campaign was waged in the columns of the *Tribune*, the weekly Socialist review which Bevan played a part in directing, and in a series of pamphlets. The argument was also carried to the country in a series of political meetings conducted and organized by the Bevanite group. Little concrete policy emerged but in general the Bevanites favoured economy in rearmament, maintenance (and at points extension) of the social services, more independence of the United States in foreign policy and, in the case of Bevan himself, more nationalization. Others of the group appealed more directly to the always strong syndicalist tradition calling for more workers' participation in the running of nationalized industry

Matters came to a head at the Trades Union congress, held at Margate in late August, and at the Labour party conference at Morecambe in early October. At Margate, the old truth that the trade unions are the stronghold of conservatism was emphasized again An eloquent resolution comprehensively condemned the government's economic policy but on the issues which mattered—rearmament, foreign policy and wage restraint- caution prevailed. While calling for further increases in the wages of the lowest-paid groups, the conference tacitly accepted the general policy of restraint. Some trace of Bevanite influence was visible in a resolution obliging the executive to draw up by 1953 a list of industries suitable for nationalization.

The party conference at Morecambe met in a white heat of passion and started with a resounding victory for the Bevanites, all six of their candidates being elected to the executive as constituency representatives and Herbert Morrison and Hugh Dalton being eliminated in the process. Thus encouraged, the Bevanites pressed their views on rearmament, foreign policy and nationalization in a series of resolutions and amendments. These were duly defeated but only by the use of the card vote which enables the delegates of the unions to vote with the full strength of their membership for whatever course has been agreed beforehand. Thus the unions inflicted a crushing defeat on the constituencies but the strength of Bevanism among the constituencies had already been conclusively demonstrated. Much bitterness was generated, the trade union representatives calling in fact for a war of extermination against the Bevanites and the Bevanites appearing clearly as a party within a party. A long and complicated composite resolution contained a discreet phrase inviting the executive to prepare a list of industries for nationalization against the counsel of Herbert Morrison who wanted only an abstract statement of the criteria which should determine whether nationalization was or was not suitable. The executive accepted the resolution without binding itself to its every word. Thus the question of the future of Labour policy remained open In theory the party remained united, in practice the division between its official leaders and the rebels was more patent than ever. This situation was faithfully reflected in the elections to the Labour party's parliamentary committee in November The Bevanites retained without strengthening their foothold. Morrison was re-elected deputy leader of the party by 194 votes as against Bevan's 82. The party remained securely under the control of the official leadership for the present, but the gulf between socialism in Westminster and socialism in the constituencies had yet to be bridged

Since the Liberal party conference at Hastings in May was concerned mainly with the reiteration of familiar themes and with the discussion of internal party arrangements to meet the financial consequences of the last two general elections, and since the Communists, as an overt political force, remained negligible in Great Britain, all attention was fixed by the end of the year on the dilemmas of the two great parties The Tories had embarked on a policy which, taken even one step further, must lead to some more or less serious diminution in the various forms of official bounty by which parties earn popularity. The Socialists, while they might rely on some support in the country as government economies became more stringent, were bitterly and publicly divided among themselves, the party leadership resolutely declining either to retreat towards public economy or to advance towards a radical policy of intensified control, the Bevanites stridently demanding a new socialism and a complete reorientation of national foreign policy. Seldom had the two-party system, with its implication of a clearly defined conflict between opposing principles, been more severely tested.

(T. E U.)

POLITICAL PARTIES, U.S. At the opening of 1952, the governments of 18 of the 48 states were under the control of representatives of the Republican party. In an equal number of states, representatives of the Democratic party were in control of the government. In a dozen states there was a divided control. In the U S congress Democratic majorities prevailed in both the Senate and House of Representatives.

Active candidates for the Republican presidential nomination were already in the field in January, including Senator Robert A. Taft of Ohio, Governor Earl Warren of California and Harold E Stassen, formerly governor of Minnesota A group of well-known Republican leaders, most of them in eastern states, had also planned to further the possible candidacy of General Dwight D Eisenhower. There was a general feeling that the Republicans would have their best chance since the election of 1928. One of the reasons was

definite uncertainty as to the choice of the Democratic leader, another was the vulnerability of the Democratic record on Communism, on corruption and on the indecisive war in Korea.

Contests for 35 Senate seats were second in importance only to the contest for the presidency. To be elected were 435 representatives to the House, as well as governors in 31 of the states. It appeared at the outset that the Democrats had the advantage in the races for the House because of local conditions. Between Feb. 19 and Sept. 24 there were 57 nominating primaries to choose senators, representatives and governors Nine of these were " run-off " primaries; that is, in reality, final elections. Moreover, it came to be realized that a Republican presidential victory was no sure guarantee of a Republican majority in the Senate It was well known that at the close of 20 years of national dominance, Democrats had come to occupy the majority of judicial posts. Eight of nine justices of the Supreme court were Democrats. In the U S courts of appeals, 53 of 65 judges were Democrats, in the district courts, 168 of 211 were Democrats.

Early Divisions in the Major Parties During the first three months of the year, the activities of political party organizations increased steadily, particularly at the local level. In this period the candidacy of Senator Estes Kefauver made a deep impression Early talk of the possible candidacy of Adlai E Stevenson, governor of Illinois, subsided because of his declaration that he would not seek the Democratic nomination. The publication in March of the book *Mr. President*, edited by William Hillman and based upon diaries and letters of President Truman, increased the discussion of the latter's possible renomination But this matter was resolved by President Truman's declaration at the Jefferson-Jackson dinner on March 29 that he would not run.

From early April, when Taft began in Wisconsin his impressive march in primary victories, until the eve of the Republican convention, the attention of the nation was centred upon the contest between Taft and Eisenhower for delegates to the convention, rather than upon the increasingly acrimonius contest within the Democratic party Kefauver gained steadily in primary support By mid-May, many felt certain that he would win the Democratic nomination, but in the final arrangement for the forthcoming Democratic convention, it was noted that party managers had chosen Governor Paul A Dever of Massachusetts and Sam Rayburn, the speaker of the House, as presiding officers, and this seemed to thoughtful commentators to forecast the choice of Stevenson.

The Republican contest narrowed to a struggle between Taft and Eisenhower. In late May, Taft managers claimed 450 delegates to the convention and 107 as a probable addition. It seemed likely that the two candidates would enter the convention with somewhat more than 500 delegates to the credit of each (604 Republican and 616 Democratic required for nomination). The " favourite sons ", in particular Warren and Stassen, might hold the balance of power. But the leading question was the determination of delegations from contests submitted in Texas, Louisiana and Georgia. It appeared that the outcome of this issue might determine the choice of the nominee. Consequently, when, in the preliminary organization of the convention, the Republican national committee gave every advantage to Taft in choice of presiding officers and invited speakers, there was increasing discussion of the possibility of so serious a split in the party as to suggest a repetition of the split of 1912 and, as well, the loss of the ensuing election.

The National Party Conventions. An analysis of the proceedings of the Republican convention, which opened on July 7, showed that the final outcome was determined by three factors of outstanding significance. In the first place, the presentation of the regular party programme by Gen. Douglas MacArthur, by Herbert Hoover, the former president, and by others gave assurance that the party would oppose the New Deal, the Fair Deal and " Trumanism " on both domestic and foreign policies. In the second place, the reports from regularly organized committees (constituted by the Republican national convention of 1948) were scrutinized by the convention membership, which thereupon insisted on a delegate list from the contested states of Texas, Louisiana and Georgia that gave greater support to Eisenhower than to Taft This decision of the convention was aided by two factors: the support of the machine and personnel of the titular head of the party, Governor Thomas E. Dewey; and the call of the Republican governors of 25 states for fair and honest dealing with the evidence submitted by the Texas, Louisiana and Georgia rival delegations to the convention where all could see and judge In the third place, the insistent mood of the convention was distinctly hostile to the idea of a usual nomination, and in this mood the convention membership chose with determination the nomination not of Taft, not of a favourite son, but of Eisenhower, who, it was the general belief, could win the election

The Republican platform was affirmative and aggressive, as well as evasive and vague. It was primarily a programme of attack, as was natural in the case of a party that had been out of office for 20 years The choice of Senator Richard M Nixon of California as vice-presidential candidate, appealing supposedly to younger voters, was an indication that no risk was to be taken in being " too conservative ", and that there was intention to bear down hard on anti-Communism as an issue in the ensuing campaign.

The conventions, both held in Chicago, the Republican from July 7 to 12 and the Democratic from July 21 to 26, brought to the one city all the principal contenders for nomination, which was unprecedented. As the sessions were televised for the first time, as well as presented to the world by radio, there were brought to the eyes and ears of millions of Americans and others the methods, manners and membership of both the party organizations. Never before had the " party " as a living force in American life been so completely revealed to the people.

In the Democratic convention there was a contest not of two candidates but of six: W. Averell Harriman (Mutual Security administrator), Senator Richard B. Russell (of Georgia), Kefauver, Vice-President Alben W. Barkley, Senator Robert S. Kerr of Oklahoma and Governor Stevenson Involved in these candidacies, but in the end not determining the nomination, were the highly controversial platform proposals on civil rights and labour relations. More important than either, and to some extent determining the final outcome, was the treatment accorded the States Rights Democrats of 1948. As pleas of the southern moderates proved successful, it was clear that the party would appear to be united. The proposals of extremists were rejected. This in turn meant that the nominee could not be Russell or Kefauver or Harriman. As Barkley had withdrawn and Kerr was not a serious contender, the nominee would be (and was) Stevenson. The vice-presidential nominee was Senator John Sparkman of Alabama.

The Campaign. The briefest summary of the campaigns of two parties from mid-August until election day on Nov. 4 would include, in order, the following salient developments Eisenhower's earliest speeches stressed " honesty in government ", the need of a lasting peace and the " appalling and disastrous management of our foreign affairs ". Following his meeting with Taft on Sept. 12, there appeared greater intensity in Eisenhower's charges against the Truman administration, and it was apparent that he was working,

in speeches and otherwise, upon pacification of the Republican conservatives. His supporters had taken control of the national committee.

In this same period Stevenson had chosen a staff of workers that emphasized his freedom of the regular Democratic organization. Stevenson was invited to the White house and not only counselled with the president but on Aug. 12 was given a " briefing " by government and defence officials. This proved to be a major political blunder. As the campaign went into its second month, it was abundantly clear that an agreement had been reached between Stevenson and President Truman, and that, although the Democratic candidate would go his own way, the president would in the last weeks of the campaign make it clear to all supporters of the Fair Deal that it was on trial.

The last half of September was given over to the discussion on money in politics. It began on Sept. 18 with the revelation that vice-presidential candidate Nixon had accepted $18,235 for political purposes from a group of supporters. Early reaction was very unfavourable. This was countered by the news that Stevenson had used money from his gubernatorial fund of 1948 to augment salaries of state officials. An attempt was made to draw a fine line of distinction between the two acts, but to the public as a whole it failed Nixon submitted his case to the Republican national committee and defended himself as well on Sept. 23 in a radio broadcast that excited great interest The popular response seemed to exonerate him. The Republican national committee reported the receipt of 75,000 messages, 200 to 1 in Nixon's favour Eisenhower stated that Nixon had been completely vindicated Even after interest subsided, however, there was a widespread feeling of unrest and uncertainty as to the extent of contribution of private funds for campaigning

Anti-Communism, which had been an ever-present subject of discussion, came definitely to the centre of the stage in Nixon's attacks upon Stevenson, because of his character witness deposition on behalf of Alger Hiss. The counter-attack of Democrats pointed out that Eisenhower and his close adviser, John Foster Dulles, had been members of the board of the Carnegie Endowment for International Peace that had chosen Hiss as its president

In the final week of the campaign, although Communism as a menace at home and abroad certainly was much in the minds and emotions of the voter, the issues upon which all major addresses concentrated were charges of inexcusable corruption in Washington, the economic record of the administration and, finally, the part of the United States in the war in Korea. Eisenhower's attack, leading to his repeated declaration of intent to go to Korea, brought derision and then violent denunciation from Stevenson and Truman. But there was no effective answer even in the Democratic candidate's statement that the solution lay not in Korea but in Moscow. That broadened the argument, but left the administration even less defensible. In his final appeal made in Boston, with a national radio and television audience, Eisenhower emphasized five guiding moral principles, but rested his case on attainment of peace. President Truman, in predicting victory for the Democrats, said: " We are going to win for the policies that have made our country prosperous, the policies that have given every man a better opportunity and saved the free world from Communism ".

All national surveys predicted a close election It was expected that the unusual interest evident in greatly increased registration would be reflected in a national vote reaching 60 million. National political parties, in organization and in leadership, had never played so large a part in the thinking and feeling of the electorate as during this long and uncertain campaign.

The minor parties rarely appeared in public discussions of the campaign. The nominee of the Independent Progressives, Vincent W. Hallinan, contented himself for the most part in denouncing both the Democratic and Republican parties as " warmongers ". The Socialist appeal was usual, and, Darlington Hooper, its not too aggressive nominee, received little attention. In New York state the Liberal party had a state ticket but gave its national support to the Democratic nominee, who addressed them in a special broadcast the week before the end of the campaign. (*See* also ELECTIONS, UNITED STATES.) (E. E. R)

POLO. Fifteen clubs played regularly in the 1952 season, and some 12,000 people attended the matches at Cowdray Park on Whit Monday. The Cirencester Park club, revived in 1952, attracted a large crowd for its first tournament in August and other clubs showed an increase in attendance A Brazilian team visited England in June and July to play in junior tournaments, their tour was marred through one member being ill and another having to return to Brazil.

Friar Park, a team from the Henley club, won the Roehampton cup, beating Maidensgrove in the final by 5 goals to 4½ The Cowdray Park Polo Cottage team won the County cup at Roehampton, beating Friar Park in the final, 5½-3 Beechwood was the most successful team of the year, winning both the Cowdray Park senior and junior challenge cups as well as other tournaments.

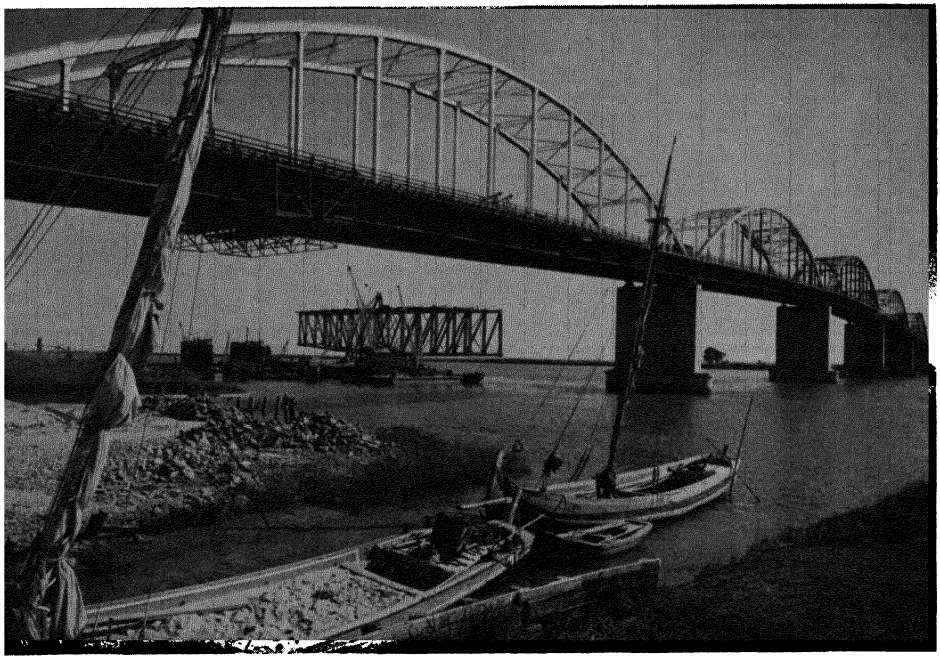
The Oxford and Cambridge match resulted in a tie (3-3) In the replay, Cambridge won decisively, 10-1 The Hurlingham Polo association sent a team for the August tournaments to Deauville, France, where it had a successful tour (J C G)

PORTUGAL. Republic of southwestern Europe, forming part of the Iberian peninsula and bounded L and N by Spain. Area: 35,415 sq mi., including Azores (888 sq mi.) and Madeira (302 sq mi.). Pop. (1940 census) 7,722,152, (1950 census, prelim.) 8,490,455 incl Azores (318,686) and Madeira (269,179). Language Portuguese Religion Roman Catholic Chief towns (pop., 1940 census): Lisbon (cap., 709,179), Oporto (262,309), Funchal, Madeira (54,856), Coimbra (35,437) President of the republic, General Francisco Higino Craveiro Lopes, prime minister, Antonio de Oliveira Salazar.

History. On Dec. 30, 1951, a new steel-arch bridge over the river Tagus was opened by the president of the republic at Vila Franca de Xira, some 14 mi. above Lisbon It is the longest in Portugal and one of the major bridges of the European continent

The 9th session of the council of N.A.T.O., which met in Lisbon, Feb. 20-25, was the most notable of a series of international gatherings in the Portuguese capital during 1952 Among others were the European committee of the World Health organization, the U.N. Food and Agriculture organization, the International Wheat council, the International Congress of Industrial Medicine, the 5th International Congress of Neurology, the International Roads congress, and the congress of the International Housing and Town Planning federation.

Dr Salazar crossed into Spain to meet General Francisco Franco for a two-day conference at Ciudad Rodrigo in April: it was understood that problems related to the defence of the Iberian peninsula were the chief subjects of the meeting. Dr Paulo Cunha, foreign minister, went to London to represent the president of the republic at the funeral of King George VI. Commander Sarmento Rodrigues, minister for the overseas territories, made in April, May and June an extended tour of Portuguese territories in the far east, and later went on to the United States to visit colonies of Portuguese settlers in the



The Marshal Carmona bridge across the river Tagus, 14 mi. from Lisbon, which General Lopes, President of Portugal, opened on Dec. 30, 1951. The bridge, 4,015 ft long overall with 1,700 ft. over the water was built by Dorman, Long and Co.

states of New York and California. The Duke of Palmela, former ambassador to Great Britain, led a Portuguese delegation to South Africa for the van Riebeek tercentenary celebrations.

Lieut.-Colonel Santos Costa, minister of national defence, visited the Azores. In June the terms of the 1951 agreement with the United States for the granting of military facilities in the Azores were made public: it transpired that Portugal had reserved the right to extend similar facilities to Great Britain and possibly to other members of N.A.T.O. if the need should arise. A project for the reform of military aviation became effective by the establishment of an under secretaryship for aviation directly responsible to the minister of national defence. Ruy Luis Gomes, a former presidential candidate, was sentenced to three months' imprisonment and five years' loss of civil rights for "conspiring against the security of the state". On July 5 Salazar completed 20 years as president of the council of ministers.

The financial year 1951 was closed with a credit balance of Es. 47 million. New trade and economic agreements were concluded with France, Ireland, the United Kingdom, Denmark, the German Federal Republic, Sweden, Belgium and Italy; various other agreements of a similar nature were revised or renewed. The 1952 budget provided a sum of Es. 180 million for health and other social services, and Es. 592 million as the first of three approximately equal annual instalments for the rearmament programme in fulfilment of Portugal's international obligations as a member of N.A.T.O. U.S. defence credit to Portugal for the calendar year 1952 was 66 million dollars and for the financial year 1952-53, 76·7 million dollars.

A number of high-ranking N.A.T.O. personalities visited Lisbon, including General Matthew B. Ridgway, Field Marshal Viscount Montgomery of Alamein and Lord Ismay. British, U.S. and French naval units visited the Tagus: the largest was a U.S. squadron comprising one battleship, 28 other craft and 17,000 men.

Further developments in the national electrification scheme were the completion of the system at Cávado-Rabagão in northern Portugal, and formal authorization of a new hydro-electric system for the island of Terceira in the Azores at a cost of Es. 26 million. The grandiose plan of national development, details of which were published on Sept. 4, provided for an estimated capital expenditure of Es. 13,500 million in six years. This was nearly two-and-a-half times the annual national budget. (F. B. H.)

Education. Schools (1948-49): primary 10,646, pupils 598,190, teachers 14,445; private elementary, pupils 60,158; secondary 42, pupils 19,997, teachers 1,096; private secondary, pupils 25,316; technical 67, pupils 36,533, teachers 1,591; commercial 8, pupils 3,095, teachers 217. Colonial high school, students 113, professors 15; universities 3, students 8,883, professors and lecturers 475; other institutions of higher education 4, students 5,576, professors and lecturers 278. Illiteracy (1940): 49%.

Agriculture. Main crops ('000 metric tons, 1950; 1951 in brackets): wheat 575 (604); barley 123 (137); oats 141 (147); maize 482 (422); rye 170 (196); rice, paddy 121 (127); potatoes 1,128 (1,208); dry beans 58 (55); grapes (1949) 1,360. Wine production (1950): 7,250,000 hl. Olive oil production (1951 est.): 82,000 metric tons. Livestock ('000 head, Dec. 1948): cattle 1,000; sheep 4,000; pigs 1,200. Meat production (1951): 72,000 metric tons. Fisheries, total catch (1951): 307,455 metric tons.

Industry. Fuel and power (1951; 1952, six months, in brackets): coal ('000 metric tons) 417·6 (221·8), lignite 82·8 (40·2), manufactured gas (million cu.m.) 43·8 (25·8), electricity (million kwh.) 1,034 (663·9). Raw materials (metric tons): lead (1950) 2,040; tin ores (1949) 2,564; wolfram (1950) 2,199; pyrites (1950) 613,521; cork (1949) 103,108; kaolin (1949) 21,941. Manufactured goods ('000 metric tons, 1951; 1952, six months, in brackets): cement 639·6 (315·8), woven cotton fabric 25·7 (14·8), cotton yarn 31·6 (18·7).

Finance and Banking (million escudos). **Budget:** (1951 actual)

revenue 5,653, expenditure 5,605, (1952 est) revenue 5,970, expenditure 5,966. National debt (1950). 12,337. Currency circulation (June 1951, June 1952 in brackets). 7,920 (8,370) Bank deposits (June 1951; June 1952 in brackets)· 19,100 (20,240). Monetary unit *escudo* with an exchange rate (Nov. 1952) of Es. 80·50 to the pound and Es 28 95 to the U.S. dollar.

Foreign Trade. (Million escudos, 1951, 1952, six months, in brackets) Imports 9,497 (5,084), exports 7,561 (3,264) Main sources of imports (1951) U K 17%; Portuguese overseas territories 16%; U.S 16% Main destinations of exports (1951) Portuguese overseas territories 25%, U K 17%, U S 13% Main imports (1951) wheat 8%; machinery and vehicles 23%, coal, petroleum and products 11%, raw cotton 6%. Main exports (1951) cotton fabrics 13%; cork and manufactures 17%, port and other wines 11%, sardines and other tinned fish 10%

Transport and Communications. Roads (1949) 16,697 mi Licensed motor vehicles (Dec 1950) cars 65,000; commercial vehicles 24,000. Railways (1949). 2,246 mi , passenger-mi (1949) 917 million, goods carried (1950) 3,324 metric tons Shipping merchant vessels, 100 gross tons and over (July 1951) 319, total tonnage 501,985 Telephones (1951). 152,580 Wireless licences (1949) 187,385

See Charles E. Nowell, *A History of Portugal* (New York, 1952)

PORTUGUESE OVERSEAS TERRITORIES.

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-1950 est.) 12,015,100. Areas, populations, capital towns and governors of the territories are given in the accompanying table.

History. The six-year national development plan envisaged capital expenditure of between Es 5,000 million and Es. 6,000 million in the overseas territories, principally in Angola and Mozambique. Irrigation, agriculture, hydro-electric schemes, and the improvement of railway and air communications and port facilities were among the principal projects. Some of these made good progress in 1952, including the extension of the railway line from Moamba to Guija (Mozambique) and the Limpopo bridge-barrage. It was reported that the new port of Nacala in northern Mozambique was expected to be one of the best ports on the east coast of Africa within a relatively short space of time.

Statistics were published, covering the year 1951, showing considerable increases in coffee and sisal production in Angola. These two commodities, which in 1938 were respectively fourth and seventh in the list of Angola's exports became first and second in 1951. The output of the cement factory at Lobito was now sufficient for the entire needs of Angola, in consequence of which cement imports from metropolitan Portugal ceased to enjoy exemption from import duties as from Aug. 15. U.S. grants for colonial development under E.R.P. totalled Es. 62 million.

Radiotelephone communications between metropolitan Portugal and the overseas territories were expanded by the inauguration of new services to Angola, Cape Verde and São Tomé. New radiotelephone installations at Goa, Macao, Timor and Portuguese Guinea reached an advanced stage of completion. Telephone rates to Mozambique were reduced by more than 50%.

The far eastern tour of Commander Sarmento Rodrigues, minister for the overseas territories, ended in Macao just prior to a shooting incident between Portuguese and Chinese guards which resulted in the temporary closing of the international frontier in July. Some delicate diplomacy on both sides brought about an amicable settlement of the affair, under which Portugal paid an indemnity. The 400-year old peace was re-established and Macao remained a curiously unchallenged outpost of "western imperialism" in the Chinese people's republic.

In the enclaves of Goa, Damão and Dio there was not the same apparent calm toleration on the part of India. During 1952 the small French settlement of Chandernagore near Calcutta was ceded to India, and this act served to underline the difference between the French and Portuguese attitudes towards India's claim that all these territories belonged to the Indian Union. Portugal firmly maintained that its ancient Indian footholds were an integral part of the Portuguese republic, and that their status as such could not be altered. India continued to resent this attitude and remained determined to free all the enclaves from non-Indian rule. Meanwhile commercial and economic relations between the territories and the Indian Union suffered from the effects of the Indian customs cordon and from smuggling and other forms of lawlessness in the border areas

In early November the patriarch of Lisbon, Cardinal Manoel Gonçalves Cerejeira, left for Goa as papal legate to the celebrations commemorating the fourth centenary of the death of St Francis Xavier, whose mummified body was exposed for the last time for the veneration of the pilgrims.

(F. B. H.)

Angola. Education (1948) primary schools 142, pupils 9,007, secondary (1947) 21, pupils 2,239, technical (1947) 17, pupils 783 Principal products coffee, sisal, maize, sugar, beans, palm oil, diamonds Foreign trade (million escudos, 1951) imports 2,179, exports 3,189 Roads (1951) 35,360 km Railways (1951) 2,419 km Shipping (1951) vessels entered 3,588, net tonnage 4,007,148 Budget (1952 est) balanced at Ang 944,895,771 Monetary unit *angolar* at par with escudo

Cape Verde Islands. Education primary schools (1948) 111, pupils 5,234, secondary (1947) 1, pupils 257. Principal products mineral oil, coal, fish Foreign trade (million escudos, 1951) imports 246, exports 225 Shipping (1951) vessels entered 3,783, net tonnage 2,742,367 Budget (1952 est) balanced at Es 35,416,600

Guinea. Principal products groundnuts, coconuts, palm oil. Foreign trade (million escudos, 1950). imports 128, exports 128 Shipping (1950) vessels entered 74, net tonnage 88,606. Budget (1952 est) balanced at Es 81,534,918

São Tomé and Principe Islands. Principal products cocoa, coconuts, copra, palm oil Foreign trade (million escudos, 1951) imports 150, exports 217 Shipping (1951) vessels entered 2,557, net tonnage 562,200. Budget (1952 est) balanced at Es 56,718,441

Mozambique. Education (1949): elementary schools 850, pupils 137,805, primary 127, pupils 10,254; secondary 6, pupils 784; technical

PORTUGUESE OVERSEAS TERRITORIES

Country	*Area* (sq mi)	*Population* (1950 census)	*Capital*	*Governor*
AFRICA				
ANGOLA	481,351	4,111,796 Eur 78,903	Luanda (pop , 137,139)	‡Capt José Agapito da Silva Carvalho
CAPE VERDE Is	1,557	147,097 Eur (1940) 5,580	Praia (pop , 1940, 6,000)	Maj Carlos Alves Roçadas
GUINEA	13,948	508,970 Eur 2,254	Bissau (pop , 5,700)	Raimundo António Rodrigues Serrão
SÃO TOMÉ AND PRINCIPE Is.	372	60,159 Eur. 1,152	São Tomé (pop , 2,605)	Lieut.-Col Carlos de Sousa Gorgulho
MOZAMBIQUE	297,731	5,730,930 Eur. 48,910	Lourenço Marques (pop , 1940, 48,000)	‡Cmdr. Gabriel Mauricio Teixeira
ASIA				
INDIA	1,538	667,000*	Nova Goa	‡Brig -Gereral Paulo Benard Guedes
MACAO	6·2	347,041† Port (1949) 4,626	Macao	Cmdr. Joaquim Marques Esparteiro
TIMOR	7,332	442,378 Eur 568	Dili (pop , 1940, 7,000)	Capt. Cesar Maria de Serpa Rosa

* 1950 estimate. † 1949 census. ‡ Governor-general.

57 including 3 teachers' training colleges, students 5,991. Principal products: sugar, copra, cotton, sisal. Foreign trade (million escudos, 1951): imports 2,044, exports 1,252. Roads (1949): 18,078 mi. Railways (1949): 1,652 mi. Shipping (1949): vessels entered 1,988, net tonnage 6,905,468. Budget (1952 est.): balanced at Es. 1,669,383,457.

India. Education (1948): primary 278, pupils 9,970; higher 1, pupils 159. Foreign trade (million escudos, 1947): imports 338·9, exports 50·5. Budget (1952 est.): balanced at Es. 120,913,896. Monetary unit: *rupia* = 5·85 escudos.

Macao. Education (1948): primary schools 56, pupils 12,592. Foreign trade (million patacas, 1950): imports 185, exports 646. Shipping (1948): vessels entered 12,265, net tonnage 1,897,125. Budget (1952 est.): revenue Es. 87,308,479; expenditure Es. 75,925,476. Monetary unit: *pataca* = 5·70 escudos.

Timor. Education (1948): primary 30, pupils 627. Foreign trade (million escudos, 1951): imports 45, exports 32. Shipping (1949): vessels entered 115, net tonnage 29,096. Budget (1951 actual): revenue Es. 50,280,294, expenditure Es. 55,355,200. Monetary unit: *pataca* = 16·25 escudos.

See *Report on Economic and Commercial Conditions in Portuguese East Africa* [*Mozambique*], H.M.S.O. (London, 1952).

POST OFFICE. The total value of post office transactions with the public in Great Britain during the year ended March 31, 1952, was £3,463,782,000, an increase of nearly £285 million on the figure for the previous 12 months.

Postal. The number of letters and letter packets, etc., posted during 1951-52 was estimated to have been 8,750 million, an increase over the traffic for 1950-51. The number of parcels handled during the year dropped from 232,630,000 to 223,593,000.

On March 31, 1952, the inland parcel postage rates were altered, the minimum rate remaining at 11*d.* for a parcel not exceeding 2 lb. in weight and the maximum rising to 2*s.* for a parcel between 11 lb. and 15 lb.

On May 1, 1952, the following changes were introduced:

(i) The postage rate on inland letter packets of more than 4 oz. in weight was raised from ½*d.* to 1*d.* for each additional 2 oz.

(ii) Air-mail postage rates to countries outside Europe were increased: for first-class mail by 3*d.* per ½ oz. for letters, and by 2*d.* for postcards: for second-class mail by 2*d.* per ½ oz. except for newspapers and periodicals registered at the G.P.O. as newspapers (for which the existing rates were maintained), and literature for the blind for which new favourable air postage rates were introduced.

The lightweight air letter rate stayed at 6*d.* to all destinations.

(iii) Inland registration fees were increased by 2*d.* at each step of the scale; the minimum fee (covering compensation up to £5) thus became 6*d.*, and the fee payable to cover the maximum compensation of £400 became 2*s.* 2*d.*

(iv) The overseas registration fee was increased from 4*d.* to 6*d.* and in consequence the fees for insurance were increased by 2*d.* at each step of the scale.



The first pillar box to bear the new royal cipher unveiled on Nov. 17. The Earl of Selkirk posts the first letter.

The 13th congress of the Universal Postal union was held in Brussels from May 14 until July 10. The United Kingdom was one of the 91 member countries (out of a possible total of 93) represented there and provided the chairman of one of the principal committees (that dealing with the letter post).

Telegraphs. The number of telegrams handled during the year ended March 31, 1952, was 61,969,000, including 23,344,000 overseas telegrams and radio telegrams with ships at sea. (In the year ended March 31, 1951, the figures were 65,241,000, including 23,627,000 overseas telegrams and radio telegrams.) Greetings telegrams totalled 5,572,000.

A total of 12,133,939 words (834,444 radio telegrams) was exchanged with ships at sea during the year ended March 31, 1952. The 11 coast stations in the United Kingdom owned and operated by the post office dealt with 181 cases requesting medical service, 269 cases of ships in distress and 41 cases of aircraft in distress.

Telephones. On March 31, 1952, the telephone system of Great Britain and Northern Ireland comprised 4,297 automatic and 1,584 manual local exchanges serving 5,716,278 telephones. During the preceding 12 months, 716,000 new telephones were installed and there were 426,000 cessations, producing a net increase of 290,000 telephones. About 300,000 applications for service were received, and at the end of the year the number of outstanding applications had been reduced from 532,000 to 482,000. The new telephone kiosks provided amounted to 2,500, more than 1,000 of them in rural areas.

The number of inland telephone calls dealt with during the year ended March 31, 1952 was 3,492 million, an increase on the previous year's total of 5%. Trunk calls increased by 4·8% to a total of 262 million and the number of telephone trunk-lines over 25 mi. radial distance increased by 971 to 17,991. International telephone traffic continued to increase and during the year ended March 31, 1952, nearly 3 million calls were exchanged with European countries, an increase of 13%. Radio-telephone calls with countries outside Europe increased by 1% to 179,000.

Short-range radio telephone calls made between ships and telephone subscribers ashore through the coast stations in the United Kingdom owned and operated by the post office numbered 32,035.

Savings Bank. Deposits for the year ended March 31, 1952, amounted to £341,894,000, an increase of £6,493,000 on the previous year; the number of separate accounts was 22,656,000.

On Dec. 31, 1951, the amount due to depositors was £1,875,920,000. For the year ended March 31, 1952, 17,853,000 saving certificate documents were issued.

Staff. In March 1952, post office staff numbered 337,549 (part-time staff counted as half) with a salary and wage bill of £144,567,635 for the year. (*See* also PHILATELY; TELEGRAPHY; TELEPHONE.) (G. P. O.)

POTATOES: *see* ROOT CROPS.

POTTERY AND PORCELAIN. Plant modernization was reported in many countries with ceramic industries. The demand for ceramic ware slackened a little although the



Pottery designed by Josiah Wedgwood and Sons as coronation souvenirs; sugar bowl, cream jug, teapot, boxes and ashtray.

number employed in the north Staffordshire pottery industry in July 1951 was 62,000; this was double the number employed at the end of World War II and was practically equal to the figure for 1938. Pottery exports from Britain in 1951 totalled £27,279,000. A feature of the modernization programme of the British pottery industry after the end of World War II was the remarkable increase in the number of tunnel kilns and by 1952 about 200 of these were in operation. The increasing use of the tunnel kilns has led to developments in the making and drying processes and with modern equipment certain types of clayware can be dried in half an hour compared with periods up to 24 hr. in prewar driers.

In Dec. 1951, the Duke of Edinburgh opened the new laboratories of the British Ceramic Research association at Stoke-on-Trent, England, which were equipped and staffed to carry out research in all branches of the clay industry. The laboratories of the *Société Française de Céramique* in Paris had also been completed. The third International Ceramic congress was held in Paris during May 1952. The papers presented at the technical and scientific sessions showed a widespread interest in the properties of clay as revealed by the electron microscope and the centrifuge, the effect of heat on the constitution and mechanical properties of clay, the maturing of glazes, and the nature of the interface between glaze and body. The 54th annual meeting of the American Ceramic society, held at Pittsburgh in April 1952, included symposia on tunnel kiln operation and maintenance, kiln furniture for use in the firing of pottery, and ceramic dielectrics; advances made in this last field were particularly striking since 1947 and reflected the stringent demands now made by the electrical industry on its dielectric components. Further research was carried out on some of the silicate and other mixed-oxide systems encountered in ceramics and their equilibrium phase compositions were studied. Partly as a result of this fundamental research, ceramic bodies containing lithia were developed; of more practical significance were lithia bodies so compounded that their volume remained reasonably constant when heated or cooled. It was claimed that technical porcelain made from a composition of this type could be quenched when red-hot without cracking.

The world shortage and high prices of certain raw materials had some repercussions in the ceramic industry; a particular instance of this was the increasing use of zirconia, and to some extent of titania, as an opacifier instead of tin oxide.

Of significance in the field of pottery design was the redesignation of the Stoke-on-Trent art schools as a college of art; the college employed 62 teachers and had served the pottery industry since the mid-19th century. Two other important events in Britain were the lifting of restrictions on the sale of decorated pottery in the home market and the design of souvenir ware for the coronation in 1953; the British Pottery Manufacturers' federation awarded prizes for the best shapes for coronation mugs and beakers and for the best design suitable for their lithographic decoration.

(B. C. R. A.)

POULTRY. Agricultural returns for England and Wales for June 1952, recorded a further growth in the poultry population of these countries. Total population, including ducks (1,960,000), geese (636,000) and turkeys (971,000) was 68,105,000, a rise of nearly 2 million as compared with the 1951 figures. Scotland also showed a rise: 10,107,000, including ducks, geese and turkeys, against 9,920,969 in 1951. Northern Ireland recorded over 1·25 million fewer head of poultry, actual figures being 16,452,600 in 1952 against 17,837,936 in 1951. The figures included large numbers of birds in the process of being reared for the table or for disposal to domestic poultry keepers.

In 1952 the Ministry of Agriculture ceased to control the Domestic Poultry Keepers council. In its place an independent National council was set up and financial support by the Treasury was granted on a decreasing scale until the council should succeed in making itself a self-supporting organization.

1952 has also witnessed the removal of some of the measures instituted for the control of Newcastle disease (fowl pest). Shows were again permitted and all ran smoothly until, late in November, the disease appeared again in one of Britain's largest hatcheries in Yorkshire. Within a few days over 70 outbreaks were reported in a dozen different counties and fresh measures for its control were being contemplated by the Animal Health division of the Ministry of Agriculture.

It was announced late in the year that rationing of eggs, which had been introduced during World War II, was to end in the spring of 1953. This would be the first step towards freeing British producers from official control and it was hoped that by this means the black market in eggs would be checked. Subsidy payments to producers would be removed. Another possibility eagerly awaited by poultry keepers was that feedingstuffs would be de-rationed towards the end of 1953. (*See* also VETERINARY MEDICINE.) (C. G. My.)

PRASAD, RAJENDRA, Indian statesman (b. Saran district, Bihar, Dec. 3, 1884), was educated at Presidency college, Calcutta, and by 1908 was professor of English at Muzaffarpur college, Bihar. He took his doctorate in laws at Allahabad university and in 1914-16 was a professor at the Calcutta university law college. In 1917 he joined Gandhi in the famous Champaran (Bihar) *satyagraha* ("insistence on truth"; *i.e.*, non-violent disobedience to unjust laws)—an attempt to improve the lot of the peasantry of that district. In 1920 he gave up a promising legal career to devote himself completely to the Mahatma's non-co-operation movement; Prasad's writings include much on Gandhi, as well as other political works and an autobiography. He became general secretary of the Indian National Congress in 1922 and was later appointed to the working committee; he was president of Congress in 1932, 1934, 1939 and 1947-50. Prasad was often imprisoned for his part in the civil disobedience movement, his last term being from 1942 to 1945. His only cabinet office was that of member (later minister) for agriculture and food in the interim and fully constituted governments of 1946-48. He was chairman of the constituent assembly from Dec. 1946 and two days before the proclamation of the Republic of India on Jan. 26, 1950, he was named as its first president. On May 6, 1952, Rajendra Prasad was

declared re-elected as president of the Indian union; 507,000 votes had been cast in his favour (by the members of the state assemblies); K. T. Shah, his nearest rival among the four other candidates, received 92,827 votes. The president was sworn in on May 13, when he also presided over the swearing-in of the new cabinet. President Prasad presided over a conference of state governors and *rajpramukhs* in New Delhi on March 14-15. On April 22 he received the credentials of Ernst Meyer, the first ambassador to India from the German Federal Republic. On Oct. 2 he opened the Gandhi-dam (Kutch)-Deesa (Bombay) railway, and broadcast inaugurating the All-India Community Projects programme.

PRESBYTERIAN CHURCH. Europe. The eastern section of the World Presbyterian alliance, with headquarters in Geneva, Switzerland, reported the extension of its work in the British Isles, Europe, Australasia and Asia and that the young Presbyterian and Reformed churches in Africa and Latin America had shown a vital interest in the purpose of the alliance.

United States. In the interest of united action the Presbyterian Church in the U.S., the United Presbyterian Church and the Presbyterian Church in the U.S.A. in 1952 united their programmes in evangelism, stewardship, pulpit exchange and provision of chaplains for the armed forces. Another step in a united programme entailed the formation of a committee consisting of members from the Presbyterian Church in the U.S A., the Presbyterian Church in the U S , United Presbyterian Church, Reformed Church in America and Associate Reformed Presbyterian Church, to prepare a joint hymnal. The Presbyterian Church in Canada indicated its intention to join in this hymnal project. In May 1952 representatives of the Congregational Christian Churches and the Evangelical and Reformed Church resumed negotiations for a merger.

In a wider co-operative programme five Presbyterian and Reformed churches, the Evangelical and Reformed Church, Reformed Church in America, United Presbyterian Church of North America, Presbyterian Church in the U.S and the Presbyterian Church in the U.S.A , joined with 24 other denominations in the National Council of Churches of Christ in the United States of America " in a common Christian witness and a co-ordinated programme for a combined impact upon the national life."

Special emphasis was placed on evangelism and missionary endeavour. The urgency " to restore the Bible to its rightful place in the preaching, teaching, and fellowship of the Church, and in the life of the family and of the individual believer " keynoted these unified endeavours The formation of new communities had confronted the various denominations with the problem of establishing new churches without overlapping and through evangelism of bringing many people to a sense of their responsibility to God. Both the Reformed and Presbyterian churches through organized missions took steps to cope with this problem. Campaigns for building funds were instituted. The 150th anniversary year of the Board of National Missions of the Presbyterian Church in the U.S.A. provided the occasion for a building funds campaign for $12 million to build churches in these new communities. More than $6,625,000 had been pledged by the end of May. The Presbyterian Church in the U S. reported that 57 new churches had been organized during the period 1951-52 and that 623 churches had been established in five years. (*See* also CHURCH OF SCOTLAND) (G. S. K.)

PRESIDENTS: *see* SOVEREIGNS, PRESIDENTS AND RULERS.

PRICES. Changes in prices were much smaller in 1952 than in the two previous years. Prices of basic materials on world markets declined generally during the year; consequently, wholesale prices in most European countries were at rather lower levels in 1952 than those reached in 1951. There were reductions in the prices of textile materials and products, partly offset by relatively firm prices of other manufactured goods and foodstuffs.

Great Britain. *Commodity Prices.* Sterling prices of some important commodities are shown in Table I in comparison with those ruling before the outbreak of war in Korea in 1950. Textile materials were firm in price at the end of 1951 after the collapse from the inflated figures recorded early in that year. There were price falls combined with considerable fluctuation in the early part of 1952, followed by more variable movements. Wool prices improved around mid-year; since there were no accumulations of stocks in the hands of producers and manufacturers, and since there was a substantial balance between world consumption and production, any recovery in consumption had a direct effect on prices. Cotton prices were high in the winter of 1951-52, partly because of low estimates of the U.S. crop, and the reduced demand for cotton goods led to a fall in price which continued throughout 1952. There were particularly large reductions in prices of sisal and jute in the middle months of 1952, though the prospects then improved. Late in the year, prices of textile materials were still generally at or below the levels ruling before the Korean war.

TABLE I BRITISH COMMODITY PRICES
(June 13, 1950=100)

	1951			1952			
	Mar 20	Sept 11	Dec. 11	Mar. 18	June 17	Sept 16	Dec 16
Copper, electro	109	126	122	122	151	153	153
Lead, soft	142	187¼	182	170	134	136	101
Zinc, g o b	118	149	149	149	108	99	86
Tin, cash (buyers)	215	157	156	162	161	159	156
Cotton, Egyptian	176	113	142	118	94½	101	85
Mid-American	149	118	145	127½	123	112	97
Wool, tops, 64's	213½	86	94	77	88	83	91
Sisal, African, No 1	187	185	164	177	110	83	78
Jute, Mill Firsts	161	118	138	113	94	67½	71
Rubber, R S S.	270	210	181	147	113	97	114¼
Copra, S D Straits	166	116	115	73	79	77	102

The long and almost continuous rise in prices of non-ferrous metals (except tin) was halted early in 1952. Rearmament demands were largely concentrated on copper which remained scarce and firm in price. Supplies of lead and zinc were more than adequate and both prices were reduced rapidly. Controls over the uses of zinc, in force since Dec. 1950, were ended in Aug. 1952 and private trading in lead was resumed in October.

After a low point late in 1951, the price of tin recovered early in 1952 on the conclusion of a materials agreement between the U.K. and U.S. governments. Subsequent fluctuations were around a steady level of about £970 per ton, as compared with £600 per ton before the war in Korea. Rubber prices, which reached highly inflated figures early in 1951, declined with only minor oscillations until in Sept. 1952 they fell to the level, around 2*s*. per lb., ruling before the Korean war. The main influences were U.S. policy on stockpiling and on synthetic production, expansion of output in Indonesia and a potential excess of world supply over demand.

Prices of commodities produced within the sterling area, particularly rubber, cocoa and jute, were both declining and fluctuating in 1952 to a greater extent than other commodities purchased by the sterling area from the rest of the world. This was a contributing factor in the 1952 crisis in the balance of payments of the area.

Import and Export Prices. The prices paid by the U.K. for deliveries of imported produce were still high early in 1952 but then declined during the year (Table II). Imported raw materials fell in price first, followed later in the year by

prices of imported foodstuffs and manufactures. The level of prices of U.K. exports though well above that of 1951 declined slowly after the middle of 1952. The weakness of textile prices was almost offset by firm prices of exports of the metal-using and engineering industries. The improvement in the terms of trade during 1952 was, therefore, the result of lower import prices rather than higher prices of exports.

TABLE II IMPORT, EXPORT, WHOLESALE AND RETAIL PRICES, UNITED KINGDOM

	1951	1952			
	June	Feb	May	Aug	Nov
*Imports and Exports**	Average 1950 = 100				
Imports					
Food, drink and tobacco	117	120	123	121	117
Raw materials	158	147	137	127	121
Manufactures	130	135	134	129	126
Total	136	134	131	124½	119
Exports	115	122	122	121	118½
Terms of trade†	118	110	107½	103	100½
Wholesale Prices‡	June 1950 = 100				
Food and tobacco	111	121½	125	129	131
Materials, non-food manufacturing	152	140	128	124	121
Output of Industry					
General chemicals	114	124	125	125	125
Domestic hollow-ware	111	127	131	132	132
Hosiery	139	114½	106	101½	104
Made-up clothing	118	117	110	107	107
Retail Prices§	June 1947 = 100				
Food	133	146	152½	156	158
Household durable goods	137	140	139	137	136
Clothing	142	150	149½	145	144
All items	125	133	135	137	138
Wage rates Men‖	118	127	128	129	132

* Average values computed from annual data, extrapolated into 1952 by use of index numbers of import and export prices (Board of Trade) † Ratio of average values of imports to average values of exports ‡ Board of Trade food and tobacco old series (base 1930), others new series (base June 1949) § Ministry of Labour interim index Groups, level for Jan 1952 as calculated by R G D Allen, *Index Numbers of Retail Prices 1938-51*, *Applied Statistics*, vol 1, no 2 (London, 1952), carried back to June 1951 by interim index (June 1947 100) and carried forward by interim index (Jan 1952 = 100) ‖ Ministry of Labour index of weekly wage rates

Wholesale and Retail Prices. Materials used by manufacturing industry in general fell by nearly 20% from the peak of March 1951 to the beginning of 1952 and then by a further 10% in the first half of 1952. There was greater stability in the middle of the year, but the decline in commodity prices had not then worked itself out and there were further falls in wholseale prices of materials later in the year. Cuts in food subsidies and consequent increases in food prices were announced in the budget of March 1952, but they were spread over a period of several months. The rise in food prices, both at wholesale and at retail levels, was more than 10% during 1952. On the other hand, prices of clothing and household furnishings were marked down, particularly around mid-year, in response to slack demand and accumulated stocks. Other wholesale and retail prices, particularly of goods produced by the metal-using industries, were generally somewhat higher in 1952.

The increase in the all-items index of retail prices during 1952 was mainly the result of higher food prices; it was at a slower pace, compared with the rapid rise in 1951. There was some seasonal decline in the late summer before the upward movement was resumed. The increase in wage rates, though not in earnings, continued to be rather less than that in retail prices.

European and Commonwealth Countries. The movements of wholesale prices since 1948 and mid-1950 are shown in Table III for certain countries of Europe and the British Commonwealth.

In most European countries dependent on imports the domestic price level was influenced directly and indirectly by the decline in world commodity prices in 1952. In addition there were several countries which adopted vigorous deflationary policies with some success, in the Netherlands, for example, wholesale prices rose rapidly until the second quarter of 1951 but a year later they were 5% lower and falling. In Norway and Sweden, however, the rise in wholesale prices continued into 1952. By the middle of 1952 wholesale prices in countries little affected by devaluation (Switzerland and Italy in particular) were at much the same level as in 1948 and somewhat above the mid-1950 figures. In most other countries, under the influence of devaluation and rearmament, wholesale prices had settled at 40% to 50% higher than in 1948.

In Australia, New Zealand and South Africa, the course of domestic prices was dominated by prices of imported manufactures rather than those of basic commodities.

TABLE III WHOLESALE PRICES, U K , U S A , AND CERTAIN EUROPEAN AND COMMONWEALTH COUNTRIES

(Average 1948 = 100)

	Mid-1950*	1951 June	1951 Dec	1952 March	1952 June
United Kingdom	119	146	151	152	149
United States	99	110	109	108	107
Europe					
Belgium	97	122	123	117	112
Denmark	112	154	151	148	142
France†	106	138	152	149	146
Germany‡	97	121	124	123	122
Ireland	105	122	128	127	128
Italy	86	103	100	98	94
Netherlands	115	145	145	143	139
Norway	115	147	149	149	151
Sweden	105	143	149	150	150
Switzerland	92	105	105	103	101
Commonwealth					
Australia	131	166	173	180	188
Canada	110	126	123	119	117
India	110	124	118	103	102
New Zealand	111	126	135	139	
South Africa	114	130	142	145	148

* Generally July † 1949 = 100, increase from 1948 to 1949 approximately 12%. ‡ Bizone, June-December 1948 = 100, industrial products only
SOURCE United Nations, *Monthly Bulletin of Statistics*

Inflationary pressures were particularly strong in Australia. In contrast, the measures of deflation introduced by India were very successful, wholesale prices fell by 20% in the year after May 1951 to a level about the same as in 1948. (R. G. D. A.)

United States. In the United States, wholesale and retail prices remained relatively stable throughout 1952, reflecting both the effectiveness of the anti-inflationary programme and the high level of productivity. Nevertheless, the consumers' price index reached a new record in Aug. 1952, about 1% above the level of the preceding December.

A substantial revision in the method of measuring wholesale price changes was introduced by the Bureau of Labour Statistics in January. Before this wholesale price movements were measured by comparing monthly the prices of about 900 items (classified into 10 groups and 50 sub-groups) with their respective prices in the base year 1926. The new index compared monthly the prices of nearly 2,000 commodities (classified into 15 groups and 88 sub-groups) with their respective average prices during the three-year period 1947-49 Average sales in 1947 were used to determine the relative importance of each commodity in the new index.

Wholesale prices for each major group of commodities in the old index, except for foods, had attained their highest post-World War II prices in various months during 1951, and foods virtually reached the Aug. 1948 level in Oct. 1951. In general, the indices for the major groups of wholesale commodities were slightly below their peaks during 1952 with the exception of metals and metal products which reached a new peak in September. However, prices of machinery and motive products reached a new record in

February as did prices of tobacco and beverages, while those of non-metallic minerals reached a maximum in June; none of these major groups was included as such in the old index.

Retail prices, as reflected by the cost-of-living index of the Bureau of Labour Statistics, attained a postwar peak in August. The only components of the index which did not reach new peaks during the year were clothing and house furnishings

Retail prices increased 94% from Aug. 1939 to Aug 1952. This inflation in consumers' prices reduced the purchasing power of the dollar by nearly one-half from the beginning of World War II. The increases in prices were particularly notable in foods (152%), house furnishings (111%) and clothing (108%). The immediate increases in consumers' prices following the outbreak of war in Korea in 1950 were not offset by any subsequent price deflation, and these prices were 12% higher than they had been at the outbreak of the Korean conflict The greatest increases were again in food, house furnishings and clothing

Wholesale prices declined slightly from January to June, rose slightly in the early summer and then fell once again in September. Prices of all but two major groups of commodities showed only minor variations. The exceptions were the prices of hides and leather products, which fell abruptly in the spring before stabilizing, and those of rubber and rubber products, which fell rapidly each month until the end of September. In January, at their highest level of the year, wholesale prices were 132% above the level of Aug. 1939, 86% above the level at the time of Pearl Harbor, 54% greater than at the termination of price controls in June 1946, 13% above those prices prevailing at the outbreak of the Korean conflict and 1·7% below the level of prices in Jan. 1951 when price controls were imposed. (*See* Table V.)

Comparisons of consumers' prices toward the end of the year with prices prevailing at significant earlier dates are indicated in Table VI. Prices in September were 94% above the prices prevailing in Aug. 1939, 73% greater than in Dec. 1941, 43% above those prevailing at the time of price de-control in June 1946, 12% above the level at the outbreak of war in Korea and 5% above those prevailing when price controls were introduced in Jan. 1951. During 1952 rents and miscellaneous prices moved steadily upward, clothing and house furnishings prices moved steadily downward, and

TABLE V. U S WHOLESALE PRICE INDEX, BY MAJOR COMMODITY GROUPS, 1952
(Jan 1952 = 100)

	March	May	July	Sept	Oct
All commodities	99 4	98 8	98 9	98 9	98 4
Farm products	98 4	98 1	100 2	96 7	95 4
Processed foods	99 2	98 6	99 9	100 4	98 5
Textile products	96 4	96 1	95 7	96 3	96 0
Fuel, power, light	100 0	98·7	98 7	98 8	99 8
Chemicals	98 7	97 8	97 7	97 5	97 4
Rubber and its products	98 3	97 4	90 2	87 6	87 4
Timber and wood products	100 3	100 5	100 1	100 2	100 2
Metals, metal products	100 2	99 5	99 6	101 7	101 6
Machinery; motive products	100 8	100 7	100 5	100 5	100 6
Furniture, household goods	99 6	99 5	99 4	99 6	99 8
Tobacco and beverages	102 5	102 5	102 5	102 5	110 8

food price movements were similar to those of the index of all commodities. The fluctuations from month to month in each component group were noticeably small.

The tendency towards balance between supply and demand which had been shown late in 1951 by the stability of wholesale prices continued throughout 1952. The continued rise in consumers' prices in 1951 also came to a halt at the beginning of the year. The comprehensive system of anti-inflationary controls inaugurated during 1951 was partially responsible. Prices continued to be controlled by the Office of Price Stabilization which imposed ceilings on most products. However, many commodities sold at prices below price ceilings, and ceilings were removed from some commodities at the end of the summer. Credit restrictions on the purchase of consumers' durable goods were removed and those on housing were modified during the year, although banks and other lending institutions continued voluntarily to restrain the extension of credit. These tendencies toward modification and elimination of controls largely reflected the very high level of production. Despite the continued high rates of spending by individuals, businesses and government, inflationary competition for commodities was either controlled or absent

TABLE VI PERCENTAGE CHANGE IN U S CONSUMERS' PRICES (COST OF LIVING) BY MAJOR COMMODITY GROUPS, SELECTED PERIODS, 1939-1952
Percentage change, Sept 1952 from

Commodity	Post-war Max	Jan 1951	June 1950	June 1946	Dec 1941	Aug 1939
Food	—1 0	5 1	14 8	60 2	106·2	149 4
Apparel	—3 2	1 9	9 6	28 7	76·2	101 7
Rent	0 0	6 9	8 8	31 2	31 6	36 5
Fuel, electricity and ice	0 0	3 0	6 1	33 6	41 8	51 4
House furnishings	-3 6	—1 2	10 9	31 3	75 5	103 8
Miscellaneous	0 0	7 2	12 4	35 9	61 4	73 1
All items	—0 2	5 1	12 1	43 1	72 7	93 5

During the year the national output, national income, personal savings and personal expenditures all appeared likely to attain new record levels. Increased governmental expenditures for the prosecution of the war in Korea, for the defence mobilization programme and for the Mutual Aid programme, while the nation maintained at least the same level of domestic civilian consumption, provided ample testimony of the efficiency of production and the effectiveness of the direct and indirect anti-inflationary measures which had permitted these accomplishments with but moderate changes in prices. (*See* also COST OF LIVING; BUSINESS REVIEW, NATIONAL INCOME; WAGES AND HOURS; WEALTH AND INCOME, DISTRIBUTION OF.) (W. V. WT.)

PRINTING. The year 1952 began with the British government's drastic reduction in the amount of paper for printing. Resultant fears of inability to supply the nation's demands for print, of the continuance of highest permitted paper prices and of the growth of unemployment proved to have been unfounded. Demand for print declined so far that even the reduced ration was not taken up. Employment statistics did not reflect the recession in printing business. Employees in all classes of printing remained about 330,000. The monthly fall in employment could be inferred as about 0 2% of this total; a greater fall in general printing employment being counterbalanced by a rise in newspaper production work.

In England labour trouble was gratifyingly small. Two wage increases became payable under the existing cost-of-living agreement of 1951. They increased the cost of printing (excluding materials) by about 5%. In Scotland the D. C. Thomson dispute concerning the right of an employer to enforce a condition that his employees should not join a union raged through the second half of the year. A fundamental principle was involved. The dispute became very complex and defeated the strongest efforts of all existing conciliatory machinery. Side issues were taken to the High courts, and the main issue ultimately engaged the personal attention of the prime minister. Settlement had still not been reached late in the year. In Dublin a serious dispute arose out of workers' claims for higher wages. Strike action stopped the production of newspapers for seven weeks before agreement was reached.

No startling technical advances occurred during the year. The application in Britain of new methods recently perfected in the United States—the cheap, quick "Scan-a-graver" method of making halftone plates, and the "Fotosetter"

photo-composing machine, are examples—remained impeded by dollar import restrictions.

The Master Printers' congress disclosed serious concern about the industry's lack of money for plant replacement, and showed that increases in printers' revenues had not kept pace with rises in machinery costs. The plant supply situation became relatively easy but high prices replaced non-availability as the obstacle to the acquisition of much-needed new machinery. Forward-looking elements in the industry advanced the cause of greater productivity energetically in the belief that their recommendations would cheapen production costs sufficiently to encourage greater print usage.

Among the recorded events of 1952 of practical significance in the long-term view were the Young Master Printers' conference at Blackpool and the Joint Industrial council's first conference for young printers at Oxford. Both events showed the determination of the rising generation to bring their enlightened views to bear on the industry at the earliest opportunity. Equally significant was the Joint Industrial council's own conference at Chester in that the principal papers, dealing with practical printing difficulties, were presented by men from the shop floor.

Reports from the Dominions indicated that continued scarcity of skilled labour had furthered the policy of maximum mechanization. Ample capital had been available for plant purchase. The printing worker in Australia and New Zealand was believed to have behind him a substantially greater amount of modern plant than his counterpart in Great Britain.

Throughout Europe printing achieved startling progress. Germany came right back into the printing and printing machinery field. The Netherlands reported that it had 50% more printers than in 1938. The U.S.S.R. began a five-year plan of development based largely on utilizing the knowledge and resources of the several reputable German printeries in eastern Germany. Spain moved ahead with the establishment of a master printers' organization and a break into printing machine-making. Italy made much printing machinery which it did not sell; stocks were believed to be embarrassingly high. In all countries labour pressed for higher wages, a few demands for a shorter working week arose.

(F. T. C)

United States. The most important developments in the graphic arts in the United States during 1952 were directed at achieving faster production in greater volume to reduce manufacturing costs. High-quality colour printing at a fraction of the usual cost was claimed to be possible with a new system of offset lithography developed at the research laboratories of the Eastman Kodak company. It was believed that the colour printing system, designed especially for short press runs of from 1,000 to 5,000 copies, might bring full-colour illustrations into many publications in scientific, medical and similar fields where colour had formerly been ruled out by high costs. The process departs from conventional offset colour printing methods in a number of ways, notably: (1) printing is done in three colours with special inks; (2) the process is based upon the use of 35-mm. Kodachrome slides; (3) colour correction is achieved photographically without handwork, and (4) printing is done with 266-line half-tones, while commercial printing is done largely with 120- or 133-line half-tones.

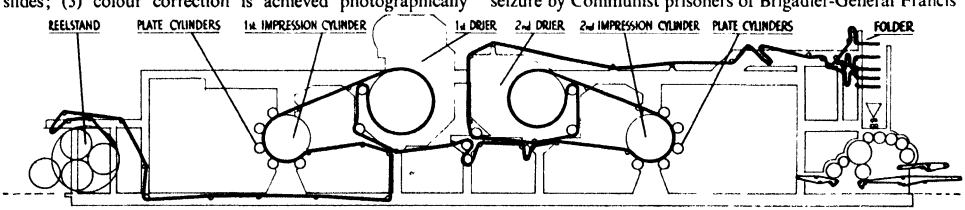
During the year, the minor revolution in what is called "automatic typesetting" in graphic arts publication work continued with the installation of Teletypesetter equipment in daily newspapers and a number of weekly news magazines At the same time, the remote transmission of press association news matter from a central sending point to publishing plants was greatly accelerated. This development occurred mostly among medium-sized daily newspapers. The service is practically automatic as regards Teletypesetter tape-punching at the receiving point. National news is transmitted from a single sending source via wire to receiving evening and morning newspapers. For evening papers, transmission is between 1 A.M. and 8 A.M. Sending hours for morning newspapers are adjusted accordingly. All newspapers receiving the service have standardized column width of 12 picas with line-casting machine matrices punched on the unit system for universal justification. A printed monitor copy is transmitted to each paper simultaneously for editing purposes.

Development of lightweight laminated curved plate for letterpress magazine printing was announced by Time, Inc 's research laboratories at Springdale, Connecticut. The laminated plate consists of an aluminium backup, or saddle, to which the electrotype is bonded with a thermosetting adhesive. The plate is about two and one-half times lighter than the conventional lead-backed electrotype.

A bimetal photo-engraving plate was developed and put into daily use. The plate itself consists of magnesium with an electrolytically deposited zinc coating 0 0005 in. thick, the total thickness of the plate being the same as standard 16-gauge stock (0 065 in.). The purpose in developing the plate is to permit handling of the magnesium plate during the etching operation in a manner similar to zinc (M. St.)

BIBLIOGRAPHY. (All published in London, 1952) R. G. Radford, *Letterpress Machine Work*, 2 vol., R. H. Scott, *Mechanism and Operation of Modern Linotypes* Talbot Baines-Reed, *A History of the Old English Letter Foundries*, Monotype Corporation Ltd., *The Monotype Casting Machine Manual*

PRISONERS OF WAR. Throughout 1952 prisoners of war were the crux in armistice debates in Korea, the Chinese and North Korean Communists insisting that, following an armistice, all prisoners of war should be repatriated, regardless of their individual wishes, and the United Nations command refusing to admit of compulsory repatriation; the proposal that the International Committee of the Red Cross should interview each prisoner about his choice was rejected by the Communists, and the U.N. command proceeded to conduct its own inquiry in the prison camps with the resulting announcement that of the 132,000 prisoners held by the U.N. command, all but about 70,000 would forcibly resist return to Communist control. This brought to a head a series of conflicts in the camps between Communists and non-Communists and between prisoners and their guards, culminating on May 7 in the seizure by Communist prisoners of Brigadier-General Francis



A simplified diagram of the Goss letterpress double-five colour heatset rotary press showing the track of the paper from the beginning to end of the press, which was erected in the works of Hazell, Watson and Viney at Aylesbury, Buckinghamshire.

T. Dodd, U.N. commander of Koje Island prison camps. After General Dodd's release, U.N. command authorities proceeded to break up the larger camps and compounds and to separate Communist and non-Communist prisoners. In effecting this, against Communist resistance, more than 100 prisoners and guards were killed.

The International Committee of the Red Cross continued its camp inspections in South Korea but was not permitted entry into North Korea, despite appeals to the North Korean government by the 18th International Red Cross conference meeting in Toronto, July 23- Aug.7.

The *ad hoc* Commission on Prisoners of War established by the U.N. general assembly on Dec. 14, 1950, to facilitate the repatriation of prisoners captured during World War II, held its first session in Geneva, in Jan. 1952. Before this meeting, the U.S. government informed the Soviet government that it would participate; the Soviet government refused to do likewise. During its meetings in Geneva the commission received official reports from Japan, the German Federal Republic and Italy that more than a million nationals of those countries were still missing in the U.S S.R. and China. Its appeals to the Soviet and Chinese governments for information yielded no response; it was therefore concluded that without the co-operation of the Soviet and Chinese governments the work of the commission was paralysed. (H. W. DG.)

PRISONS. In England and Wales during 1952 there was a further sharp increase in the prison and Borstal population, which from May onwards remained about the level of 24,000, the highest for over 60 years. Conditions of overcrowding in local prisons were intensified, over 5,000 men having to sleep three in a cell

Financial restrictions had prevented corresponding increases of staff or accommodation, and in July the *Report* of the Select Committee on Estimates (Prisons), sharply criticizing the resulting conditions, attracted considerable public attention. Meanwhile the restrictions had been removed, and during the summer premises were sought for several additional prisons of minimum or medium security. These proposals aroused public opposition in many of the neighbourhoods concerned, and little progress was made. In October a second regional training prison for up to 60 women was opened at Hill hall, Essex.

When full recruiting of staff was resumed the response was immediately satisfactory, owing perhaps in part to an increase of 15% in the pay of prison officers awarded by the Civil Service Arbitration tribunal as from Jan. 1, 1952 The three-shift system was already in force in all regional training prisons, in separate corrective training prisons and in two central prisons: it was intended to extend it during the year to the remaining two central prisons. All these prisons would then have a 40-hr. workshop week. The local prisons, pending extension of the three-shift system, remained on an average of about 22 hr.

There were two minor changes in the prison and Borstal systems. The secretary of state, on the advice of the Advisory Council on the Treatment of Offenders, decided that prisoners and Borstal inmates should be released, under escort, in order to marry in any case where this was requested to prevent the birth of a child outside wedlock. In prisons, prisoners' earnings were transferred from a cash to a credit basis, in order to minimize illicit transactions.

The numbers of persistent offenders sentenced to corrective training fell slowly but consistently from over 2,000 to about 1,600, thus enabling the closing of the corrective training wing at Liverpool and one of the two wings at Wormwood Scrubs. Preventive detention sentences continued to increase towards 900. Disciplinary troubles among preventive detention prisoners in Parkhurst prison made it necessary to obtain powers to remove trouble-makers to the first stage in local prisons: this appeared to be effective. Arrangements for the third stage were completed, except for the proposed hostel outside the prison.

In August the first detention centre under section 18 of the Criminal Justice act, 1948, for the junior age group (14-16) of young offenders was opened at Campsfield house, Kidlington, Oxford, and by December over 40 boys had been received. Premises were secured in Kent for a senior centre (17-20) to open in 1953.

On July 31 there came into force amending rules for both prisons and Borstals, designed to remedy defects and omissions in the rules of 1949 and to give effect to certain recommendations of the Departmental Committee on Punishments etc., 1951. On Oct. 1 there came into force the Prison act, 1952, which consolidated previous enactments relating to prisons and Borstals.

In Scotland there was a steady rise in the prison population to 39% above the 1938 level Very few of the new forms of sentence of corrective training and preventive detention were passed. Regulations were made to allow first offenders to visit sick relatives and attend funerals unescorted and, towards the end of a long sentence, to have a week-end home parole. Special cases might be allowed daily parole to work for a private employer. (L. W. F.)

See L. W. Fox, *The English Prison and Borstal System* (London, 1952)

PSYCHIATRY. In the field of psychiatry 1952 was a year of consolidation and stock-taking. There were no new advances in the physical treatments of mental disorders, apart from modifications and new applications of established methods. Lopez Ibor of Madrid reported (*Proc. Roy. Soc. Med.*, *54*, 511, London, 1952) on the treatment of anxiety states by acetylcholine previously used as a convulsant in the treatment of schizophrenia. He found that a course of intravenous injections cured or improved the majority of his patients, but these observations had not yet been confirmed by other workers.

In surgical cases the important work of following up patients operated on in previous years continued. These investigations had a sobering effect on undue therapeutic enthusiasm and the number of cases of mental disorder treated surgically declined. A team of workers at Columbia university (F. A. Mettler *et al.*, *Psychosurgical Problems*, London, 1952) reported on the effects of two new techniques: (1) ligation of the superior cerebral veins, (2) electrocoagulation of parts of the frontal cortex. The resulting clinical improvement was negligible, which might have been due to the fact that all the patients were long-standing cases of schizophrenia. Personality changes after operations on the frontal lobes was the subject of A. Petrie's investigations (*Personality and the Frontal Lobes*, London, 1952) carried out in neurotic patients whose personalities had been well preserved. She employed the methods of personality measurements developed by H. J. Eysenck. She found that as a result of the operation the factor " neuroticism " was reduced in proportion to the extent of the operation. She also discovered that for some time after extensive operation there was a change in the use of language; the patients appeared to neglect the standards they had previously set themselves with regard to exactitude in verbal expression; there was marked carelessness in the choice of words, especially when the patient was called to define objects and concepts. This change in the use of language was yet another expression of the disregard of conventional codes which is known to follow frontal lobe lesions.

Psychological methods of treatment were studied intensively, especially in the United States where the " dynamic "

approach had for some time been predominant. This term had been used so widely that it was in danger of becoming almost meaningless. It was, therefore, fortunate that a group of leading American psychiatrists set out in *Dynamic Psychiatry* (ed. by F. Alexander and H. Ross, Chicago, 1952) the scientific basis, the methods and aims of that approach which had fired the imagination and enthusiasm of so many among the younger generation of medical men. The dynamic trend was the result of the impact of psychoanalysis upon the whole of psychiatry. In this approach, the development of the personality was regarded as the unfolding of an innate constitution under the influence of the environment, particularly during the earliest years of childhood The dynamic approach was found most helpful in the study and treatment of the neuroses, but its potentialities in the elucidation and therapy of the psychoses, *i.e.*, the major insanities, remained controversial. Professor John C. Whitehorn of Baltimore, one of the contributors, expressed the view that in the field of the psychoses some mutually comprehensible *modus vivendi* between dynamic and organic psychiatry needed to be worked out. Professor M. Levine of Cincinnati discussed the considerations on which treatment of mental disorders had to be based: (1) clinical diagnosis, *i.e.*, a formulation of the clinical category to which the patient's reaction belonged; (2) dynamic diagnosis, *i.e.*, the assessment of the internal and external forces operating in the production of the patient's difficulties; among those forces the strength of instinctual urges, the resistances to them and the defence mechanisms mobilized against them were important; (3) genetic diagnosis, which referred to the understanding of the origin and development of those forces which were in small part hereditary but predominantly based on early life experiences; (4) transference and counter-transference, *i.e.*, the doctor-patient relationship, the understanding of which was fundamental for the success of the therapy. The dynamic approach was not incompatible with the use of physical treatment of mental disorders. It formed the basis of the " psychosomatic approach " which consisted in the co-ordinated application of both somatic and psychological methods and concepts to the elucidation and treatment of a large variety of physical illnesses in the causation and aggravation of which emotional factors played a part.

Other books dealing with problems of psychodynamics were *Psychotherapy with Schizophrenics* (ed. by E. B Brody and F. C. Redlich, New York, 1952) and D. Stafford Clark's *Psychiatry To-day* (London, 1952), an admirable review of present-day knowledge written for the educated layman. The authors were imbued with a therapeutic optimism based on their orientation rather than on proven therapeutic successes. One of the reasons for the popularity of the dynamic approach in the English-speaking world was no doubt the emphasis on the importance of the individual inherent in that orientation.

German and French psychiatry continued to remain uninfluenced by that approach. Professor K. Schneider of Heidelberg surveyed the present state of German psychiatry (*Psychatrie heute*, Stuttgart, 1952). Existentialist psychology, which regarded major psychoses not as illnesses in the medical sense but as primary aberrations of the mind, remained popular among German and other continental psychiatrists in western Europe. Schneider, though himself attracted to that approach, pointed out that it implied a break with the monistic tenet of the body-mind unity and was leading away from biology. Furthermore, it threatened to re-introduce the belief in the transmission of the soul as the only explanation of the role of heredity in the causation of mental disorders. In Schneider's view, psychiatry was part of metaphysics, as the unity of mind and body which it took for granted was an irrational assumption. Schneider's observations demonstrated the preoccupation of continental psychiatrists with the philosophical foundations of their discipline (*See* also MENTAL DISEASES; PSYCHOLOGY.) (E. SL.)

PSYCHOLOGY. During 1952 several books of outstanding interest were published by British psychologists. In the field of general psychology the most important was F. V. Smith's volume on *The Explanation of Human Behaviour* (London, 1952). Its purpose was to present a critical review of the main psychological systems dominant at the moment. These the author took to be the hormic theory of W. McDougall, the field theory of K. Lewin, the personalistic theory of G W. Allport and the behaviouristic systems of J. B Watson, Clark Hull, and E. C Tolman. The lack of a chapter on the various psychoanalytic systems indicated how greatly interest in that direction had waned Of the behaviouristic systems the author considered that of Clark Hull to be the most successful But he himself inclined to " a form of behaviourism which also admits the reality of conscious and purposive activity "

As several critics pointed out, Professor Smith's interpretation of the only English psychologist in his list was far less trustworthy than his accounts of the American theories. Like many younger writers from the remoter parts of the Commonwealth, he was not very familiar with the brand of hedonistic utilitarianism that dominated English thought till the opening of the 20th century and which McDougall so successfully attacked However, as numerous papers published during 1952 showed, there was both in Britain and in America a growing tendency for McDougall's " purposive psychology " to come once again into favour.

P. McKellar's *Textbook of Human Psychology* (London, 1952) covered a somewhat wider ground and sought to do fuller justice to " the English tradition in psychology ". He too paid a tribute to Clark Hull, and, although he revealed stronger Freudian sympathies, he endeavoured to show that the more solid contributions of the psychoanalytic schools could be incorporated within the framework of an eclectic purposive psychology.

In the social field, the most important publication was W. J. H. Sprott's book on *Social Psychology* (London, 1952). This presented a systematic review of the chief social problems which the psychologist had attempted to investigate, the more effective methods employed and the principal conclusions so far attained. A manual of this type had long been needed for British students. As Professor Sprott observed, although during the first decade of the 20th century British writers like L. T. Hobhouse, McDougall and Graham Wallas laid the essential foundations of the subject and even gave it its name, since the 1930s the best known inquiries had been carried out in the United States, where new institutions and large financial resources had greatly assisted the development of applied psychology. The book itself provided a valuable survey of recent American work, but scarcely did sufficient justice to the recent contributions of English investigators Of minor studies published during the year perhaps the most suggestive was M. Sanai's " Empirical Study of Social, Political and Religious Attitudes " (*Brit. J. Psychol. Stat. Sect.*, *5*, 81-92, London, 1952). He emphasized that on such matters as the psychology of social classes and of political attitudes it was unsafe to accept American generalizations, since class-characteristics and political issues differ so widely from one country to another He himself appended an instructive statistical analysis of data obtained from a comprehensive questionnaire which he had constructed and given to English men and women drawn from representative social circles.

In the field of medical psychology, the book which would unquestionably arouse the warmest controversy was H. J. Eysenck's *Scientific Study of Personality* (London, 1952)

This sought to give a systematic summary of the numerous investigations carried out by the author and his co-workers at the Maudsley hospital. He began with what Professor A. Lewis, in a foreword, described as a " root-and-branch attack on the beliefs and methods of the psychiatrist ". Dr. Eysenck's arguments were founded on a synoptic table bringing together the results of 24 independent analyses of after-histories collected for over 7,000 patients by psychiatric investigators in Great Britain and the United States. The figures revealed " almost incredible differences in diagnosis " and afforded no confirmation whatever of the beneficial effects claimed for different types of pyschiatric or psychoanalytic treatment. This apparent failure Dr. Eysenck ascribed to the neglect of preliminary research on theories and methods by the various psychiatrists who proposed them. In his own investigations he relied chiefly on what he termed " objective behaviour tests "; other procedures—questionnaires, projective tests, ratings based on psychiatric interviews—he believed to be devoid of any genuine value. The figures obtained were subjected to an intensive factorial analysis on the lines described in his earlier book (*The Dimensions of Personality*, London, 1947). There he was " led to a hierarchical view of personality structure akin to Burt's and McDougall's "; and in the later volume he carried this theory into the outlying field of psychopathology and concluded that the characteristics of patients suffering from mental disorder might be reduced to three main "dimensions"—"neuroticism", "psychoticism" and "introversion versus extraversion".

In the field of educational psychology a long series of articles was contributed by psychological and medical writers to a symposium on the functions of psychologists and psychiatrists in the child guidance service (*Brit. J. Educ. Psychol.*, *22*, 1-29, 79-88, 155-9, London, 1952). The medical contributors claimed that child guidance was a branch of medicine introduced into Great Britain by psychiatrists about 1928 and modelled on the organization of American clinics; and accordingly argued that all such work should be placed under medical direction. Miss G. Keir and Dr. C. M. McCallum replied with a detailed and well-documented history of child guidance in England and in Scotland respectively. Miss Keir traced its origin to the earlier work of F. Galton and J. J. Sully in London. In 1895, when founding the Child Study society, Sully proposed to translate the technical term " paedagogy " (taken in the literal sense) as " child guidance "; and his early voluntary efforts in dealing with difficult children at the new psychological laboratory were so successful that the London County council were induced, in spite of medical opposition, to appoint an official school psychologist in 1914. Dr. McCallum pointed out that in Scotland child guidance began in the universities, as an educational rather than a medical venture. Other writers, quoted in the symposium, adduced evidence to show that in the clinics under medical direction (first established in 1928) the results were not as effective as those obtained by psychologists.

The inclusion of maladjusted children among the types of handicapped children explicitly mentioned in the Education act, 1944, prompted several inquiries into the nature and causes of maladjustment among children of school age. In the *Brit. J. Educ Psychol* (*22*, 30-44, London, 1952) Professor F. J. Schonell published a review of recent discussions on the subject. As he pointed out, medical writers had assumed that the term "maladjustment" designated those cases of emotional instability " in which the condition is sufficiently exaggerated to prevent the child from adjusting to his family, school, or general social situation." Psychological writers had maintained that the word, originally popularized by evolutionary psychologists, was intended to describe the effects of the two-sided interaction between an individual personality, on the one hand, and his environment, on the other: maladjustment might therefore be caused, not only by emotional instability in the child, but also by unfavourable conditions in the child's surroundings. In the *Brit. J. Psychol. Stat. Sect.* (*5*, 39-58, London, 1952) Miss E. M. Howard and her fellow-workers gave a detailed analysis of 400 cases of maladjustment among school pupils and concluded that the category was extremely heterogeneous, including a wide variety of types: these they classified into four sub-groups, according as the maladjustment was due chiefly to conditions in the school, in the home, or in the intellectual or emotional characteristics of the child.

Considerable interest was aroused by investigations carried out by Professor P. E. Vernon and his students into the influence of coaching on the child's performance in tests of intelligence: they showed that different types of test were affected in different degrees and put forward practical suggestions for avoiding such effects. As a result of questions asked in the House of Commons, the National Council for Educational Research undertook *A Survey of Rewards and Punishments in Schools* (London, 1952). The most important finding was that as many as 90% of present teachers believed that corporal punishment should be retained, but used only as a last resort. A systematic list of *Researches in Education and Educational Psychology* (London, 1952) was also published, covering investigations carried out from 1945 to 1950, which was expected to be of great assistance to those contemplating further researches on problems in those fields.

In statistical psychology the more important publications dealt chiefly with methods of factor analysis and the results obtained. In the first volume of a new periodical on *Applied Statistics*, Eysenck contributed an illuminating paper discussing the value of factorial procedures in psychological work He pointed out that the common notion that multiple factor analysis was first introduced by Professor L. L. Thurstone as a generalization of C. Spearman's single factor theory was quite erroneous: " we owe the original formulation of factor analysis to Pearson, and not, as it is commonly stated, to Spearman "; Karl Pearson, as early as 1901, described a mathematical procedure for solving a problem first raised by Galton in connection with the Bertillon scheme of physical measurements for identifying criminals, namely, how can an observed set of correlated variables be expressed in terms of an inferred set of uncorrelated variables? Pearson's formula was impossible to use in practice and was modified by Professor Sir Cyril Burt for application to psychological data. Dr. C Wrigley, however, published " A Refactorization of the Burt-Pearson Correlation Matrix with the Ordvac Electronic Computer " (*Brit. J. Psychol. Stat. Sect.*, *5*, 105-108, London, 1952) and showed that, with this new machine, it was possible to compute the exact values required by Pearson's equations: at the same time he also demonstrated that Burt's simplified method gave remarkably close approximations to the true values.

Eysenck considered one of the great defects of factor analysis to be the lack of any agreed method for testing significance However, a later article by Burt (*ibid.*, 109-133) described and examined a number of proposals put forward by earlier writers for this purpose and developed a more rigorous procedure suited for practical use. A long article (*ibid.*, 151-180) by E. M. Moursy discussed the theory that the structure of the mind exhibits a hierarchical organization, and reported an intensive investigation planned to test this view so far as cognitive processes were concerned. He maintained that the chief alternatives—Thurstone's theory that the mind consists of a miscellaneous number of primary abilities and Thomson's theory that cognitive activity is essentially a form of random sampling—were (like all views assuming that mental processes show no system or order)

quite inconsistent with the available evidence, both statistical and non-statistical. He concluded that a hierarchical doctrine provided the best interpretation of the facts, at least as a first schematic approximation, and contended that this conclusion had far-reaching consequences for both general and applied psychology. (*See* also PSYCHIATRY.) (C. L. B.)

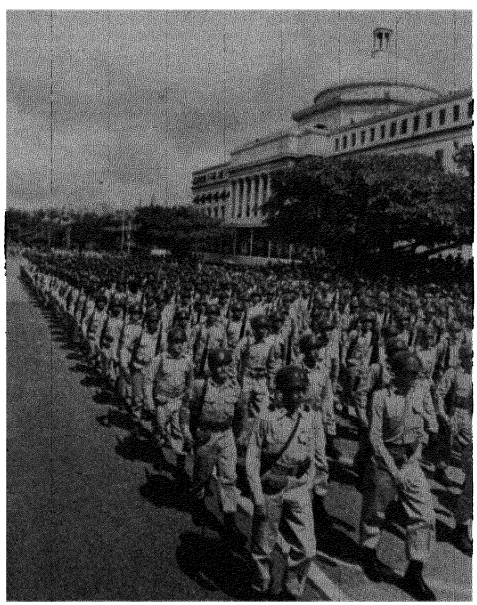
PUBLISHING: *see* BOOK PUBLISHING.

PUERTO RICO. United States commonwealth in the West Indies. Area: 3,435 sq.mi. Pop. (1950 census): 2,210,703. Language: Spanish and English. Religion: predominantly Roman Catholic. Chief towns (pop., 1950 census): San Juan (cap., pop., incl. Río Piedras, 357,205); Ponce (99,492). Governor: Luis Muñoz Marín.

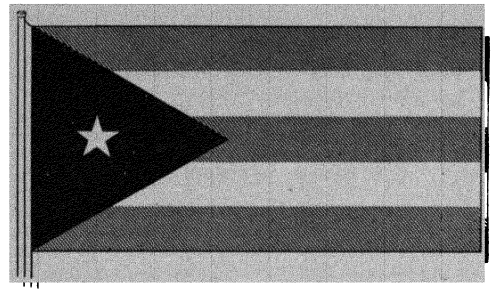
History. The Constituent Assembly met for five months and finally approved the constitution of the Commonwealth of Puerto Rico on Feb. 6, 1952. On March 3 the document was submitted to the Puerto Rican electorate in a special referendum. Of a total of 457,572 persons, 81·9% voted for the constitution, which was then sent to the president of the United States. Final favourable action was taken by the U.S. congress and the legislation was signed by President Harry S. Truman on July 3. The Commonwealth of Puerto Rico was officially founded and proclaimed by Governor Muñoz Marín on July 25, Puerto Rico thus becoming a wholly autonomous state voluntarily associated with the United States.

Education. Total enrolment in 1952 in the public and private schools of Puerto Rico was 487,518, of which 94·8% attended public schools as follows: elementary, 348,287; secondary, 104,316; vocational, 9,382. The number of teachers in public schools was 9,796. Enrolment at higher levels totalled 15,446, of which 86·8% was registered at the University of Puerto Rico, San Juan; there are four other institutions of higher education.

Agriculture. Crops yields (1952): sugar cane, 12·5 million short tons; tobacco, 281,297 cwt.; pineapples, 637,599 crates; coconuts, 23·8 million nuts; coffee, 300,097 cwt.



The parade in San Juan, Puerto Rico, on July 25 when ceremonies marked the attainment of self-government under the United States.



The new flag of Puerto Rico (red and white stripes, with a white star on a blue triangle).

Industry. Sugar production for the 1952 season amounted to 1,332,381 short tons (raw value), of which 212,391 tons were refined on the island. During the fiscal year 1952 production of blackstrap molasses amounted to 69,800,000 gal., of distilled spirits 3,100,000 proof gallons, of beer 9,600,000 gal. Cement (1950): 3,187,500 bbl. Electricity (1952): 698·4 million kwh., of which 39·5% hydroelectric.

Finance. Revenues of the government in 1952 totalled $134,199,000; appropriation for central government purposes amounted to $151,857,000.

Foreign Trade (1951). Imports $442,903,245, including $404,500,000 from the United States; exports $264,413,227, including $249,700,000 to the United States.

Communications. Registered motor vehicles (June 30, 1952): 76,750. Roads: 3,770 mi. Passenger traffic totalled 457,715 persons, of whom 198,051 arrived at the island and 259,664 departed. More than 95% of the passengers travelled by air. Air cargo totalled 11,600,000 lb., of which 69% was inbound cargo. On June 30, 1952, there were 39,285 telephones in service and 23 radio stations in operation. (C. A. VA.)

PURCELL, EDWARD MILLS, U.S. physicist and Nobel prize winner (b. Taylorville, Illinois, Aug. 30, 1912), received his bachelor of science degree from Purdue university, West Lafayette, Indiana, in 1933. The following year (1933-34) he was an international exchange student at the Technische Hochschule at Karlsruhe, Germany. Returning then to the United States, he was awarded his master's degree from Harvard university in 1935 and his Ph.D. in 1938. In the latter year he was appointed instructor in physics at Harvard; he was advanced to associate professor in 1946 and to full professor of physics in 1949. During World War II, at the Massachusetts Institute of Technology and elsewhere, Purcell did fundamental research on radar. He also did research that aided in the discovery of huge clouds of hydrogen in interstellar space. For his work in developing the so-called "nuclear resonance" or "nuclear induction" method of measuring the magnetic fields of the nuclei of atoms, Purcell was awarded jointly with Felix Bloch (*q.v.*) the 1952 Nobel prize for physics, as announced in Stockholm on Nov. 6, 1952. Purcell and Bloch had worked independently to develop the same technique of measurement for which they were honoured.

QATAR: *see* ARABIA.

RACKETS. G. W. T. Atkins won the amateur singles championship at Queen's club, beating M. C. Cowdrey by 3 games to 0. The holders of the doubles championship, D. S. Milford and J. R. Thompson, beat R. A. A. Holt and Major A. R. Taylor by 4 games to 2.

Oxford won the university match 3-0. M. C. Cowdrey (Tonbridge and Brasenose) and E. N. C. Oliver (Winchester and Exeter) won the doubles, beating A. H. Swift (Wellington and Caius) and W. S. S. Maclay (Winchester and St. John's) by 4 games to 0. In the singles Cowdrey beat Swift and Oliver beat Maclay.

Rugby (D. R. W. Harrison and J. H. Hogben) won the public schools championship, beating Wellington in the final by 4 games to 2. The Old Rugbeians, the holders

(D. S. Milford and P. Kershaw), won the final of the Noel-Bruce cup by 4 games to 1 against the Old Tonbridge pair (J. R. Thompson and M. C. Cowdrey).

Officer Cadet M. R. Coulman (60th Rifles) won the army singles championship, beating Major A. R Taylor in the final by 3 games to 1. With 2nd Lieut. P. M. Welsh he also won the inter-regimental cup for the Greenjackets against the holders, the Royal Artillery (Major P. A. C. Don and Capt J. L. H. Gordon), by 4 games to 2. (AE.)

RADHAKRISHNAN, (SIR) SARVEPALLI, Indian philosopher, statesman and diplomat (b. Tiruttani, Madras, Sept. 5, 1888), a Telugu Brahman, was educated at a German mission school at Tirupati, at Voorhees college, Vellore, and at Madras Christian college. At the last, he "became familiar not only with the teaching of the New Testament but with the criticisms levelled by Christian missionaries on Hindu beliefs and practices" (*My Search for Truth*, 1937); and it was as a student of the comparison of eastern and western religions and philosophies that he was to establish a reputation by no means confined to his own country. He became assistant professor of philosophy at the Presidency college, Madras, in 1911, and in 1916 was advanced to a full professorship. A brief period at Rajahmundry Government Arts college (1917) was followed by election to the chair of philosophy at Mysore university in 1918. In 1921 Radhakrishnan was appointed to the King George V chair of mental and moral science at Calcutta university, which he occupied until his election as vice-chancellor of Andhra university, Waltair, in 1931. In 1937 he returned to the King George V chair at Calcutta, which he held until 1941 From 1939 to 1948 he was vice-chancellor of the Benares Hindu university, also occupying from 1941 the Sir Sayaji Rao chair of Indian culture and civilization He had been appointed to the newly created Spalding professorship of eastern religion and ethics at Oxford in 1936 and elected to a fellowship of All Souls college in 1940. He was a member of the Indian constituent assembly in 1947, and in 1949 was appointed his country's ambassador to the U.S S R On April 18, 1952, he resigned from that post to accept the Congress party's invitation to contest the Indian vice-presidency: he was declared elected unopposed on April 25. Radhakrishnan left Bombay on Sept 24 on a tour through Egypt, Italy, Switzerland, Germany and England, he was received in audience by Queen Elizabeth II on Oct 29 and given an honorary D.C.L. at Oxford on Nov. 18. On Nov. 12, as leader of the Indian delegation to the Paris conference of U.N.E.S.C O., he was unanimously elected president of that organization for 1952-53. (He had led the Indian delegation annually from 1946 to 1950.) Radhakrishnan's extensive writings included *Indian Philosophy* (2 vols , 1923, 1927, 2nd ed., 1930-31); *The Hindu View of Life* (Upton lectures, Manchester college, Oxford, 1926; publ. 1927); *Kalki, or the Future of Civilization* (1929, 2nd ed., 1934); *An Idealist View of Life* (Hibbert lectures, 1929, publ. 1932), *East and West in Religion* (1933); *Eastern Religion and Western Thought* (1939); *Education, Politics and War* (1944); *Religion and Society* (1947), translations of Indian sacred books and a commentary on *The Principal Upanishads* (1953). He also wrote *The Philosophy of Rabindranath Tagore* (1920), edited *Mahatma Gandhi* (1939) and contributed the article "Indian Philosophy" and others to *Encyclopædia Britannica*. Radhakrishnan was knighted in 1931 (but as a citizen of the republic does not use the title) and in 1939 was the first Indian scholar to be elected to fellowship of the British Academy.

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RADIOLOGY: *see* X-RAY AND RADIOLOGY.

RADIO, SCIENTIFIC DEVELOPMENTS IN.

Among matters of interest to the radio scientist that occurred during 1952 were a total eclipse of the sun, further progress in the establishment of a standard of frequency and, associated therewith, of a more accurate value of the velocity of light, the completion of the first phase of development of the British television service and the holding of some international radio conferences in Europe and Australia

Effect of a Solar Eclipse on the Ionosphere. On Feb. 25 there occurred an eclipse of the sun, the path of totality of which traversed central Africa and Arabia between about 0800 and 1200 local time. By co-operation between the international unions concerned with astronomy, geophysics and scientific radio, special observations were made by various national organizations. Although the results of the detailed study of these observations would not be available for some time, an important result of radio interest had already been published. Two British expeditions were sent to northern Africa to observe the effect of the cutting off of the sun's radiation during the eclipse on the characteristics of the ionosphere. It was found at Khartoum, where the visual eclipse was total, that the density of ionization in the E region of the ionosphere did not decrease proportionally to the area of the sun's disk obscured by the moon. A sudden decrease at the beginning of the eclipse and a corresponding sudden increase at the end were observed, which were subsequently found to be consistent with the distribution of visual intensity over the sun's disk of the green coronal line as recorded at the Paris observatory at Meudon. There remained, however, a discrepancy between the radio and visual observations in that, in the former case, an abrupt increase in ionization occurred just after totality, suggesting the existence of an intense source of ionizing radiation near the west limb of the sun which could not be accounted for in terms of the solar data available at the time Other observations of interest were made on the F2 region of the ionosphere at Ibadan, Nigeria, and these were confirmed by a French expedition in equatorial Africa and by a Swedish expedition in Italy.

Frequency, Time Standardization and the Velocity of Light. For many years past the radio scientist and engineer had been improving the stability of the quartz crystal oscillator with a corresponding advance in the accuracy with which the frequency of electrical oscillations could be measured While the frequency stability of such oscillations might be measured to within 1 part in 10^8, the specification of absolute frequency involved the determination of time, which had previously been an astronomical process. In practice two time systems are used: Greenwich mean time (or universal time) based directly on the astronomical observations and applicable to surveying and astro-navigation, and a more uniform time system suitable for accurate work in frequency measurement and related scientific investigations. In connection with the latter system, it was well established that quartz oscillators were more reliable timekeepers than pendulum clocks and they were now used at the larger observatories as standards of time regulated to keep in phase with the earth's rotation.

To make the standard of frequency generally available, the United States Bureau of Standards had for several years maintained a continuous service of radio transmissions of several frequencies which were accurately specified. Since 1950 a similar, but intermittent and more restricted service had been operated in Great Britain, by co-operation between the National Physical laboratory and the British post office. The frequencies were subject to daily monitoring at the National Physical laboratory, and the published results of

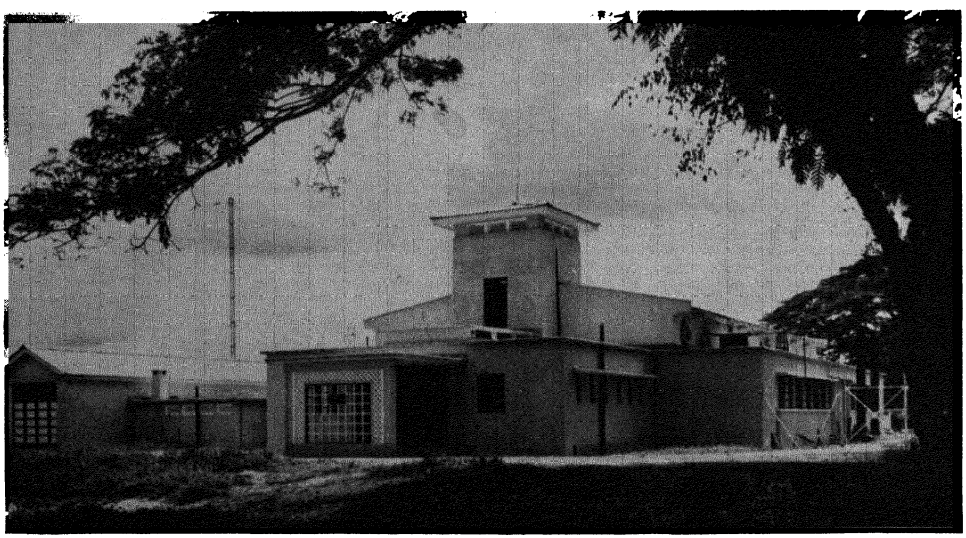
such measurements at 60 kc./sec. showed that the frequency was maintained constant to within about $\pm 0{\cdot}3$ parts in 10^9. Corresponding measurements were also made on the carrier wave of the Droitwich transmitter of the British Broadcasting corporation and these showed that the frequency of this station was maintained constant to within $\pm$ 5 parts in 10^8. Such an accuracy sufficed for many physical measurements and in view of the long periods for which Droitwich was in daily operation, it formed a very convenient source of standard frequency to the accuracy indicated.

The high accuracy attained in the measurement of frequency was applied with conspicuous success by the radio scientist to the establishment of a new value of the velocity of light and radio waves. The result of a comparison of the measurements made during the latter few years by a variety of radio methods and by one in which optical and radio techniques were combined indicated that the value for the velocity of electromagnetic waves in a vacuum could now be taken as 299, 792 km./sec, $\pm$ 2 km./sec.

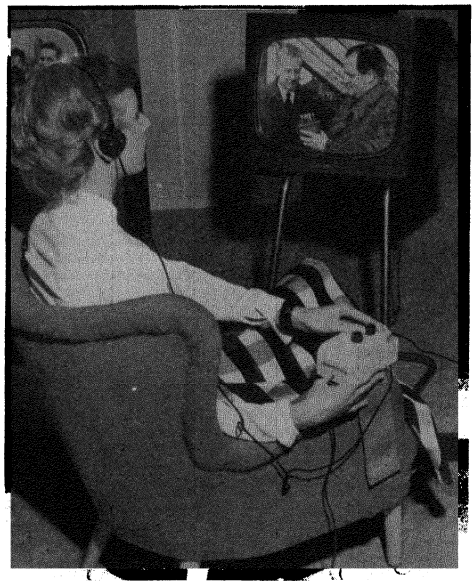
Television. During 1952, the first stage of the installation of the British television network was completed by the opening of stations in Scotland and Wales. The service from these stations was first conducted with the medium-power reserve transmitters, but they later progressed to full high-power operation, with vision transmitters capable of delivering 75 kw. into the aerial and with sound transmitters with carrier outputs of 18 kw. at 100% modulation. These were the most powerful television transmitters in Britain and, it was thought, in the world; and the five stations now in operation brought the British television service within the reach of some 40 million people, or about four-fifths of the population of the United Kingdom. All the stations were connected together by a network of coaxial cable and centimetre-wave radio relay links for the distribution of programmes. That such a distribution or exchange of television programmes was not limited to one country was demonstrated in July when, for a week, a part of each day's programme in the public television service in Great Britain originated in Paris, by co-operation between the British and French broadcasting organizations. The television signals from the French 819-line system were converted in France to the British standard of 405 lines and the pictures were then transmitted to London by a series of radio links.

Considerable progress was made in Great Britain in the application of television to investigations under water, and the technique proved its practical utility in submarine salvage work and in oceanographic research. It proved practicable to enclose an extremely sensitive camera tube and its associated components in a chamber capable of withstanding water pressure at great depths; remote control facilities were provided whereby the camera could be focused and directed by the operator on the ship above. In experimental demonstrations, the picture signals were transmitted through 1,000 ft. of cable and, though the use of artificial illumination of the object was of doubtful value in clear sea-water, a battery of lamps was provided for illuminating objects under water at ranges up to 20 ft. from the camera.

International Conferences. Study groups of the International Radio Consultative committee met in Stockholm in May to establish the technical basis for a scheme for the sharing of frequencies for broadcasting and television purposes in the very-high-frequency band. One of the study groups presented wave-propagation curves showing the field-strength likely to be obtained from transmitting stations at distances well beyond their normal service area; another group determined the discrimination desirable in order to avoid interference between television stations operating in the same frequency channel. By a combination of these results, the geographical separation necessary between such stations could be established. These meetings were followed in June by a European Broadcasting conference, also held in Stockholm, which produced three plans for the assignment of frequencies to European broadcasting and television in the bands of 41-68, 87·5-100, and 174-216 Mc./sec. The conference accepted the assignments which the United Kingdom had made for the five high-power television stations now in operation, and the five low-power stations in process of being established by the B.B.C.



The new transmitting station of Radio Malaya at Kajang which was first used on July 1. Other stations of Radio Malaya were at Kuala Lumpur, Penang and Malacca. Broadcasts were made in Malay, Chinese, English and Tamil.



A radio and television listening aid for the deaf which was exhibited at the 1952 National Radio show, Earl's Court, London.

In August the tenth general assembly of the International Scientific Radio union was held in Sydney, Australia. The scientific work of the meeting dealt with the international aspects of such matters as standards and measurements, wave propagation, terrestrial atmospherics and radio astronomy. The union was represented on several other scientific bodies, an arrangement which formed a very satisfactory liaison, whereby the fundamental problems confronting the radio engineer were brought to the notice of the astronomer, meteorologist and radio-physicist. (R. L. S.-R.)

RAILWAYS. International. Of greater importance than technical developments in 1952 was the continuing trend towards a more unified railway system for Europe under the aegis of the International Union of Railways, known as the U.I.C. from the French version of its title, Union Internationale des Chemins de Fer. Although the railways of Czechoslovakia, Poland, Hungary, Rumania, etc., were members of this union, they did not take an active part in its development, which was encouraged by the United States and actively helped by British Railways.

Evidence of this movement, which was bringing the union's work more into line with that of the Association of American Railroads in the United States, was provided by the inauguration of a pooling system for freight rolling stock known as Europa wagons, contributed by the French and German railways; the organization of Europa buses run jointly by the various European railway administrations; and the setting up of joint offices, under the auspices of the union, to carry out technical research tests, to develop tourist travel by train and to provide a central documentation bureau, located respectively at Utrecht, Rome and Paris. There was also an international railway-owned refrigerator service known as Inter-Frigo.

British Isles. *Great Britain.* For the first time since the nationalization of British transport in 1948 the British Transport commission, whose activities included not only railways but also road passenger and freight services, docks, canals, hotels and the London area passenger facilities by rail and road, earned in 1951 a small surplus after interest on capital. In 1952 costs were still rising and there were wage increases; the volume of traffic was about that of 1951. Proposed legislation, as outlined in a government white paper followed by a draft Transport bill, aimed at the sale of the nationalized Road Haulage executive's vehicles to private buyers and at greater decentralization on the railways. Meanwhile the government refused to permit the full increase in passenger fares as authorized by the Transport tribunal, London area fares being particularly affected.

TABLE I. LOCOMOTIVES, GOODS AND PASSENGER-CARRYING VEHICLES, GREAT BRITAIN

	1938	1948	1949	1950	1951
Locomotives	19,702	20,302	19,914	19,741	19,289
steam	19,646	20,211	19,790	19,598	19,103
electric	13	17	17	10	33
diesel, petrol and gas turbine	43	69	102	128	148
Passenger-carrying vehicles	43,721	40,575	41,414	42,440	42,087
Trucks and wagons ('000)	664*	1,179	1,113	1,105	1,109
Containers ('000)	15·5	20·0	22·2	23·6	24·3

* Excluding private owners' wagons.
SOURCE. Ministry of Transport, British Railways.

Steel shortage slowed up the construction of new rolling stock and delayed the completion of many improvement schemes at stations and of other railway facilities. Track renewals continued at a high rate, involving speed restrictions on many main lines and thereby preventing the return of the high-speed prewar expresses. Many unprofitable passenger services on branch lines were suspended and some short stretches of line were closed to all traffic; replacement services were made available by road.

An important engineering development was the completion of the colour-light signalling installation between Clapham junction and Selhurst on the London-Brighton line, a project of 1938 and very nearly the final instalment of a £2 million scheme; 11 mechanically operated signal boxes were replaced by three all-electric ones; conversion to colour-light all-electric signalling was also carried out at Euston station, London. A new 7·5-mi. line was opened in September to the new Calverton colliery (Notts). A British-built gas-turbine locomotive made successful trials between London and Plymouth; a diesel-mechanical locomotive was tested between London and Derby and several main-line diesel-electrics were working on London-Exeter trains.

In February the first stretch of Britain's first main-line electrification scheme was inaugurated between Wath and Dunford Bridge on the Sheffield-Manchester line. Two more of the 12 standard types of steam locomotives came into service: a Pacific 4-6-2 class with a 19-ton axle load for service in Scotland and a 2-6-2 tank engine for suburban

TABLE II. GOODS AND PASSENGER TRAFFIC MILAGE AND RECEIPTS, GREAT BRITAIN

Passenger traffic	1938	1948	1949	1950	1951
No. of journeys*	1,237·2	996·0	992·8	981·7	1,001·3
Estd. passenger mi.*	18,993	21,259	21,138	20,177	20,793
Estd. average distance per journey†	15·9	21·3	21·3	20·6	—
Average receipt per passenger journey‡	11·38	29·38	27·58	26·00	25·66
Average receipt per passenger mi.‡	0·74	1·38	1·30	1·26	1·24
Goods traffic					
Goods, mineral and livestock§	265·7	273·2	280·2	281·3	285·0
Estd. net ton mi.*	16,266	21,502	22,010	22,135	22,902
Average receipt per ton mi.†	1·34	2·02	1·95	2·15	2·39

* Millions. † Miles. ‡ Pence. § Million tons.
SOURCE. Ministry of Transport, British Railways.

working. Progress was made with the output of various types of standard wagons; these were almost entirely made of steel and the growth in the number of steel wagons justified the conversion of a repair shop near Exeter for their overhaul. For ore traffic a new type of 56-ton eight-wheel wagon was introduced with an empty weight of 28·5 tons.

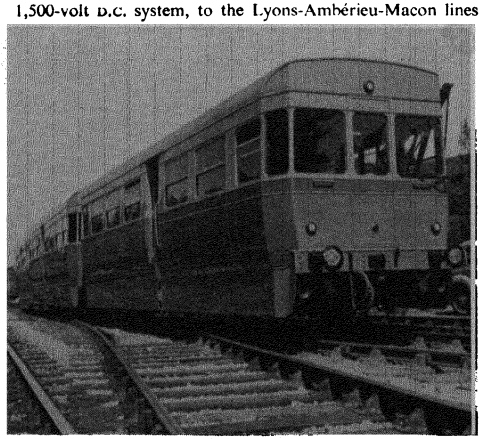
London Transport placed in service on its underground lines some new multiple-unit electric vehicles made of light alloys. Tests were conducted with air-braked coal trains; these were run at high speeds and the general tendency was to increase speed, even at the sacrifice of some reduction in train weight. Summer passenger train schedules provided no startling surprises, but the Southern Region's "Atlantic Coast Express" was accelerated to over 60 m.p.h. between London and Salisbury, the first instance of a mile-a-minute timing on the S.R. Express services between London and Norwich were faster than they had ever been.

Mechanization of track repair and renewal work was steadily extended and one of Britain's largest freight stations, Bristol (Temple Meads), was re-equipped on the conveyor-belt system. To improve cross-Channel services, the 3,500-ton vessel "Normannia" was put on the Southampton-Le Havre night service, replacing the famous "Hantonia" of 1912, and the "Lord Warden", a ferry with capacity for 120 motor cars, went into service on the Dover-Boulogne short-sea route.

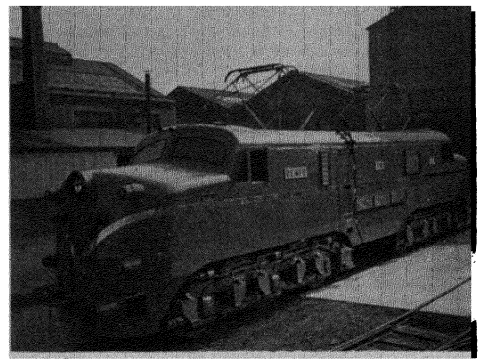
In October Britain's worst rail disaster since 1915 occurred when two expresses and a local train were in collision at Wealdstone, Harrow. As a result of this tragedy 112 persons were killed and more than 200 injured (*see* DISASTERS).

Ireland. The Dundalk, Newry and Greenore railway, the last line to be owned by the British Transport commission in Ireland, was closed at the beginning of 1952. Joint acquisition by the two governments of the very efficient Great Northern railway, serving both Northern Ireland and the Republic of Ireland, was agreed to but awaited the requisite legislation in both parliaments. Meanwhile the company steadily developed diesel traction.

Continental Europe. French National railways (Société Nationale des Chemins de Fer—S.N.C.F.) turned over to electric traction the entire main line from Paris to Lyons with the completion of the conversion of the Châlon-Lyons section in June 1952. Services were greatly accelerated and it was planned to handle 20,000 metric tons of freight daily on this route. Extension of electric traction, on the same 1,500-volt D.C. system, to the Lyons-Ambérieu-Macon lines



An experimental 3-car lightweight diesel train shown undergoing trials between Marylebone, London, and Princes Risborough, Buckinghamshire, in May.



A 3,600-h.p., 118-ton electric locomotive—the most powerful yet built in Britain—completed in April at the Vulcan Foundry, Newton-le-Willows, Lancashire. It was one of 60 ordered for Spain.

was to follow, while on the Valenciennes-Thionville route in northeast France the 25,000-volt A.C. 50-cycle system was to be used. The S.N.C.F. did not neglect alternative forms of traction and tests were conducted with a gas-generated locomotive. As regards road and rail co-ordination further zonal centres for the collection and delivery of merchandise were organized and the adoption of containers was rapidly increasing for merchandise, wine and bulk shipments.

Despite the success of the 50-cycle method of electrification in France, Belgium was to adhere to the 3,000-volt D.C. system for the extensions in construction and those already planned. The vital junction railway, linking the North and South stations in Brussels, was opened; this scheme had been under construction for several decades. The Netherlands railways inaugurated electric traction in February on the Amersfoort-Zwolle 42-mi. section and in May on the Zwolle-Meppel-Groningen line, as also the line to Leeuwarden; thus 786 mi. was electrified, or 40% of the system.

The German state railway planned to electrify its 120-mi. route from Nuremberg to Aschaffenburg, and a major electrification scheme for the Ruhr-Cologne area was prepared. Long sections of welded rail and large numbers of reinforced concrete sleepers were laid in Bavaria. Reconstruction of war-damaged facilities continued and DM. 200 million were to be spent on new works in 1952. Doubling continued on sections of Swiss main lines, notably between Zürich and Sargans—now almost completed—and on the Berne-Lausanne line near Fribourg; Gotthard widenings were practically finished except on the causeway near Chiasso.

Italy, with its lack of coal, continued to electrify its railways—a current programme related to the Bari-Pescara 186-mi. section on the Lecce-Bologna line, and D.C. traction was replacing the original 3-phase system in northern Italy; *e.g.*, on the Brenner. An expensive 9-mi. link from Piazza al Serchio to Pieve San Lorenzo was started. In Austria reconstruction of the old double-track Semmering tunnel continued, and the new adjoining single-track tunnel was opened in March. Electrification continued slowly because of financial difficulties.

Yugoslavia continued to open new milage and an important project was a new 310-mi. line to link Belgrade with Bar, an Adriatic port; construction would take six years. Greece was adopting diesel rail-cars with considerable success, but in Cyprus the government railway closed in January, rail facilities being replaced by road. In Spain a 70-mi. section of the railway to link Corunna with Zamora was opened in September and the existing plan to modernize Spanish National railways would cost £120 million: 1,000 mi. would

be electrified and 60 Co-Co-type locomotives were being delivered from Britain. Spain also imported Italian-built diesel trains. Swedish State railways built a mobile refrigerator train and were doubling single-track sections on the Stockholm-Göthenburg artery; they were also extending electric traction; *e.g.*, from Sundsvall to Langsele. In Norway construction continued on the Nordland line towards Bodo.

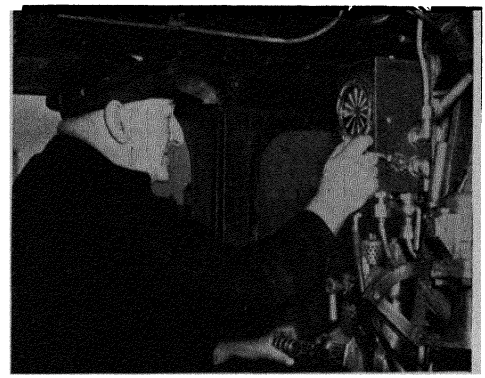
Africa. Algerian railway improvements included the introduction of Budd-type stainless-steel passenger cars of lightweight design, and in Morocco a new line was constructed to serve the increasing output from the anthracite mines at Djerada. Further east, in Egypt, the State railways imported over 70 new passenger cars fitted with Timken roller bearings. Beyer-Garratt-type articulated steam locomotives with a tractive effort of 52,360 lb. on a 13-ton axle load were added to the stock of the Benguela railway, which formed the western outlet from the Belgian Congo, and locomotives, also of Beyer-Garratt articulated design, were imported into Rhodesia to handle the rapidly increasing volume of traffic which had severely taxed line capacity and available motive power. On the East African railways traffic by 1951 had increased to more than double that of 1939, but new 2-8-2 (Mikado)-type locomotives, similar to those constructed for Nigeria and limited to a 13-ton axle load, arrived to ease the traffic problem of the heavily burdened metre-gauge system. A conference held at Nairobi early in 1952 dealt with both short-range and long-term transport plans, embracing an expenditure of some £25 million, excluding the £8 million constituting the 1952 programme but including port developments within the jurisdiction of the East African railways.

South African Railways and Harbours were still rapidly developing. In the six months ended March 1952 more than 117 million suburban passengers were carried, of whom nearly 50% were in the Johannesburg area and most of the remainder in the Capetown area. The S.A.R. and H. in 1949-50 experienced a difficult financial period, but 1951 ended with a surplus of over £8·5 million. Construction programmes included the widening of the Natal main line, the partial completion of the new Johannesburg passenger station and the electrification of the Bellville-Touws River main line, while motive power orders, both steam and electric, cost about £25 million.

Asia. Saudi Arabia railway was officially opened in Jan. 1952 from Damman to Riyadh. Built by Aramco, the 350-mi. line cost about $50 million; diesel traction was employed and U.S. staff assisted. Ceylon imported new steam locomotives but Pakistan was turning to diesels and converted the Jacobabad-Kashmir 76-mi. section to broad gauge. Many locomotives on the North-West railway were oil-burning. Indian railways' reorganization was completed by the inauguration of the Eastern, North Eastern and Northern railways. A research centre and staff college were opened, and new lines included Kandla-Deesa and Mukerian-Pathankot.

Conditions in Malaya remained difficult, but the night Singapore-Kuala Lumpur mail was restored; and Indonesia profited by new German-built steam locomotives. Japanese railways recorded progress, with chief officers studying U.S. and European railway methods. The U.S.S.R. agreed to return the Manchurian railway to China, where the Lanchow-Tienshui line was reported complete, as also was the section from Chengtu to Neichiang. In Siberia, Stalinsk and Barnaul —a 110-mi. stretch—were stated to be rail-linked; projected lines included Akmolinsk-Abakan, some 870 mi.

Australasia. In no continent were the difficulties confronting contemporary railway managements more insoluble than those facing the administrations of the several Australian states and the Commonwealth government, which owned, managed and operated the Transaustralian main line with other sections of railway serving almost uninhabited areas, such railways having been built for reasons of development or strategy.



Driving cab fitted with an experimental automatic train control signalling apparatus in October. If a distant signal is at "clear" a bell rings; if at "caution", a hooter sounds, the brakes are partially applied and the dial (top right) shows a yellow and black sign.

The absence of adequate renewal or depreciation funds over a long period, coupled with inability (for political reasons) to raise the level of charges, had resulted in annual deficits; recruitment of staff had been difficult, and "New Australians", in the form of immigrants, had had to be brought in from Europe. Besides shortage of skilled labour, there was an inadequate supply of good quality locomotive fuel, to overcome which the Victorian Government railways converted certain locomotive types to oil-burning; others were equipped to burn the low-grade brown coal of which there was an abundant supply. Main-line diesels were coming into service. Electrification was continued to ease the fuel problem, and the same policy was being extensively adopted in New South Wales. Strikes in the mines and, to a lesser extent, on the railways at times curtailed train services and this meant reduced revenues; nevertheless the volume of traffic remained in most states at an almost record level.

The arrival in New South Wales of the new 255-ton Beyer-Garratt 4-8-4 + 4-8-4 steam locomotives being built in Manchester would materially reduce the strain on the available motive power resources; these locomotives were reputed to be the heaviest locomotives ever built outside North America for the standard—4 ft. 8·5 in.—gauge. In September the N.S.W. government announced a complete reorganization of its railway administration involving the abolition of its Transport and Highways commission.

Tasmania benefited from the acquisition of new steam locomotives, limited in axle load to 10 tons, and additional motive power, including diesels, eased the traffic problems on the Queensland and West Australian systems. Diesels were to be used on the Commonwealth government lines where water shortage was acute. In New Zealand, where the annual railway deficit was over £1 million, electrification and dieselization continued, the former relating to the Hutt Valley line near Wellington. Oil-burning steam locomotives of 4-8-2 (Mountain) type were received from Britain. A royal commission's report issued in July recommended the formation of a corporation to manage the New Zealand railways.

North America. *Canada.* Dieselization was also a prominent feature of Canadian railway developments, and it was unlikely that any further steam locomotives would be ordered for that dominion. Not only did the large C.N.R. and C.P.R. systems make definite statements to that effect but also the

smaller lines, such as the Ontario Northland, aimed at 100% use of diesel traction in the near future. Four major schemes of railway construction continued in Canada: (1) the independent Quebec, North Shore and Labrador line designed to develop the ore resources around Knob Lake—a traffic estimated eventually to reach 20 million tons annually; (2) the 85-mi. extension of the provincially owned Pacific Great Eastern from Quesnel to join the C.N.R. at Prince Rupert in British Colombia; (3) the C.N.R.'s own branch in the same area from Terrace, near Prince Rupert, to Kitimat, to cost some $10 million, which was linked with a great aluminium development project involving a new port (it would also traverse almost virgin timber territory); and (4) the Sherridon-Lynn Lake new 155-mi. branch designed to open up the nickel ore resources at Lynn Lake in North Alberta.

Other Canadian railway developments in different spheres were the government's approval of the recapitalization of the Canadian National railways, the demolition of that company's historical Bonaventure station at Montreal and the continuing construction of the Toronto subway, the first underground railway in Canada. (C. E. R. S.)

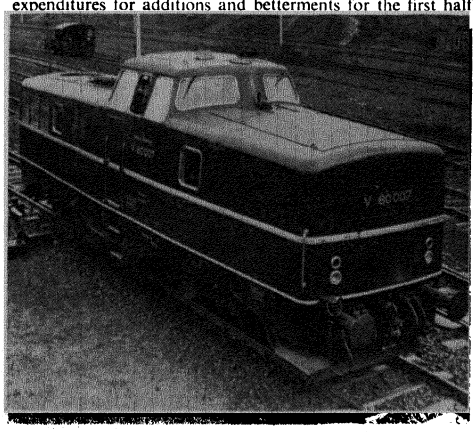
United States. The operation of the U.S. railways under the token supervision of the U.S. army which President Truman had ordered on Aug. 27, 1950, to avert a threatened nation-wide railway strike, was terminated on May 23, 1952.

The railway traffic and earnings were adversely affected during the year by a strike of eight weeks duration in the steel industry and the consequent closing down or slowing up of production in related industries.

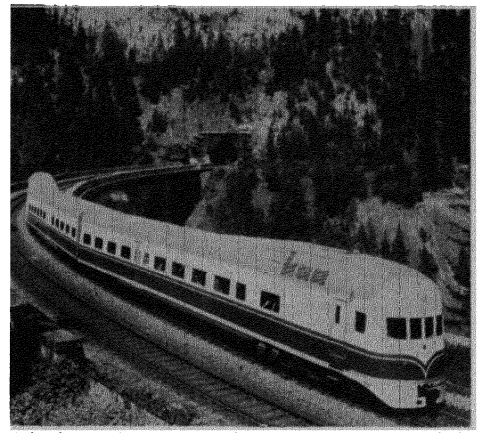
Operating revenues of the 132 Class I railways in the United States in the first eight months of 1952 aggregated $6,810,999,610, as compared with $6,764,406,068 in the same period of 1951, an increase of 0·7%. Operating expenses for the same months of 1952 were $5,298,347,702, as compared with $5,345,357,749 in the same period of 1951, a decrease of·9%. In the eight months ending Aug. 31, 1952, the net income of the Class I railways was estimated at $405 million, as compared with a net income of $339 million in the same period of 1951, both figures after interest and rentals.

The rate of return for the year ending Aug. 31, 1952, was 4·08%, compared with a rate of return of 3·96% for the year ending Aug. 31, 1951.

The Interstate Commerce commission's Bureau of Transport Economics and Statistics reported gross annual capital expenditures for additions and betterments for the first half of 1952 at $715,200,000, as compared with $660,100,000 for the same period of 1951, an increase of 8·3%. Expenditures for road property increased 15·5% in 1952 over the corresponding period in 1951, while equipment expenditures increased by 6·2%. Estimates of 127 of 131 Class I railways placed gross capital expenditures for road and equipment during the second half of 1952 at $659 million, making an estimated total for the year of $1,374,200,000, as compared with actual expenditures of $1,414 million in 1951. This estimate placed road expenditures at 2·2% above 1951 levels and equipment expenditures at 4·5% below those of 1951.



A 1,000-h.p. diesel locomotive built at Kiel in 1952 for use on short-distance runs on the German Federal railways.



A diesel-powered train on its trial run in Austria where it was built for Uruguayan Central railways.

On Aug. 31, 1952, the total number of freight cars owned by Class I railways was 1,840,623, as compared with 1,818,062 a year before, a gain of 22,561 freight cars of all types. In the same period 80,877 new cars were installed and 58,316 old cars were retired from service. As of Aug. 31, 1952, the Association of American Railroads, Car Service division, reported 108,222 freight cars awaiting repairs, as compared with 96 020 freight cars awaiting repairs a year earlier. The net serviceable railway freight cars in service as of Aug. 31, 1952, was 1,732,401, as compared with 1,722,042 a year before. At the same date there were 78,825 freight cars on order.

The volume of freight traffic of Class I railways was about 5% lower, measured in revenue ton-mi., in the first half of 1952 than for the corresponding period of 1951. The total revenue freight traffic for all districts was 303,378 million ton-mi. in the first half of 1952, compared with 319,520 million revenue ton-mi. in the first half of 1951.

Freight traffic revenue declined very slightly from $4,238,714,000 in the first half of 1951 to $4,234,845,000 in the first half of 1952, a decrease of about ·1%.

In the first half of 1952, Class I railways in the United States reached 17,096,400,000 revenue passenger-mi., an increase of 3·9% over the 16,451,400,000 revenue passenger-mi. in the same period of 1951. Passenger revenues increased from $430,578,000 in the first half of 1951 to $459,387,000 in the first six months of 1952, an increase of 6·7%.

On April 14, 1952, the Interstate Commerce commission authorized increases to be made in freight charges which superseded the previous increases authorized on April 4 and Aug. 28, 1951. The new increased rates became effective on May 2, 1952.

The order of the Interstate Commerce commission permitted the railways to increase their rates and charges generally by 15% to be applied as percentage increases in the amount of the total freight charges, exclusive of the federal transportation tax, and subject, in certain cases, to maximum increases in specific amounts per hundred pounds or per ton. Class rates generally were permitted to be increased by 15%, and rates upon certain commodities were allowed maximum increases

During 1952, the three military departments, army, navy, and air force, represented collectively the largest user of transportation services in the world and were individually among the largest shippers via all forms of transportation. The Department of Defence, representing the federal government, arranged for the transportation of more than 2,500,000 tons of freight monthly.

During 1952 the Defence Transport administration, functioning as the executive agency of the federal government for the co-ordination and assistance of the domestic transportation system, sponsored a railway freight-car building programme to achieve the objective of a fleet of 1,850,000 freight cars in 1953. It also sponsored a programme of diesel-electric locomotive construction, a programme of railway tank-car building, the construction of 20 new Great Lakes boats for bulk cargoes, the construction of more than 200 new and improved barges for inland waterway service, and a highway vehicle building programme

In Oct 1952 the Interstate Commerce commission made public a study made by its Bureau of Transport Economics and Statistics, part of a series of studies in industry and economics sponsored by the air force. The study placed the annual capacity of the railways at about 685,000 million revenue ton-mi of freight service, and 41,000 million ton-mi of passenger service under "preparedness conditions" Under war conditions, including a six-day work week and carloading orders similar to those in effect during World War II, the railway capacity was estimated at 750,000 million ton-mi. and 83,000 million passenger-mi The railway service requirements under assumed war conditions in the year "195X" were estimated at 950,000 million ton-mi. and 122,000 million passenger-mi , approximately 27% and 47%, respectively above the estimated 1952 railway capacities for freight and passenger services (G. L. WN)

Mexico Few countries could claim proportionately greater railway activity in 1952 than Mexico Nationalization of the hitherto U S -owned Southern Pacific railway occured at the beginning of the year Reconstruction of some 150 mi. of the Mexico City-Vera Cruz line, formerly known as the Mexican railway, was taken in hand as part of a national railway rehabilitation programme, and the new standard-gauge Mexico City-Oaxaca line was reported complete early in the year. Most of the 438-mi standard-gauge Oaxaca-Puebla line was laid with heavy rail The arrival of U.S.-type Swiss-built passenger cars would ease the traffic position, and dieselization was highly appropriate in an oil-providing country such as Mexico.

South America. A government decree in Argentina early in the year provided for the inclusion of all government-owned transport within the Empresa Nacional de Transportes, known as E.N.T or State Transport Undertaking. This embraced not only railways but also air lines and shipping. The British-owned railway companies, nationalized some years earlier, were in the final stages of liquidation. In Brazil electrification of the Central railway out of São Paolo was continued and progress was made on the construction of the Brazil-Bolivia railway. At the beginning of 1952 this line had penetrated to within 110 mi. of Santa Cruz de la Sierra; it would finally reach Cochabamba. (*See* also ELECTRIC TRANSPORT.) (C. E R. S.)

RATIONING. During 1952 there was some improvement in the rationing of food in Great Britain. The rationing of tea ended on Oct. 5, and at the end of the year the foods still rationed were meat, bacon (except cooked gammon), sugar, butter, margarine and cooking fats, cheese, eggs, and sweets and chocolates.

The meat ration fluctuated during the year, but with increases in price the values of the ration were not directly comparable. In February it was reduced to 1*s.* 2*d.* weekly but by July it was 1*s.* 7*d.* and it then was raised to 1*s.* 9*d.*; with increases in August and September, the ration was 2*s.* in the autumn, but was reduced to 1*s.* 8*d.* on Nov. 30. As from Aug. 10 the butter ration was reduced by 1 oz. weekly and the margarine ration increased by a similar amount, leaving the total ration of fats unchanged at 9 oz. weekly. The cheese ration went down in April from 1½ oz. to 1 oz. Only on one previous occasion, from May to June 1941, had the ration been as low. The highest ration had once been 8 oz. a week.

Rationing ended in the Republic of Ireland on July 5. The foods which were freed on that date were bread, flour, sugar, tea and butter In Norway cheese was derationed on July 1, and coffee, sugar, syrup and glucose—the last foods still rationed—were freed on Sept. 1 Food rationing ended in Spain on June 1, when sugar and coffee were freed; bread was derationed in March Rationing ended in the Netherlands in January when coffee was freed In Denmark sugar was derationed in October In Bulgaria bread and fats, the only foods then rationed, were freed from restrictions in May. In Poland the rationing of sugar was introduced in May In Hungary fats were freed on Feb. 1, and all rationing was abolished later in the same month, when meat was freed

RAYON AND SYNTHETIC FIBRES. Rayon was seriously affected by the world-wide recession in trade during 1952. Synthetic fibres suffered less because they were still novelties, not in abundant supply, and were eagerly sought after by the public By the autumn there were signs that the textile depression had spent its force and there were encouraging reports of clearance of stocks and increases in production

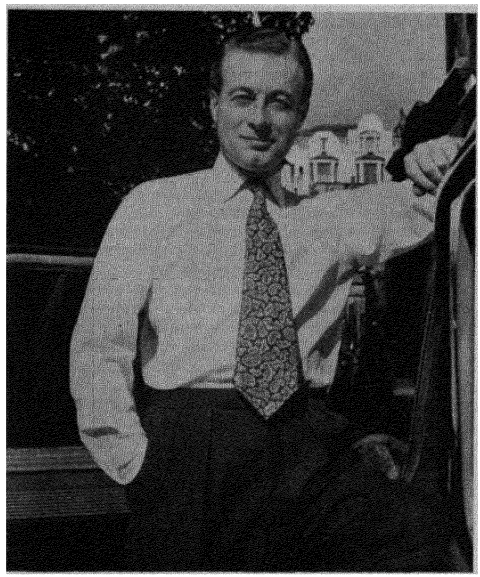
The gravity of the depression could be seen from the fact that in Britain, after reaching peak levels in Oct. and Nov 1951, rayon production (filament and staple combined) declined to 34 1 million lb. in Jan 1952 and to 11 7 million lb in June, the lowest figure for any month since 1945. By that time a number of mills had closed in order that stocks might be worked off. In October output rose again to 28 4 million lb In Italy production during the first six months of 1952 was at about 8 6 million lb. per month, as compared with an average of about 12 million lb per month in 1951 In France production fell from an average of 10 5 million lb. per month in 1951 to about 8 million lb. per month in the first seven months of 1952. For the German Federal Republic the corresponding figures were 10·25 and 7·5 million lb. respectively. Figures from Japan showed little change. The serious situation in the home markets of many of the countries affected was accompanied by increasing difficulties in export markets, as one country after another imposed import restrictions. The severe cuts in Australian imports were particularly unfortunate for British rayon exporters, for Australia had been their best customer.

The sudden setback after years of unbroken progress caused members of the industry to take stock of the position and to try to assess its future prospects. Sir John Hanbury-Williams, chairman of Courtaulds, Ltd., stated that he had had talks in various parts of the world at which the potential world production of rayon and the possibility that supply would exceed demand had been discussed. It seemed to be

generally agreed, he added, that although no definite conclusions could be reached history had shown that any serious falling-off in trade had been followed by a substantial increase in demand for all types of rayon goods.

A long-range view was taken by Dr. A. R. Urquhart, at the British Association meeting in Belfast. After he had pointed out that the natural-polymer rayons were already making an effective contribution to the world's total stock of textile materials, Dr. Urquhart asked if they could do any more in the future. All the regenerated cellulose and acetate rayons were or could be made from wood pulp. It was desirable to dispose of a bogy that had sometimes been raised in the past—that the world's forests were being denuded to provide pulp for paper and rayon. Only about 10% of the cut, taking the United States as an example, was for pulp,





Two new synthetic materials. "Furleen", an imitation fur made from nylon (left), and "Terylene", a synthetic fibre used (above) for the tie, shirt and trousers. It was claimed to be crease resistant, easily washable, and to need no ironing.

and the annual loss due to insects, fire and disease was 60% greater than the entire pulpwood cut. Obviously, improvements in forest management could do much to make good the drain, and still leave room for a large expansion of rayon manufacture. It could be assumed, therefore, that increasing demands for textile fibres could be met largely by continued expansion of the industry. But there was a possibility, he thought, that the rayon-producing industries might be able to offer more direct help in the event of the food situation's being tackled on a world-wide scale. The natural fibres were produced in the temperate and warm regions of the world, that is, the regions on which we must rely for the production of food. But the manufacture of regenerated cellulose and acetate rayons from woodpulp allowed a new area to be utilized for fibre production—the arctic and sub-arctic regions—and there was no competition with food production there. It might happen therefore that a concerted attack on the food problem would involve a reduction in the quantity of natural fibres used in the textile industry, and their replacement by fibres based on woodpulp.

In spite of the recession, there was no slackening in scientific research, technical development or the expansion of capacity. In Britain a progress report was issued on Terylene, the polyester fibre from polyethylene terephthalate, a condensation production of terephthalic acid and ethylene glycol; both these are derived by chemical synthesis from products made by cracking mineral oil. Full-scale plant for the production and spinning of the polymer was under construction, at a cost of £10 million, and when completed, by the end of 1954, was expected to have an annual output of 11 million lb. of fibre. Meanwhile, about 600,000 lb. of fibre and yarn were being produced in 1952 and Terylene dress materials, underwear, shirts, socks, sewing threads and other materials were introduced into retail stores.

Another new British synthetic fabric introduced during the year was Courlene, a polyethylene material. This was stated

to have high resistance to acids, alkalis and solvents and to be extremely water-repellent. It was recommended for protective garments for use in occupations where there were risks of chemical splashing, vapour and dust, and for industrial filter cloths.

Few countries, even the smallest, were without plans to manufacture rayon and synthetic fibres. It was reported from Israel that a £3 million rayon plant, backed by Israeli, U S and Japanese capital, was to be established, and that most of the machinery would come from Japan. An Oslo firm was building a nylon plant and hoped to be in production in 1953 In the Netherlands, Enkalon, a nylon-like fibre, was being made from a raw material caprolactam produced by the Dutch State mines, who were stated to be building a larger plant for the purpose. Reference was made to the production of Grilon, the new all-Swiss synthetic fibre, by Dr. A. Meili, chairman of Holzverzuckerungs, A G , at the company's annual meeting. Plant was in operation, he said, for producing the raw material and also for spinning it; the machinery had been made in Switzerland Grilon was stated to be a fibre of the nylon type The Italian minister of finance laid the foundation stone of a nylon factory at Casoria, partly financed by the Montecatini combine and partly by a French company. In Japan, the Tokyo Rayon company was planning the erection of a second nylon-spinning plant, with a daily capacity of five tons. The production of Phrilon, a new fully synthetic fibre, was started on a commercial scale in Germany, and another fibre, Phrilon II, was produced on a laboratory scale. The latter was described as opening the road to synthetic wool. Another fibre, of the polyacrylonitrile type, was developed to a stage where it could be made on an industrial scale and a plant for full-scale production was to be erected. (*See* also TEXTILE INDUSTRY) (L E. Ms)

RED CROSS. The 18th International Red Cross conference met in Toronto, Canada, July 26-Aug 7, 1952, under the chairmanship of John Alexander MacAulay (Canada), with about 600 delegates and observers representing 49 governments, 55 national Red Cross and Red Crescent societies, the International Committee of the Red Cross, the League of Red Cross Societies and 30 international governmental and non-governmental organizations It was the largest and most representative gathering of its kind in the history of the Red Cross.

Most of the general debates centred around attacks by Communist governments against the United States for alleged bacteriological warfare in Korea and against the I C R.C. for alleged lack of impartiality. In March the United States government had invited the I.C.R.C. to investigate such charges and the I C R C. had accepted, provided the North Korean government would permit entry of neutral teams of experts, which it refused. Resolutions finally adopted by the conference included· an appeal to governments to ratify the Geneva Conventions of 1949 (only 19 had done so) and the Geneva protocol of June 17, 1925, prohibiting bacteriological weapons, and to agree, within the framework of general disarmament, to a plan for the international control of atomic energy, an invitation to the governments involved in the Korean conflict to examine charges of alleged violations of the Geneva Conventions on the basis of a common agreement; an appeal to the North Koreans and Chinese to permit the I.C.R.C. to inspect prisoner-of-war camps in North Korea as it had inspected United Nations prisoner-of-war camps in South Korea since the start of the conflict; re-affirmation of the fundamental principles of the Red Cross, *i.e.*, impartiality, political, racial, religious and economic independence, universality of the Red Cross and equal rights of national societies; legal assistance to refugees; mutual assistance in case of national disasters; contributions towards famine relief; standardization of medical equipment; education of youth in the spirit of international fraternity, solidarity and the maintenance of peace.

Revised statutes of the International Red Cross and regulations of the International Red Cross conference, proposed by a sub-commission of the Standing Commission of the International Red Cross after a two-year study, were adopted by a majority vote over opposition of the Communist bloc, which would have shorn the I C.R.C. of its authority as a neutral intermediary. Political debates in future International Red Cross conferences were prohibited under the new regulations.

An invitation from the Indian Red Cross to hold the 19th International Red Cross conference in New Delhi in 1956 was accepted (*See* also PRISONERS OF WAR.) (H. W. DG.)

REED, SIR CAROL, British actor, film producer and director (b. London, Dec. 30, 1906), was educated at King's school, Canterbury, and first appeared on the stage in Nov. 1924, in London, as Constantine and Justin in *Heraclius*. Thereafter he played a variety of stage parts including Oberon in *A Midsummer Night's Dream,* Detective Katman in Edgar Wallace's *The Terror* (1927) and Weiner in *Charles the 3rd* (1931). He also produced *On the Spot* (1930) and *Poet's Secret* (1933) and helped to produce *Twelfth Night, As You Like It* and *A Midsummer Night's Dream* at the Open Air theatre, London, 1933 He had become dialogue director with Associated Talking Pictures in 1932 and was assistant director, 1933-34 The early films directed by him included *Midshipman Easy, Talk of the Devil* and *Laburnum Grove*, 1936, *Bank Holiday*, 1937, *Penny Paradise* and *A Girl Must Live*, 1938, *The Stars Look Down* and *Night Train to Munich*, 1939, *Kipps* and *A Girl in the News*, 1940, *The Young Mr. Pitt*, 1941, and *The Way Ahead* (1943-44) During 1942-45 he worked for the Army Film unit and made several documentaries including *The New Lot* (1943) and, for S H.A E F., an account of the war from D-day to VE-day, *The True Glory* (1945) His postwar films *Odd Man Out* (1947), *The Fallen Idol* (1948), *The Third Man* (1949) and *An Outcast of the Islands* (1951) established his reputation as an outstanding director and in Jan. 1952 it was announced that several of his films had been selected for use in a special series of British Film institute programmes to illustrate the work of British film directors He was knighted in the 1952 Birthday Honours.

REFUGEES. The liquidation of the International Refugee organization (I R.O) in the early months of 1952 signalled the end of mass movements of refugees out of Europe. During its lifetime of 4½ years of service to refugees in Europe the organization, a specialized agency of the United Nations, had provided care and maintenance for more than a million refugees in camps in Europe, repatriated 72,834 to their countries of origin (chiefly in eastern Europe) and had moved 1,038,750 in resettlement to Argentina, Australia, Brazil, Canada, Chile, the United States, Venezuela and other countries. Eighteen member governments (Australia, Belgium, Canada, China, Denmark, the Dominican Republic, France, Guatemala, Iceland, Italy, Luxembourg, the Netherlands, Norway, New Zealand, Switzerland, the United Kingdom, the United States and Venezuela) had contributed $406,867,295 to these efforts.

On terminating its operations on Jan. 31, 1952, the organization turned over 12,205 refugees to the Provisional Intergovernmental Committee for the Movement of Migrants from Europe, which had been organized at a conference on migration convened by the government of Belgium at Brussels in Nov.-Dec. 1951. This committee, starting with a membership of 15 governments, undertook the task of moving



(Above) The interior of a camp in the Lebanon where Arab refugees from Palestine are cared for by the U.N. Relief and Works Agency for Palestine Refugees. (Below) Young refugees being taught to make and repair shoes.



migrants from overpopulated countries in Europe and refugees to countries of immigration overseas. Making use of the experience developed by the I.R.O. and using its ships and trained personnel, the committee maintained the previous volume of monthly movement out of Europe until July 1952, when changes in the immigration policies of the main receiving countries (Australia, Canada and the United States) resulted in a reduction in the flow of migrants out of Europe.

Contributing to this development was the final expiration of the U.S. Displaced Persons act of 1948, amended in 1950 and 1951, under which more than 340,000 refugees and displaced persons had been admitted from Europe to the United States. In Australia the development of unemployment and the reduction of government expenditures were accompanied in June by a cabinet decision to reduce the original quota of immigration for 1952 from 160,000 to 80,000. Canada likewise reduced its intake of immigrants for economic and political reasons. In spite of these developments the Migration committee had succeeded by Sept. 1952 in moving 62,808 persons out of Europe. Included in this figure were 23,876 refugees.

The committee was provisionally organized to conduct movement for one year in order to test the form of organization, its method of financing and the need for its services. At its fourth session at Geneva, in October, the membership had grown to 21 (Australia, Austria, Belgium, Bolivia, Brazil, Canada, Chile, Denmark, France, Germany, Greece, Israel, Italy, Luxembourg, the Netherlands, Norway, Paraguay, Sweden, Switzerland, the United States and Venezuela). A unanimous decision was reached to continue the activities of the committee during 1953 and to expand its services closely related to the movement of migrants as provided in the resolution adopted at Brussels in 1951. The name of the committee was changed to the Intergovernmental Committee for European Migration.

Of the 62,808 migrants moved between Feb. 1 and Sept. 30, 1952, 34,578 came from Germany, 10,375 from Austria, 7,451 from the Netherlands, 6,011 from Italy, 753 from Trieste, 126 from Greece, 600 from the far east and 2,914 from other countries. The United States received 36,618 of the total, chiefly ethnic Germans from Germany and Austria; Australia, 10,702; Canada, 7,295; Brazil, 5,365; Venezuela, 627; Chile, 563; and Israel, 264. Hugh Gibson (United States) was elected director of the committee at its third session in Washington in July 1952.

The office of the U.N. High Commissioner for Refugees was established at Geneva by the general assembly of the United Nations on Dec. 14, 1950. G. J. van Heuven Goedhart (Netherlands), was elected high commissioner for a three-year term. This office took over from the I.R.O. the function of providing international legal protection for refugees until they acquired a new nationality. At its sixth session in Paris in Jan. 1952, the general assembly voted a budget for the office of $718,000 for 1952 and adopted a resolution authorizing the high commissioner to appeal for $3 million in funds for the emergency relief of refugees under his mandate. The high commissioner reported on Nov. 19, 1952, that he had received contributions and pledges totalling $760,000 to the refugee emergency fund and had allocated all the funds received. The sum of $650,000 had been spent or allocated for the needs of 4,500 refugees among the 7,500 European refugees still seeking opportunities for emigration from Shanghai. The balance had been allocated to meet the needs of refugees in Austria, Belgium, Germany, Greece, Italy and the near east.

Apart from the refugee emergency fund, the Ford foundation made a grant of $2·9 million in Aug. 1952 to be administered by the high commissioner to assist the integration and establishment of refugees in their countries of residence. Emphasis was to be placed in the use of the fund on efforts to assist the assimilation of refugees through youth educational and cultural activities. No restrictions were placed on the categories of refugees to be benefited by the fund.

The flow of German refugees from eastern Germany to western Germany through Berlin continued during 1952 at a rate of 15,000 monthly. A total of 250,000 had arrived in Berlin in 1951. This constant influx intensified the serious problems of unemployment and housing in western Germany.

The numbers of eastern European refugees entering Austria, Germany, Greece, Italy, Turkey and Trieste were smaller during 1952 than in previous years, because of tighter controls placed on the borders by the eastern European countries. On March 22, 1952, President Truman announced the initiation of a new effort of the U.S. government to assist these refugees under the provisions of the Mutual Security act of 1951. The stated objectives of the programme, to be administered by the Department of State, were to establish better facilities of reception for these refugees in the countries of first asylum, to supplement the care and maintenance already provided by those countries and by voluntary agencies and to assist the new refugees either to emigrate abroad or to re-establish themselves in Europe.

United Nations efforts to resolve the problem of approximately 875,000 Arab refugees in Lebanon, Jordan, Syria,

Gaza and Israel, resulting from the conflict in Palestine in 1948, continued during 1952. Emphasis was given to the gradual reduction of direct relief expenditures in favour of the progressive development of projects which would result in the permanent integration of the refugees in the communities in which they might be settled. (*See* also IMMIGRATION AND EMIGRATION) (G. L. W.)

REMÓN, JOSÉ ANTONIO, Panamanian politician (b. June 1, 1908). Entering politics at an early age, he became national chief of police and by 1949 was the "strong man" of Panama. In that year he forced the resignation of President Daniel Chanis, Jr, despite a decision by the nation's supreme court affirming Chanis' legal right to the office. Again on May 10, 1951, Remón overthrew the administration of Arnulfo Arias Madrid and installed Alcibiades Arosemena in the presidency. In 1952 Remón himself campaigned for the presidency as the candidate of a national five-party coalition. In elections held on May 11, 1952, Remón was elected by a large majority, receiving the largest number of votes in the nation's history He took office as president on Oct 1, 1952, for a four-year term.

REPUBLICAN PARTY, U.S.: *see* POLITICAL PARTIES, U S.

RESPIRATORY DISEASES. The year 1952 was noteworthy on account of the discovery of a new chemical, isonicotinic acid, which proved to be of use in the treatment of pulmonary tuberculosis

This drug became known as Isoniazide or more colloquially as INAH. It is allied to the vitamin B complex and also to a drug tibione, already used in treating pulmonary tuberculosis.

Extensive investigations carried out under the auspices of the Medical Research Council of Great Britain were still in their early stages. They indicated that the drug had some antibacterial properties and that its general effects in pulmonary tuberculosis were comparable to those of streptomycin.

The psychological effects of the drug were rather more difficult to assess accurately, but a feeling of well-being was induced in the patient that was out of proportion to the actual changes that could be observed in the physical condition. The spectre of the development of resistance to the drug was raised and this appeared to be as serious, if not more serious, than in the case of streptomycin

Asthma. The treatment of asthma by the use of massive doses of the antihistaminic drugs was receiving a great deal of attention and opinion was still markedly divided on the efficacy of these measures.

Cortisone and ACTH were used with spectacular, but disappointing, results: spectacular, in that the exacerbations of the disease could be completely relieved; disappointing, in that on cessation of employment of the drug, relapse occurred sooner or later.

The current position was that there were several new and very valuable drugs that would control the attacks of asthma but that no real cure of the disease had been found.

Cancer of the Lung. Efforts to establish the diagnosis of cancer of the lung with more certainty and at an earlier phase of the disease were continuing. Theoretically, this should be an easy problem, as mass X-ray should reveal the presence of a growth long before symptoms are manifest. In practice, the finding of an abnormal shadow does not mean that that shadow is due to a growth. The only certain way is take a piece of abnormal tissue and examine it under a microscope. It is sometimes possible to remove a piece of abnormal tissue through a bronchoscope, but many of these tumours are out of the range of this instrument.

With the advances in surgical technique, it was now a practical procedure to remove a piece of the tumour through an incision in the chest wall, examine this specimen immediately under the miscroscope, and then, if necessary, proceed with the operation of removal of the affected portion of the lung. (F. P. L. L.)

RESTAURANTS: *see* HOTELS, RESTAURANTS AND INNS.

RÉUNION. Island in the Indian ocean. Area: 970 sq.mi Pop.: (1946 census) 242,067 (97% French subjects); (1950 est) 261,647 (French creoles, Negroes, mulattoes, Indians and Chinese). Language: creole French. Religion: mainly Roman Catholic. Chief towns (pop., 1950 est.): Saint-Denis (cap, 39,057); Saint-Paul (27,585); Saint-Pierre (24,652), Saint-Louis (23,925). Prefect, Pierre Philip.

History. After Réunion became a *departement* in 1946, most of its affairs were dealt with in Paris. This gave rise to delays, against which the General Council made a protest by refusing to sit for a time during 1952.

It was decided that planters and factory owners should henceforth meet in a consultative commission on agriculture, which would propose prices while the sugar-cane industry was being revived The 13 sugar factories, each of which had its own distillery, were financed by the local banks The price at which the island's sugar could be sold in France was still higher than that of beet sugar Réunion consumed 20,000 hl. of rum and exported 60,000

A cold-storage plant for fish was opened at the port by the Société de Pêche Malgache et Réunionnaise.

Education. Nearly all children of school age go to school, two *lycées*

Finance and Foreign Trade (1951, million francs C F A) Imports 5,808 (incl 5,100 from the French Union), exports 4,500 (incl 4,300 to the French Union), mainly sugar (3,150), vegetable oils (770), rum (500) Monetary unit franc C F A (Colonies Françaises d'Afrique) - metropolitan Fr 2 (HU DE.)

RHEE, SYNGMAN (REE SYN MAN), Korean statesman (b. Whangai 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, though he was freed in a general amnesty in 1904. Meantime he had become a Christian convert and while in prison had written the book *Spirit of Independence*. He travelled to the United States, studied at Harvard and Princeton and returned to Korea in 1910 to organize resistance to the Japanese occupation. 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, after the defeat of Japan, he returned to Korea and opposed the idea of a four-power trusteeship for Korea. He also refused to cooperate with the Joint commission working toward a U.S.-Soviet agreement on the future government of Korea. To a so-called government of national union under Soviet control he preferred a national government south of the 38th parallel without Communist participation. On July 20, 1948, the National Assembly elected him first president of the Republic of Korea. On June 25, 1952, he escaped death when a man tried to shoot him from five-foot range while he was making a speech at Pusan. On July 4 the National Assembly, by 163 votes to nil, with 3 abstentions, approved a constitutional

amendment that the president of the republic was henceforth to be elected for a four-year term by popular vote. Election took place on Aug. 5 and Rhee obtained 5,253,451 votes against 1,802,599 for his three opponents. The total electorate numbered over 8 million. At the inauguration ceremony at Seoul, on Aug. 15, General Mark Clark, U.N. supreme commander in Korea, assured Rhee of his complete support. During his visit to Korea (Dec. 3-5), President-elect Eisenhower saw Rhee three times. In a farewell letter Eisenhower paid a warm tribute to the South Koreans' military effort and to President Rhee's leadership.

RHEUMATIC DISEASES. A significant decline in the incidence of infectious arthritis had occurred during the past decade. This was attributed to the use of antibiotics or chemotherapy to prevent or suppress systemic infections, following which most instances of infectious arthritis occur as a complication. Antibiotic therapy usually promptly suppresses the arthritis caused by joint infection, intra-articular installation of antibiotics sometimes helps. During 1952, tuberculous infection of the joint, although benefiting from treatment by streptomycin, was better suppressed by the combined use of one of the isonicotinic acid preparations. The latter alone was effective in some cases.

Among the forms of rheumatism, the greatest challenges to the patient, the physician and the investigator continued to be rheumatoid arthritis, osteoarthritis and rheumatic fever. Cortisone and corticotropin (ACTH) as treatment for these illnesses appeared to be of limited usefulness. Prolonged use of these hormones in patients with rheumatoid arthritis failed to cure the disease, and hence the benefit resulted from the temporary suppression of activity of the disease, and in palliation of symptoms In properly selected instances, however, the use of cortisone for these purposes seemed wise Routine use of cortisone for patients with rheumatoid arthritis was not considered wise because of its therapeutic limitations and the potential complications arising from the non-anti-rheumatic effects of the hormone. Although improvements in prolonged-acting preparations of corticotropin were made during the year, the treatment of a chronic illness with this hormone was considered less practical than with an orally administered hormone. Although often helpful in relieving pain in patients with osteoarthritis, cortisone or corticotropin used systemically were considered generally unsatisfactory.

An interesting development concerning treatment of rheumatic fever was the preliminary report of a co-operative study by a committee of investigators from Great Britain, Canada and the United States which indicated that, as the study was conducted (no individualization of treatment), results were essentially the same with salicylates, cortisone and corticotropin. It was believed that longer time for observation and some special studies would be needed before final evaluation of these forms of treatment for rheumatic fever could be made. The greater efficiency of corticotropin used intravenously (20 mg. intravenously gave effects comparable to approximately 100 mg. intramuscularly) was particularly applicable to patients with rheumatic fever (a short illness), especially when hospitalized.

Patients with one of the diffuse collagen diseases, which include diffuse lupus erythematosis, polyarteritis such as periarteritis nodosa, scleroderma and angioneurodermatomyositis, had a much better prognosis since cortisone and corticotropin became available. As a group these illnesses could be well controlled and, although not cured, many patients were kept comfortable and their lives were prolonged by these hormones. Much progress was made in the diagnosis of diffuse lupus erythematosis by employment of the " L. E. phenomenon ", by means of which recognition of the disease was made more certain by demonstration of a particular type of alteration of cells in blood or bone marrow.

The use of hydrocortisone (the free alcohol, not the acetate salt) was studied in patients with rheumatoid arthritis and preliminary reports suggested that this steroid had greater anti-rheumatic effects in proportion to other properties, so that smaller doses would suffice and fewer complications develop. Continued use of hydrocortisone acetate injected intra-articularly indicated that in well-selected cases this form of treatment was practical It had value especially in patients with rheumatoid arthritis who were very uncomfortable or were partly incapacitated by large inflamed joints As a group, the patients with osteoarthritis were seldom helped sufficiently by intra-articular injections of hydrocortisone acetate to make this treatment practical.

In patients with gout, prolonged use of benemid decreased the incidence of attacks of arthritis, while it continued to keep the blood uric acid within normal range. In a few instances gouty tophi had reduced in size

A new drug, phenylbutazone (Butazolidin R), was found to possess excellent analgesic properties in patients with a variety of rheumatic disorders It was particularly beneficial in aborting attacks of gouty arthritis and acute gouty and non-gouty bursitis In these conditions phenylbutazone had an anti-inflammatory effect; in other (usually chronic) rheumatic illnesses, such as rheumatoid arthritis or osteoarthritis, the only effect it was known to possess was that of analgesic. In many instances analgesia was greater from phenylbutazone than from other non-narcotic and non-hormone drugs. Even though phenylbutazone might cause some undesired effects which would limit its general usefulness, including gastrointestinal disturbances, retention of sodium and water resulting in oedema, dermatitis and, infrequently, blood disturbances, it was believed that with careful supervision it might be a valuable additional treatment for various forms of rheumatism

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RHODESIA, NORTHERN: *see* NORTHERN RHODESIA

RHODESIA, SOUTHERN: *see* SOUTHERN RHODESIA

RICE: *see* GRAIN CROPS.

RIDGWAY, MATTHEW BUNKER, U S army officer (b Fort Monroe, Virginia, March 3, 1895), graduated from the U.S Military academy at West Point in 1917, and was assigned as an instructor at West Point during World War I He later saw service in China, Nicaragua and the Philippines, and at the outbreak of World War II was serving in the war plans division of the War Department in Washington. He was given command of the 82nd infantry division, which was later converted into an airborne division, and which he led in invasions of Sicily in 1943 and Normandy in 1944. He was General Dwight D. Eisenhower's representative on the U.N. military staff committee in 1946, U S Caribbean commander in 1948, and was serving as deputy chief of staff for administration when he was called to replace Lt.-General Walton H. Walker when the latter was killed in Korea in Dec 1950. As commander of the U S. 8th army, he was concerned in the U.N. forces' return to the offensive against the North Koreans. When President Harry S. Truman dismissed General Douglas MacArthur (April 11, 1951), he appointed General Ridgway to succeed to



General Matthew B. Ridgway, supreme commander Allied powers in Europe, addressing a press conference in July during his visit to London.

MacArthur's commands in the far east. It was under General Ridgway that the prolonged truce talks began in July 1951. On April 28, 1952, Ridgway was appointed supreme commander of Allied powers in Europe to succeed Eisenhower. He formally took over this command at Rocquencourt, near Paris, on May 30 and spent much of the rest of the year visiting N.A.T.O. countries. On July 8 he was given command of all U.S. military air and naval forces in Europe.

RIFLE SHOOTING. At the 1952 Olympic Games a 17 yr.-old Canadian, George Generaux, won the clay pigeon gold medal. Huelet Benner (United States) won the free pistol event and Captain A. Jackson (U.S.) won the bronze medal in the small-bore rifle prone match. In the 35th world championships, held at Oslo, U.S. competitors set up several new individual and team records.

In Great Britain the outstanding achievement was that of the small-bore British rifle team whose 7,964 points was a new British record and only four points short of the world record. This team won the Dewar trophy, beating the United States by 15 points. Great Britain won the Lord Wakefield trophy from Sweden by one point in a 50-m. small-bore rifle match. Surrey won the British counties, Dominion states and provinces match for the B.S.A. cup with 3,972 points. In the Empire Cities match for small-bore rifles, London won with 2,969 points. Montreal (2,952) and Edinburgh (2,942) were second and third.

At Bisley South Africa won the Kolapore match from Great Britain by six points with Canada third. Canada won the Mackinnon trophy, beating Scotland and South Africa. A Home Guard team were third in the inter-services match which was won by the army (2,766) with the territorial army second, (2,761). The Queen's prize was won by Major A. B. Kinnier-Wilson. There were 900 entries for the national small-bore Bisley meeting; the new British rifle champion was John Keir of Keswick, Cumberland. (*See* also OLYMPIC GAMES.)

(A. J. P.)

RIO DE ORO: *see* SPANISH COLONIAL EMPIRE.

ROADS. Europe. In Great Britain road works were limited in 1952 by conditions of financial stringency to maintenance, to the improvement of accident black spots and to housing estates. The growth of traffic and the study of the economic significance of roads were leading to increased pressure on the government to spend more on the roads. It had been estimated that the national expenditure on road transport and travel was £1,200 million, one-tenth of the national income.

At a meeting of the Economic Commission for Europe Inland Transport committee in July it was provisionally agreed by France, Italy, the German Federal Republic, Belgium, the Netherlands and Luxembourg to establish an international fund for the construction of trans-European highways.

In France new laws took effect as from Jan. 1, 1952, authorizing capital expenditure for highway development and calling for the drawing up of plans for modernizing the highway system. An expenditure of £137 million was planned. Finance was to be from a 22% tax on petrol, and amongst the works to be begun was the Mont Blanc tunnel.

With the completion of the motor road from Ghent to Ostend work was proceeding in Belgium on the stretch linking Ghent to Brussels. In Holland work was continuing on the motor road from Amsterdam to Utrecht and about 10 mi. of main road no. 1 from Baarn to Hoevelaken had been built and opened to traffic.

The first Swedish motor road, from Malmö to Lund, at the southern tip of Sweden, neared completion, 10 kilometres at the Malmö end being already finished. Several important bridges, some of them in pre-stressed concrete, were also in hand.

Italy was lent £51 million by the International Bank for Reconstruction and Development for road construction. The second stretch, seven miles long, of the new Rome ring-road was now open to traffic.

The 1952-53 road programme in Portugal was estimated to cost about £4 million, new construction and bridges accounting for two-thirds of this sum. The Spanish road construction authority was reorganized and planned to construct and improve 7,500 mi. of radial and by-pass roads, part of a scheme involving the construction or reconstruction of 60,000 mi. of road, two-thirds of which were to be in urban areas.

A by-pass road was being built round Lucerne in Switzerland and a motor road was planned from Geneva to Lausanne.

In the German Federal Republic repair and improvement of the *Autobahn* continued with the object of linking the motor roads to form a continuous system. A motor road was being planned from Karlsruhe to the Swiss frontier and work had begun on the modernization of the main road reaching south from Coblentz along the Rhine.

A long-span bridge of novel pre-stressed concrete construction was being built using travelling shuttering across the River Rhine at Wörms.

A 300-ft. Bailey bridge was opened in September in Austria at Radkersburg, Styria, linking Austria and Yugoslavia, and a road from Wels to Braunau and thence to Munich was started.

In Turkey road-building activity was very marked. U.S. engineers were building a 700-mi.-long arterial road from the Turkish Mediterranean port of Alexandretta northeast to Kars near the Turkish-Soviet frontier. A road had been started to run from Athens to Salonika linking southern and central Europe with the middle east. Turkish plans also included a road to enter Persia, tourist roads to open the western seaboard and a suspension bridge across the Bosphorus.

Africa. In Africa work on the new Dar-es-Salaam-Morogoro road in Tanganyika was continuing, together with a number of other road improvements. In Uganda improvements included the construction of a new road from Kagera Port to Kyaka Port. A 15-yr. plan for the maintenance and improvement of roads in Kenya was approved. A new all-seasons' road in Nigeria was planned to connect Yola and

the Adamawa Province with the rest of Nigeria and on the Gold Coast a road running eastwards to Tema from Accra was opened. Strip roads in Southern Rhodesia were reported as failing at a far greater rate than that at which they could be replaced. Road works in Africa were found to be not generally fully adequate to the development of the countries concerned and there was evidence of continuing pressure to secure more funds for roads. For example, at a conference on production in East Africa the government was urged to accelerate road construction because of the vital part good national communications played in production costs.

The Outeniqua pass was completed after nine years' work in Cape Province in the Union of South Africa where extensive programmes for road construction were in hand and projected, with the object of benefiting both agricultural and mining centres.

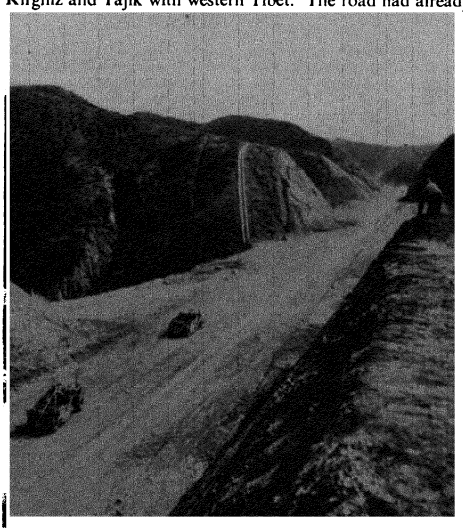
U.S. aid was being used for road development in the Belgian Congo in a 12-yr. plan and in Ethiopia U.S. engineers were directing road-building and reconstruction operations destined to provide about 5,000 mi. of primary roads and 2,500 mi. of secondary roads.

Asia. In India road construction and improvement was proceeding, a national highway from Bombay to Cape Comorin had been proposed and a pre-stressed concrete bridge of 23 90-ft. spans was being built to carry the Bombay-Madras trunk road across the River Palar.

An extensive highway building and development programme was planned throughout Pakistan, financed from the Central Road fund. The 173-mi.-long road from Khusab to Muzaffargarh was opened in the summer. A six-year road development programme aimed at completing three times the total mileage of roads that existed before partition.

In Iraq work was started on 100 mi. of new road and on improving 250 mi. of existing road connecting Baghdad with the north of the country and in Saudi Arabia funds were allocated for a new road from Mecca to Taif and for work on other roads from Mecca.

Work was proceeding on a road begun in March 1950, designed to cross Sinkiang and to link the Soviet republics of Kirghiz and Tajik with western Tibet. The road had already reached Tibetan territory and would eventually be extended to open up Lhasa for mechanized traffic. The work was being supervised by engineers from the U.S.S.R.



A cutting, one of the longest in the world, on the 10½-mi. highway being made between Caracas and La Guaira in Venezuela.

An international highway linking Thailand with Burma was considered. The road would help to open up an overland route to Europe *via* India and the middle east.

In the Philippines, with the end of the large-scale road, street and bridge rehabilitation programme, begun in 1946 with the assistance of the United States, the emphasis was shifted to development roads as an aid in the settlement of unpopulated but potentially rich areas in Mindanao. The road system in the Philippines, over-all, was the best in the far east but it fell far short of meeting the needs developed by the tremendous increase in motor vehicle usage since World War II.

In Japan plans were made for a high-speed motor road between Tokyo and Kobe, a distance of 325 mi., and overhead ring and network roads were being considered for Tokyo.

Australia. Part of a £50 million loan to Australia from the International Bank for Reconstruction and Development was to be used for road construction and earth-moving equipment. A committee was set up in New Zealand to investigate the standard of highways and the financing of them. (W. H. G.)

North America. *Canada.* The construction of the Trans-Canada highway, financed co-operatively by the federal government and the provinces, continued to attract wide interest. This 5,000-mi., $300 million highway, scheduled for completion in 1956, was the largest east-to-west construction project since the Canadian Pacific and Canadian National railways were built. Eight provinces were spending about $30 million (including the federal government's contribution) on this route during the year. Work was begun on the Canso Strait causeway, a combination railroad and highway link between Cape Breton Island and the Nova Scotia mainland.

United States. The United States, with the largest system of improved highways and the greatest number of motor vehicles, continued to lead in the size of its annual highway programme. It was estimated that expenditures amounted to $2,900 million for construction and $1,600 million for maintenance and that 110,000 mi. were completed during the year. In greater part, this work consisted of modernization and resurfacing of old highways but in many instances the process of modernization required some change of location.

Many notable projects were completed or under construction during the year. New Jersey completed a 118-mi., north-south toll highway across the state, terminating at the George Washington bridge entrance to New York city.

Maryland completed a four-mile bridge across Chesapeake bay, described as the largest continuous, entirely over-water steel structure in the world. An impressive feature of the year's work was the number of express highways being built in and near both large and medium-sized cities. Most often the projects were sections of much more extensive improvements which, because of the cost, would have to be spread over a period of years.

Mexico. The year's budget (a record amount) amounted to $63 million for the completion of highways already under construction, including the Guadalajara-Nogales and the Veracruz-Coatzacoalcos roads. Various industrial and commercial organizations, such as equipment dealers, tyre manufacturers, oil companies, hotel associations and others, realizing the benefits to be gained through the expansion of highway transport, made substantial contributions to the financing of local roads.

Central and South America. Work on the Inter-American highway continued in Costa Rica, El Salvador and northern Panama. Considerable work remained to be done in completing the highway in Guatemala Costa Rica and northern Panama

Honduras was carrying out a programme of pioneer road development to make road travel possible to areas that had been accessible only over pack trails or by air. Transportation by road was so much less expensive than by pack mule that a rapid increase in agriculture was noticed in areas reached by new roads.

Colombia started work on a $40 million programme aimed at connecting all the major cities and the Pacific and Caribbean ports, the country's first attempt to develop an integrated highway system. (T. H. MACD.)

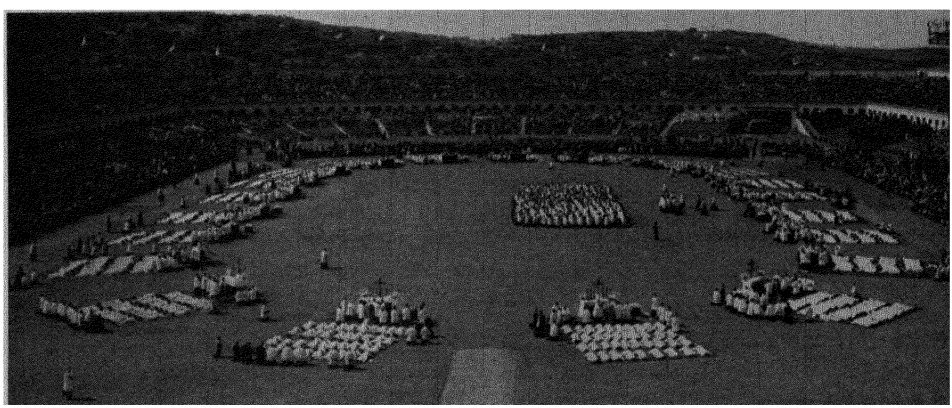
ROMAN CATHOLIC CHURCH. The 35th International Eucharistic congress, held at Barcelona during the week before Whit Sunday, 1952; the Family Rosary crusade in Great Britain during the summer, which attracted very large meetings all over the country, culminating in the mass rally in Wembley stadium on July 27; the 75th German *Katholikentag*, held in Berlin, Aug. 21-24; the Austrian *Katholikentag*, the first since 1933, held in Vienna, Sept. 11-14; the celebration at Goa in December of the fourth centenary of the death of St. Francis Xavier, the apostle of the orient; and the immediately following celebration of the nineteenth centenary of the arrival of St. Thomas the Apostle on the Malabar coast—these were outstanding in a series of events which during 1952 brought together Catholics in great numbers in various parts of the world.

Cardinal Federico Tedeschini was the legate of Pope Pius XII at the Barcelona Eucharistic congress, which was attended by 17 cardinals, about 300 bishops and some 15,000 priests, together with at least half a million pilgrims from all parts of the world. General Franco took part in the closing procession, in the evening of Whit Sunday, and the Spanish government gave every facility. A feature of the congress was the mass ordination of 800 priests in the Montjuich stadium. It was announced that the next congress would be held at Rio de Janeiro in 1955.

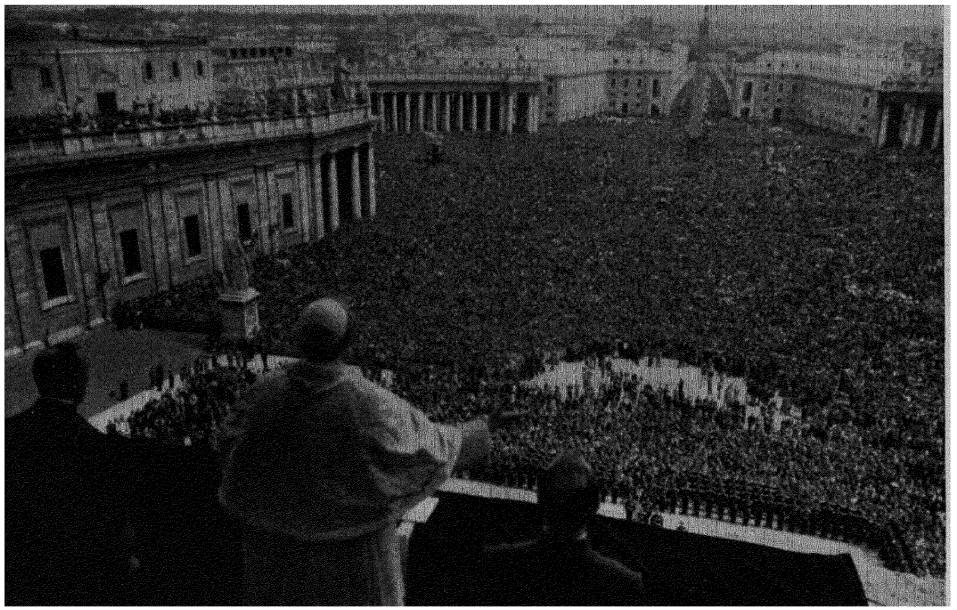
The papal legate at the commemoration of St. Francis Xavier at Goa, which opened on Dec. 3 and lasted for a month, was Cardinal Manoel Gonçalves Cerejeira, patriarch of Lisbon. In the presence of a large concourse the remains of the saint were exposed for veneration for the last time, and were then sealed in a glass-fronted coffin. Cardinal Norman Gilroy, archbishop of Sydney, was legate on the second of the Indian occasions.

The two *Katholikentage* bore witness to the Catholic faith in outposts of the free world, both Berlin and Vienna being cities which could only be reached by crossing Soviet-occupied territory. The former had as its theme " God Lives " and the latter " Man's Freedom and Dignity ". Many of the chief events at the Vienna *Katholikentag* took place in the Heldenplatz. A huge picture of Stalin was affixed to a building only a few yards from the altar at which Mass was offered in the open air. Both in Berlin and in Vienna the *Katholikentage* were characterized by signs of a new and happier relationship between Catholics and Protestants in Germany and Austria. Cardinal Michael Faulhaber, undoubtedly one of the greatest German prelates in modern times, had died in June (*see* OBITUARIES), and the pope had appointed as his successor Mgr. Josef Wendel, hitherto bishop of Speyer. Archbishop-elect Wendel occupied his new see in November. The Soviet authorities had placed many difficulties in the way of Berlin Catholics: they banned any open-air meetings in the Soviet sector of the city and declined to make certain buildings available: the Lutherans accordingly placed the Marienkirche at the disposal of the Catholic participants. The large cross in the Olympic stadium was also provided by the Berlin Protestants. The German *Katholikentag* sent a goodwill message to the Conference on Faith and Order of the World Council of Churches (*q.v.*), then meeting at Lund, Sweden, at which the Catholic Church, contrary to precedent, was officially represented by three observers. In Vienna Archbishop Franz Jachym invited two leaders of the Lutheran Church to attend the Austrian *Katholikentag*, at which Cardinal Teodor Innitzer was papal legate—the first Austrian to serve as a legate in Austria in the history of the church. St. Stephen's cathedral, Vienna, restored after suffering war damage, was solemnly re-opened by Cardinal Innitzer in April.

Despite the closer relationship of Yugoslavia with the western powers, the position of the Catholic Church in that country did not improve during 1952. The physical attack on Mgr. Anton Vovk, administrator apostolic of Ljubljana, on Jan. 19, by an assailant who escaped unpunished, opened a year characterized by the closing of the theological faculties in the universities, by the dispute over the so-called " priests' associations ", to which the Croat bishops objected when they met at Zagreb in September, and by increasingly angry government propaganda against the bishops and the Holy See, leading up to Marshal Tito's denunciations at the Congress of the Yugoslav Communist party in November. The year



An impressive moment during the 35th World Eucharistic Congress, held in Barcelona, May 26-June 1: candidates for the priesthood are seen prostrating themselves before altars in the Montjuich stadium, during the mass ordination on May 31.



Pope Pius XII giving his 1952 Easter blessing "to the city and the world" from the balcony of St. Peter's, Rome. During his address the Pope called for "phalanxes of apostles" to disseminate Christianity throughout the world.

closed with the severance of diplomatic relations with the Holy See after Archbishop Stepinac had been nominated as a cardinal.

Mgr. Eugene Bossilkov, bishop of Nicopol, Bulgaria, was sentenced to death by shooting by a Communist court in Sofia on Oct. 3; 26 Catholic priests and one nun were among those sentenced at the same time after a trial of which the purpose clearly was to eliminate the Catholic Church from the life of Bulgaria. The other bishops of that country, of both the Latin and the Greek rites, were under arrest and awaiting trial when the year ended.

The position of the church in Soviet-dominated Europe became legally less assured under the new constitution promulgated in Poland in January, but the Polish bishops gained some indulgence by reaching an ecclesiastical settlement in Breslau, which satisfied the Polish government, and by their attitude to the elections on Oct. 26; life in Poland remained much easier for the church than in Czechoslovakia or Hungary. But Mgr. Stanisław Adamski, the 77-year-old bishop of Silesia, Mgr. Herbert Bednorz, his coadjutor, and Mgr. Juliusz Bieniek, his auxiliary, were taken into custody in Katowice and Archbishop Eugeniusz Baziak was arrested in Cracow in November.

The chief theatre of the conflict between Communism and the church during 1952 was again China, where the liquidation of the missions continued at an increasing rate. By the end of the year only a few hundred foreign missionaries remained in China, some 2,500 having been expelled since the beginning of 1951. Several bishops and many priests died during 1952 as a result of their treatment in Chinese Communist prisons.

The missionary Church also had a difficult year in parts of Africa: a nun was murdered by terrorists in Egypt in January and another in Cape Province in November; in Kenya the Mau Mau proved itself the bitter enemy of all Christian religion, and the vicar apostolic of Zanzibar declared all Catholics joining it to be excommunicated.

Some consternation was caused in Rome in April when a Jesuit lecturer in the Gregorian university, Fr. Alighiere Tondi, renounced his priesthood and declared that he was a member of the Communist party. Catholics continued to mobilize opinion against the Communists; in particular the specious Communist "peace propaganda" was answered at a congress of the *Pax Christi* movement held at Assisi in September and attended by large numbers of pilgrims, led by the archbishop of Paris. Pope Pius XII set up a permanent International Committee for the Lay Apostolate, to carry on the work of the International Congress for the Lay Apostolate held in Rome in Oct. 1951; as its secretary-general he appointed Vittorio Veronese, president-general of Italian Catholic Action since 1946. Dr. Veronese was succeeded in the presidency of Italian Catholic Action by Luigi Gedda, hitherto vice-president, and this appointment was regarded as especially important in view of the elections due in Italy in 1953. Gedda had organized the *comitati civici* which played such an important part in the 1948 elections, but he was now said to favour a broad political front, believing that Catholic Action should support parties of the right as well as the Christian Democrats, and to that extent to differ from the Christian Democrat leader, Alcide De Gasperi (*q.v.*). In October, however, the 30th anniversary of men's Catholic Action in Italy was made the occasion for demonstrating that there was no rift between Gedda and the Christian Democrats when De Gasperi and most of the leading men of his party participated in a Catholic Action rally and joined Gedda on the tribune when the pope delivered an address, on Oct. 12, on the responsibilities of Catholic Action.

In France some discussion of the future of the "priest-workers" followed the arrest of two of them who had taken

part in June in a Communist demonstration against General Matthew Ridgway (*q.v.*). The seminary of the Mission de France was transferred to Limoges during the summer, while at Lisieux on Oct 3, the feast of Ste. Thérèse, the 25th anniversary of her proclamation by Pius XI as patron of the foreign missions was solemnly observed. Cardinal Pierre Gerlier, archbishop of Lyons, visited western Germany in February at the invitation of Cardinal Josef Frings, archbishop of Cologne. In Spain, Cardinal Pedro Segura attracted attention with a series of pastoral instructions aimed especially at what he regarded as the dangerous consequences of Protestant proselytism—a theme on which Cardinal Ildefonso Schuster also wrote in Milan

The first International Congress of Superiors of Religious Orders of Women in the history of the church was held in Rome in September, under the auspices of the Sacred Congregation for the Affairs of Religious. It was preceded by national congresses of religious orders of both men and women held during the summer in Italy. During 1950 there had been a similar international congress in Rome for the superiors of the religious orders of men. These congresses were designed to assist the orders and congregations, and particularly those which teach and do similar active work, to exercise their influence as effectively as possible under the changed conditions of the 20th century. There was great concern at the declining number of vocations among women. Pope Pius XII, in an allocution to the nuns, expressed himself in favour in some cases of a reform of the religious habit.

(M. Dk.)

United States. In 1952 the Roman Catholic population of the United States, Alaska and the Hawaiian Islands was 29,407,520. This figure represented an increase of 772,642 since 1951. There were 24 archdioceses, 105 dioceses, and the vicariate Apostolic of Alaska. There were 3 cardinals, 27 archbishops, 158 bishops, 38 abbots, 44,459 priests, 7,975 brothers and 156,696 nuns.

War relief services of the National Catholic Welfare conference reported that 29,139,438 lb. of relief materials valued at $12,740,638 were dispersed in the six-month period ending in May.

The National Council of Catholic Youth initiated *Vision*, a new monthly magazine which would concern itself with everything directly or indirectly affecting the lives of young people. (*See* also Pius XII, Vatican City State)

(J. LaF.)

ROOT CROPS. The acreage under potatoes and sugar beet in 1952 was less than in the previous year.

Root Crops in the United Kingdom

	Acreage ('000 ac.)			Production ('000 tons)		
	1939	1951	1952	1939	1951	1952
Potatoes	704	1,050	991	5,218	8,284	7,266
Sugar beet	345	425	410	3,529	4,536	4,327
Carrots	17	25	29	---	---	
Onions	2	5	5	--	---	---

Source *Monthly Digest of Statistics* (H M S O, Sept 1952)

The yield of early potatoes was a little above average. Dry weather checked the growth of second early and main crop varieties and yields per acre were expected to be down almost 10% as compared with 1951. Blight contributed to this reduction particularly in western districts. The decline in yield and acreage together resulted in a reduction of 12% in the total production of potatoes in the United Kingdom as compared with 1951. Further reductions were likely during storage, particularly in the western regions where blight was severe.

The yield of sugar beet was also estimated to be lower than that for the year before. This was attributable in part to drought conditions during the summer and in part to virus yellows which was reported in several districts. This feature was likely to reduce the yield of sugar from the 1952 crop. The estimated production of sugar beet in 1952 was 4½% less than in the previous year.

Reports indicated that the quality of the carrot crop was on the whole good. The yield of onions (dry bulb) was higher than in 1951 and an estimated yield of 8·2 tons per ac. was obtained.

A machinery census undertaken in 1952 suggested that the rate of increase in mechanization was above average for root crop equipment, particularly potato planters and certain types of potato and sugar beet harvesters. Reasons for this were the high labour requirements of these crops, the difficulty experienced in recent years in obtaining labour for harvesting and the high cost of labour. (O. T. W. P.)

ROWING. The 1952 rowing season was remarkable for the closest verdict ever given in the university boat race, for a new course record at Henley regatta and for the disappointment of British hopes in the Olympic Games.

The Universities. Cambridge showed great early promise and were firm favourites for the boat race when they reached Putney, although their crew were criticized for dirty finishes, and were disappointing in their final trial. By contrast Oxford were always rough, and had to change their stroke at a late stage. The race was rowed in a blizzard. Cambridge won the toss and chose the Middlesex station, and gained two-thirds of a length in the first mile; but the crews were level at Hammersmith bridge. They then rowed practically level all the way to the finish, in spite of the bends in the river. Less than a minute from the finish Cambridge faltered, and Oxford, on the outside of the corner, got in front to win by a canvas, in 20 min. 23 sec. The crews were: Oxford, N. W. Sanders (bow), P. Gladstone, C D. Milling, L. A. F. Stokes, M. L. Thomas, K H Keniston, H. M C. Quick, C. G. V. Davidge (stroke), D. R. Glynne-Jones (cox); Cambridge, E J. N. T Coghill (bow), G. A H. Cadbury, J G. P. Crowden, G. T. Marshall, J. R. Dingle, R. F. A. Sharpley, N. B. M. Clack, J. S. M. Jones (stroke), J. F K. Hinde (cox)

At Cambridge, Lady Margaret (St. John's) retained the headship of the river without difficulty, but at Oxford Merton were displaced by Balliol.

Henley Royal Regatta. A following wind, which was generally too strong for fast times, blew for most of the four days. In spite of this several records were broken, including that for the Grand. The high spot of the regatta was in the final of that event, in which Leander club (Great Britain's Olympic eight) beat the Australian Olympic crew (Sydney R C.) by half a length, in 6 min. 38 sec, bettering the course record set up by Lady Margaret in the Ladies' plate in 1949 by 5 sec. Other records were set up in the Princess Elizabeth cup (Radley college, 6 min. 57 sec.); Visitors' (Pembroke college, Cambridge, 7 min. 14 sec.); and Silver goblets (H. C. I. Bywater and T. H. Christie, 8 min. 5 sec.).

Grand Challenge cup Leander club beat Sydney R C (Australia), ½ length, 6 min 38 sec (record).
Ladies' plate Lady Margaret B C., Cambridge, beat Trinity hall, Cambridge, 1¼ lengths, 6 min 50 sec.
Princess Elizabeth cup Radley college beat Monkton Combe, ½ length, 7 min 0 sec
Thames cup: University of Pennsylvania (U.S ; 150 lb. crew) beat Christ's college, Cambridge, 1¼ lengths, 7 min 3 sec
Stewards' Challenge cup Thames R C beat London R C , 2 lengths, 7 min 24 sec
Visitors' Challenge cup Pembroke college, Cambridge, beat Trinity college, Oxford, 1¾ lengths, 7 min 14 sec (record).
Wyfold Challenge cup. Corpus Christi college, Cambridge, beat Worcester college, Oxford, easily, 7 min. 28 sec.
Silver goblets and Nickalls' Challenge cup. H. C. I. Bywater and T. H. Christie (Westminster hospital) beat D. A T. Leadley and J. N. King (Emmanuel college, Cambridge), 1¼ lengths, 8 min. 6 sec.
Double sculls· R. George, U.N. de Liège, and J van Stichel, Antwerp

S.C. (Belgium), beat J. Rogers and M. Riley, Sydney R.C. (Australia), easily, 7 min. 37 sec.
Diamond sculls: M. T. Wood, Sydney R.C. (Australia), beat T. A. Fox, London R.C., 2¼ lengths, 8 min. 12 sec.

Olympic Games. The Olympic regatta took place at Meilahti, Finland. Great Britain was represented in six events (eights, coxed and coxswainless fours, pairs, double and single sculls). In all except the double sculls British representatives reached the final, but they succeeded in gaining only five fourth places. The regatta showed the continued strength of the United States, and a new challenge from the U.S.S.R.

Eights: first, United States, 6 min. 25·9 sec.; second, U.S.S.R., 6 min. 31·2 sec.; third, Australia, 6 min. 33·1 sec.; fourth, Great Britain—D. Macklin (bow), A. L. McLeod, N. B. Clack, R. F. A. Sharpley, E. J. Worlidge, C. B. M. Lloyd, W. A. D. Windham, D. N. Jennens (stroke), J. F. K. Hinde (cox) 6 min. 34·8 sec.; fifth, Federal Germany, 6 min. 42·8 sec.
Coxwainless fours: first, Yugoslavia, 7 min. 16 sec.; second, France, 7 min. 18·9 sec.; third, Finland, 7 min. 23·3 sec.; fourth, Great Britain—H. H. Almond (bow), J. S. M. Jones, J. G. P. Crowden, G. A. H. Cadbury (stroke) —7 min. 25·2 sec.; fifth, Poland, 7 min. 28·2 sec.
Coxed fours: first, Czechoslovakia, 7 min. 33·4 sec.; second, Switzerland, 7 min. 36·5 sec.; third, United States, 7 min. 37 sec.; fourth, Great Britain—P. de Giles (bow), G. Fisk, R. MacMillan, P. Massey (stroke), L. Guest (cox)—7 min. 41·2 sec.; fifth, Finland, 7 min. 43·8 sec.
Coxwainless pairs: first, United States, 8 min. 20·7 sec.; second, Belgium, 8 min. 23·5 sec.; third, Switzerland, 8 min. 32·7 sec.; fourth, Great Britain—D. Callender and C. G. V. Davidge—8 min. 37·4 sec.; fifth, France, 8 min. 44·8 sec.
Coxed pairs: first, France, 8 min. 28·6 sec.; second, Federal Germany, 8 min. 32·1 sec.; third, Denmark, 8 min. 34·9 sec.; fourth, Italy, 8 min. 38·4 sec.; fifth, Finland, 8 min. 40·8 sec.
Double sculls: first, Argentina, 7 min. 32·2 sec.; second, U.S.S.R., 7 min. 38·3 sec.; third, Uruguay, 7 min. 43·7 sec.; fourth, France, 7 min. 46·8 sec.; fifth, Czechoslovakia, 7 min. 53·8 sec.
Single sculls: first, J. Tjukalov (U.S.S.R.), 8 min. 12·8 sec.; second, M. T. Wood (Australia), 8 min. 14·5 sec.; third, T. Kocerka (Poland), 8 min. 19·4 sec.; fourth, T. A. Fox (Great Britain), 8 min. 22·5 sec.; fifth, I. Stephen (South Africa), 8 min. 31·4 sec.

The Wingfield sculls, amateur championship of Great Britain, were held for the first time in the spring, in preparation for the Olympics, and produced a record entry of 15. The holder, T. A. Fox, London R.C., proved an easy winner over J. R. A. MacMillan, First and Third Trinity B.C., Cambridge, R. D. Burnell, Leander club, and M. A. J. Martin, Hammersmith Club Society B.C., 24 min. 33 sec. The race for Doggett's coat and badge was won by G. E. Green, Putney Town. (*See* also OLYMPIC GAMES.)

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ROYAL AIR FORCE. Standards were awarded to a further 25 R.A.F. and 5 Royal Auxiliary Air Force squadrons, and to 1 armoured car squadron and the R.A.F. regiment, on completion of 25 years or for distinguished service.

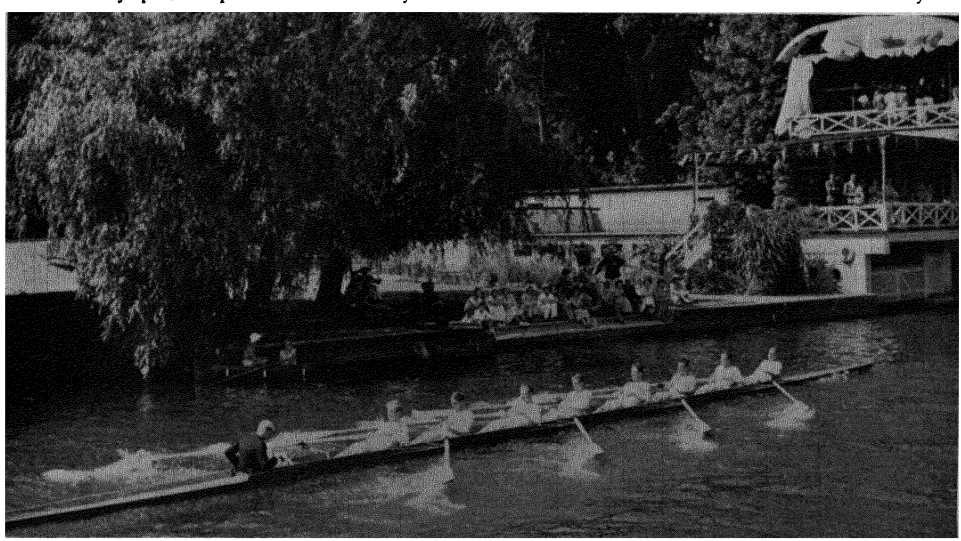
The air estimates for 1952-53 provided for a net expenditure of £467,640,000 and a total strength of 315,000. These figures represented an increase of nearly £139 million and 45,000 personnel over those for the previous year.

The air minister stated that the year's programme provided for a considerable increase in front-line strength and preparations for further expansion, the R.A.F. needs having a first call on the national resources. In December, however, it was announced that the defence programme was to be curtailed, involving a reduction in the orders for most types of military aircraft.

Super-priority was given to the production of the Hawker Hunter, Vickers Supermarine Swift and Gloster Javelin fighters and the Vickers Valiant and English Electric Canberra bombers, while a decision to order a number of the new four-engined Avro 698 Vulcan delta-wing and Handley Page HP.80 crescent-wing bombers was taken even before the aircraft made their first flights.

Several squadrons completed their re-equipment with the Canberra light bomber and a number of Lockheed Neptune aircraft for maritime reconnaissance and anti-submarine work were flown across the Atlantic and took their place in Coastal command.

The U.S. air force in Great Britain was reinforced by the



The Leander eight, which represented Great Britain in the Olympic Games, rowing to the start for the final for the Grand Challenge cup at Henley, July 5. Leander beat Sydney Rowing Club (Australia) by half a length.

addition of F-86 fighter squadrons. The Royal Canadian Air Force also stationed a wing of F-86s in the United Kingdom for training side by side with Fighter command.

A major expansion of the flying training organization took place to allow for the provision of 3,000 fully trained air crew a year. This involved the opening of 18 new flying schools, including basic flying schools for national servicemen volunteering and selected for pilot training.



During the summer months, 800 ex-officers and 4,700 Class G reservists of control and reporting organizations were called up for training in their appropriate specialities. In the same period, 14 squadrons of the R.Aux.A.F. flew their jet fighters overseas, to practice camps in Germany or Malta, their ground crews following in transport aircraft. Three thousand members of the Royal Observer corps also attended practice camps during the summer.

Under an exchange posting scheme embracing the R.A.F., Commonwealth air forces and the U.S.A.F., a number of R.A.F. pilots were posted for service in Korea to obtain combat experience against modern Communist fighters.

In Malaya the R.A.F. continued to strike against the terrorists, while during the Egyptian troubles, Transport command carried out major trooping and supply operations.

R.A.F. Sunderlands and Hastings assisted the British Greenland expedition by flying up stores and equipment to the base camp. On one of these flights a Hastings crashed on the ice-cap in the vicinity of the base camp, the crew being rescued after several days by aircraft from the United States Greenland base at Thule.

On Aug. 26 a R.A.F. Canberra made the first double crossing of the Atlantic in a single day with a total flying time of just under eight hours. On the return journey to Northern Ireland, the average speed was 605½ m.p.h.

The biggest air exercise ever to be held in peacetime took place from Oct. 3 to 13. Called "Ardent", it was designed to test the air defences of the United Kingdom. More than 6,000 sorties were flown by the attacking and defending aircraft.

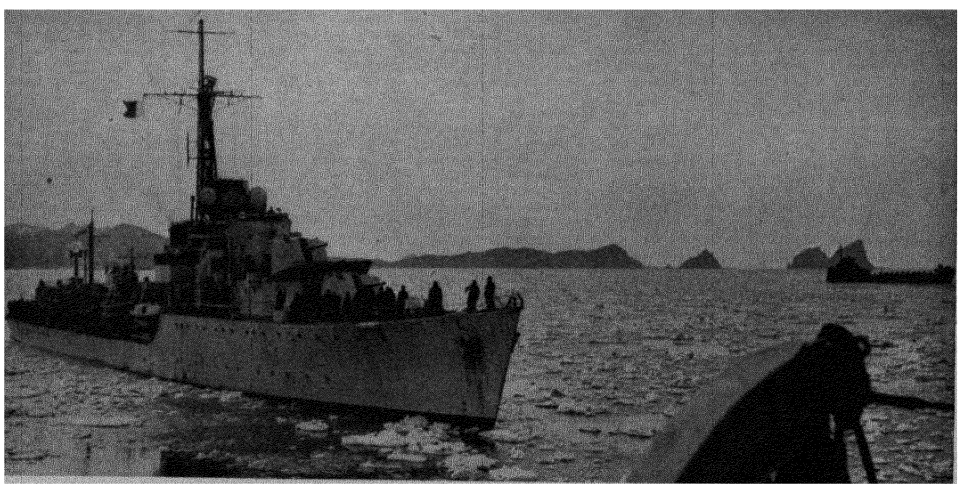
In June it was announced that Air Chief Marshal Sir William Dickson would succeed Marshal of the R.A.F. Sir John Slessor as chief of the air staff on Jan. 1, 1953. In October the C.A.S. designate started on a two months' world tour of R.A.F. organizations overseas. (*See* also AIR FORCES OF THE WORLD.) (D. CR.)

ROYAL NAVY. Important appointments during 1952 included Admiral Sir John Edelsten as commander-in-chief, Portsmouth, Sir Cyril Douglas-Pennant to the Nore, Sir George Creasy to the Home Fleet, Earl Mountbatten to the Mediterranean and Lieut.-General Westall as commandant general, Royal Marines. The Duke of Edinburgh was promoted to the rank of commander.

The establishment of the North Atlantic Treaty organization involved far-reaching changes in the command and organization of British naval forces. Admiral McCormick (U.S. navy) was appointed supreme allied commander in the Atlantic with Vice-Admiral Sir William Andrewes, c.-in-c. America and West Indies station, as British deputy supreme commander. The Atlantic was subdivided into two subcommands, Admiral McCormick himself taking command of the West Atlantic, while the British c.-in-c. Home fleet became c.-in-c. East Atlantic under N.A.T.O. with headquarters ashore in wartime. The Home fleet was divided into the heavy squadron and flotillas with a rear admiral in command of each unit. An allied naval and air command, the Channel command, was established under N.A.T.O. for the English channel and southern part of the North sea under the command of Admiral Sir Arthur Power.

The naval estimates for 1952-53 amounted to £357 million, an increase of £79 million over 1951-52. Of this, £25 million was provided by U.S. aid.

A committee was appointed to review the scope of existing methods of officer recruitment and to report whether another method of entry should be introduced to obtain sufficient numbers. In the meantime it was decided to enter officers



The destroyer "Cossack" (1,710 tons) coming alongside the frigate "Mounts Bay" (1,600 tons) in Korean waters. Both ships had undertaken patrols towards the end of 1951, and in Feb. 1952 "Mounts Bay" was straddled by shells from shore batteries.

from the R.N.V.R. to meet deficiencies. Retired naval officers who might be recalled in an emergency as commodores of convoys were allowed to go to sea in merchant ships to gain experience of the merchant navy. A mine-watching service was formed in which both men and women were enrolled.

H.M.S. "Eagle", the largest British carrier, was commissioned and took part in the Home fleet's autumn cruise. The Daring class destroyers and new inshore minesweepers joined the fleet as completed. The destroyers "Rocket" and "Relentless" were converted to new class frigates. The building up of anti-submarine and mine-sweeping forces and the expansion of naval aviation received special attention. The successful explosion of an atom bomb off the Monte Bello Islands was expected to cause profound changes in warship design and naval tactics. Underwater television equipment capable of reaching depths of 1,000 ft. was developed.



Badge of the Mine-watching Service, approved by Queen Elizabeth.

Plans were made for the improvement of food and messing arrangements, and sleeping accommodation in H.M. ships; modern steam-heated and electrical equipment was to replace older types, and cool storage for vegetables, etc., was to be installed where practicable. Portable bunks instead of hammocks were to be tried in some aircraft carriers and, if successful, the scheme would be extended.

This was another year of strenuous sea-air training in conjunction with the North Atlantic Treaty powers. Five major exercises were carried out, two in the Mediterranean under U.S. command and one under British, one in home waters under British command, and a very extensive one in northern waters under the c.-in-c., Allied forces. Minesweeping exercises took place in various parts of the North sea and English channel under local commanders, and also with Commonwealth forces in Indian waters. (*See* also NAVIES OF THE WORLD.) (R. N. BA.)

RUANDA AND URUNDI: *see* BELGIAN COLONIAL EMPIRE; TRUST TERRITORIES.

RUBBER. Natural Rubber. The International Rubber Study group, representative of 18 countries, met in Ottawa during May 5-9, 1952. The group estimated that at the end of the year production of natural rubber would be 1·69 million tons and consumption 1·45 million tons. Actual production was 4% over the estimate. Of the Commonwealth production of ·77 million tons, Malaya accounted for 75%, which was the same percentage as in 1951. Of total production some 70,000 tons were exported in liquid (latex) form, chiefly to the United States and the United Kingdom.

Two factors which made it difficult to forecast long-term production were the continued suspension of large-scale planting and replanting, and the rise of the capacity of the synthetic rubber industry. A major development from the meeting, therefore, was the setting up of a working party to consider whether plans to obviate burdensome surpluses or serious shortages of rubber were necessary and practicable.

Of the overall production the United Kingdom took 11%, France 6·5%, U.S.S.R. (estimated) 7%, leaving 16% for the rest of Europe. Of the United Kingdom tonnage 55% was consumed in industries connected with transportation, most of the balance going to the manufacture of footwear, belting, cable insulation and cellular and sponge rubbers.

The average London price for first quality rubber during 1952 was 2*s.* 4·4*d.*, as compared with 4*s.* 3*d.* in 1951. The fall seriously affected the external and internal economies of territories highly geared to the production of rubber, *e.g.*, Malaya.

Banditry and terrorism continued to affect Malaya and Indochina but at the end of the year Communist disruption in Malaya appeared to have lessened appreciably. Other major producing territories continued to suffer from political unsettlement though of a less militant nature.

Practically no acceleration occurred in the restocking of old and effete estate areas for a variety of reasons, including the receding selling price of rubber and the high cost and shortage of labour and of machinery. While replanting costs varied considerably with location and terrain, the average cost of replanting in Malaya, involving the clean and hygienic removal of old trees, was about £100 per ac. The restocking of corresponding areas of small-holding rubber (computed to be some 4·5 million ac. in southeast Asia) confronted the governments concerned with a baffling problem. This problem was complicated by the inevitable loss of the cash crop for a period of 6 yr., the time taken by newly planted rubber to come into bearing. This was the more serious because of the small average size of communal holdings (estimated at less than 5 ac.). The Malayan authorities had the matter under active discussion.

Research directed to increasing the efficiency of the tree as a producer of rubber and improving the quality of the product was pursued energetically by the plantation research organizations in southeast Asia, notably in Malaya, Indonesia and Indochina. Complementary activity directed to increasing industrial off-take was similarly pursued by their sister organizations in England, the Netherlands and France. Under their auspices much fundamental work, particularly in the colloidal and high polymer fields, was carried out, together with a comprehensive programme of applied and development work. A major development was an increase in the number of experimental road-surfacing trials incorporating rubber, held in the United States, Europe and elsewhere.

TABLE I. WORLD CONSUMPTION OF NATURAL RUBBER, 1950-51
(long tons)

	U.S.	U.K.	France	Germany	U.S.S.R.*	Canada
July	35,478	18,746	9,607	6,447	2,500	2,284
Aug.	36,506	15,649	5,598	6,119	4,000	2,832
Sept.	36,887	19,706	9,560	5,987	11,250	3,179
Oct.	37,407	23,879	11,004	7,071	10,000	3,264
Nov.	35,037	19,249	10,465	6,855	5,000	2,948
Dec.	33,256	15,910	9,983	5,285	1,250	2,940
Jan.	36,776	21,697	10,723	7,883	5,250	2,937
Feb.	34,642	17,710	10,297	7,215	13,750	2,912
March	35,489	17,129	10,702	7,175	20,000	3,015
April	36,364	18,538	9,570	5,721	19,000	2,994
May	36,292	15,997	9,562	6,377	11,750	2,726
June	36,875	14,954	---	—	5,000	2,517

* Estimated net imports

An important conference was held in London under the auspices of the British Rubber Development board and the Institut Français du Caoutchouc, on the use of rubber in railways, with particular reference to its use for pneumatic tyres in the French underground and surface tracks.

Work directed to evolving the simplest and most practicable procedure for the production of technically classified natural rubber proceeded continuously in southeast Asia, Europe and the United States, under the aegis of the International Rubber Research board and the International Rubber Development committee.

The Colwyn and Hancock medals, 1952, of the Institution of the Rubber Industry, London, were awarded respectively to Geoffrey Gee, director of research of the British Rubber

Producers' Research association, and T J Drakeley, director of the National College of Rubber Technology. The death occurred at Wassenaar in April, of P. J. S Cramer. He was an authority on tropical economic botany and the inventor of the testatex instrument and method of detecting inherent high-yielding qualities in rubber plants of nursery age. (G. E. C.)

In the United States the average price of crude rubber in Jan. 1952 stood at about 48 cents per lb. for dry rubber based on the Singapore market, and rapidly settled to about 30 cents per lb at the end of May. There it stabilized and at the end of August the price stood at about 29 cents per lb.

Synthetic Rubber. World production of all types of synthetic rubber for the first six months of 1952 (excluding the U.S S R and satellite countries) was 467,944 long tons, of which the United States produced 427,425 long tons. In the United States the General Services administration removed the limitations on the use of new GR-S rubber on Jan. 1 but retained those on butyl rubber, and on March 8 the Reconstruction Finance corporation announced a 3 cents per lb. reduction in the price of GR-S rubber Congress passed on June 16 a 21-month extension of the Rubber act. This act continued government ownership of the U S. synthetic rubber industry until March 31, 1954, but required the Reconstruction Finance corporation to report by March 1, 1953, to the president and congress on a programme to dispose of the $750 million synthetic rubber industry. The president was required to put this programme into the form of a legislative recommendation by April 1, 1953 This problem of an adequate rubber supply was also considered at length in the report to the president by the President's Materials Policy commission For the fiscal year 1952-53, a sum of $6 5 million was allocated by the government for further research work on synthetic rubber, about 22% below the previous year's budget

During 1952 it was announced that polymerizations run at 122° F. using a class of diazotized aromatic amines, such as the sodium salt of p-nitrophenyl diazonium hydroxide (Nitrazole CF), produced rubbers which were the equal of standard production "cold" (41° F) rubber, thereby eliminating the need for expensive refrigeration equipment.

TABLE II WORLD CONSUMPTION OF SYNTHETIC RUBBER, 1950-51
(GR-S or Buna S, Neoprene, Butyl, Nitrile Rubbers or Buna N in long tons)

	U S	U K	France	Germany	Canada
July	61,419	290	630	337	1,862
Aug	67,260	299	389	340	1,944
Sept	68,460	284	685	365	2,281
Oct	68,923	436	1,036	489	2,369
Nov	65,403	410	985	501	2,388
Dec.	60,421	427	941	388	2,488
Jan	69,430	440	1,058	694	2,528
Feb	65,667	455	1,072	622	2,854
March	68,744	392	1,069	659	3,164
April	67,592	448	1,049	628	3,184
May	66,439	408	1,023	632	3,139
June	65,562	383	--	--	2,683

Interest in Alfin (reaction product of alkyl halide and metallic sodium followed by alcohol digestion) catalyzed polymers was enhanced by the possibility that these very tough, high-molecular-weight low-gel rubbers might constitute a good base for oil extended rubbers. A new type of rubber appeared during the year under the name Hypalon. This was made by treating polyethylene, itself not a rubber, with chlorine and sulphuryl chloride. This treatment resulted in a rubbery polymer which could be milled, compounded and vulcanized. The resulting cured rubber showed excellent resistance to ozone and light. Another new rubbery material under the name Hydropol, still in the experimental stage, was made by hydrogenation of polybutadiene. It could be milled, compounded and vulcanized and hardened at low temperatures, as in liquid nitrogen, but unlike polyethylene at that temperature it was not brittle. (E. B. NN.)

See E C Woods, *Pneumatic Tyre Design* (London, 1952); C. E Schildknecht, *Vinyl and Related Polymers, their Preparation, Properties and Applications in Rubber, Plastics, etc.* (London, 1952)

RUBBRA, (CHARLES) EDMUND DOMINIC, English composer (b. Northampton, May 23, 1901), studied music at Reading university and the Royal College of Music, London, under Gustav Holst and Ralph Vaughan Williams. Rubbra's *First Symphony* was completed in 1937. His orchestral version of the Brahms-Handel variations was performed in 1938 at a Royal Philharmonic society concert under Sir Adrian Boult, and the following year it was given by the Boston Symphony orchestra under Arturo Toscanini. In 1938 his *Second Symphony* appeared and this was followed by *Five Madrigals* (1940), *Third Symphony* (1940), *Sinfonia Concertante* for piano and orchestra (1943) and *Mass for Double Choir* (1946). He served in the army during World War II, but was able to complete his *Fourth Symphony*, which was performed at a London promenade concert in 1942. He was appointed to the staff of the Royal College of Music in Jan. 1946, but in 1947 he left to become a lecturer in music at Oxford university During 1946 his *String Quartet No. 1* was first performed by the Blech string quartet. The *Cello Sonata, Psalms for Low Voice and Piano, Four Mediaeval Latin Lyrics* and *Festival Overture* all appeared in 1947. His *Te Deum*, written specially for the Festival of Britain, was performed for the first time in July 1951.

A recording by the Hallé orchestra under Sir John Barbirolli of Rubbra's *Fifth Symphony*, which had been warmly commended by Sibelius, was issued in Jan 1952 His *String Quartet No 2* was first performed on May 11 by the Griller string quartet and a long-playing record of this work came out in November. His *St Dominic Mass* (1949) was broadcast in October and the *Te Deum* in November Rubbra became the pianist in the Rubbra-Gruenberg-Pleeth trio. His music is distinguished by its contrapuntal skill and richness of texture.

RUGBY FOOTBALL: *see* FOOTBALL.

RUIZ CORTINES, ADOLFO, Mexican statesman (b. in the state of Vera Cruz, Dec. 30, 1891), first rose to national political prominence when he became governor of Vera Cruz in 1944. When Miguel Alemán Valdes was elected president of Mexico in 1946, Ruiz Cortines became one of his most influential political aides and was later appointed minister of the interior. On Oct. 13, 1951, he was nominated by the Partido Revolucionario Institucional (P.R.I.) to succeed Alemán as president. After his nomination he declared that he would continue Alemán's domestic policy of increased industrialization and his foreign policy of close Mexican-U.S. amity. He startled the nation, however, by denouncing one-party government (actually the P.R.I) and official curtailment of the opposition's political liberties. On July 6, 1952, he was elected president by a huge majority, receiving 2,713,419 votes as against 579,745 to Miguel Henriquez Guzman (Federación de Partidos del Pueblo Mexicano), 285,555 to Efrain Gonzales Luma (Partido Acción Nacional, or Catholic) and 72,482 to Vicente Lombardo Toledano (Partido Popular, or Communist). He took office on Dec. 1 for a six-year term.

RULERS: *see* SOVEREIGNS, PRESIDENTS AND RULERS.

RUMANIA. People's republic of southeastern Europe, bounded N. and N.E. by the U.S.S.R., E. by the Black sea, S. by Bulgaria and W. by Yugoslavia and Hungary. Area: 91,671 sq.mi. Pop.: (1948 census) 15,872,624; (1951 est.) 16,094,000. Language (1948 census): Rumanian 85·7%,

Hungarian 9·4%, German 2·2%, Yiddish 0 9%, other 1 8%. Religion (1947 est.): Greek Orthodox 81%, Greek Catholic 9%, Roman Catholic 7%, other 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 (97,292); Galaţi (93,229). Chairmen of the presidium of the Grand National Assembly in 1952, Constantin Parhon and (from June 2) Petre Groza; premiers in 1952, Petre Groza and (from June 2) Gheorghe Gheorghiu-Dej.

History. On Jan. 27 a currency reform was introduced. The new leu was to be tied to the Soviet rouble, " the most stable currency in the world ". Funds of state enterprises, co-operatives and collective farms were to be exchanged at the rate of one new leu to 20 old. Sums in cash and in savings deposits were to be exchanged at rates graded according to the amount. Cash sums of over 3,000 lei were to be exchanged at one new to 400 old, deposits of over 3,000 at one new to 200 old. The effect of the currency reform was to take from the peasants most of their savings.

During the winter the food supplies of the cities had been barely adequate. The drive against *kulaks* and confiscation of stocks of food in the villages had not solved the problem. There were still very few collective farms in Rumania. At the time of the currency reform the " Socialist sector " in agriculture held nearly 13% of the arable land, and this was mostly accounted for not by collective but by state farms. The bad supply position was due to the defects of the administration, in industry as well as in the countryside, as well as to mistaken calculations by the political planners. The Rumanian failures were attributed to *kulak* sabotage, which could not have been so successful had it not received protection in high places. The problem was of such large dimensions that nothing less than a major purge would satisfy the task-masters in Moscow

The first step was the dismissal on March 6 of three assistant ministers of finance. Three days later the minister himself, Vasile Luca, one of the three most eminent Rumanian Communists, was removed from his post. On May 27 both Luca and the minister of interior, Teohari Georgescu, were removed from their positions as vice-premiers. Their places were taken by two veteran trade unionist members of the Politburo, Gheorghe Apostol and Chivu Stoica A statement issued after a plenary session of the central committee, held on May 27-28, declared that Luca had surrounded himself in the Ministry of Finance by enemies of the people. Luca had kept farm prices high in order to enrich the *kulaks* He had failed to provide working capital to industry punctually. He had failed to pay the wage bill in the first half of January, thus depriving the workers of the last instalment of their wages before the currency reform. Georgescu had failed to take measures against Luca's gang of " speculators exploiting the workers and the working peasants." The statement also severely criticized Ana Pauker, until then perhaps the most eminent Communist in Rumania. She was accused of deviating from the party line in agricultural policy She had apparently shown both too little and too much zeal. She was held responsible for the delays in the creation of peasant associations and collective farms. She had also infringed the principle of free consent on the part of working peasants, and allowed force to be used in creating collectives. The statement declared that Luca, Georgescu and Pauker had formed a clique of three within the party leadership, and had co-ordinated their resistance to the party line. Luca was sent before the party control commission, Georgescu was demoted and assigned to salutary work, while Pauker was for the time being allowed to remain in the central committee though no longer in the Politburo. The central committee " agreed to help her to see the origins of her deviations and to admit them fully." On July 5, however, she was removed from her office of minister of foreign affairs and was replaced by Simion Bughici, till then ambassador in Moscow.

The purge of Pauker was surprising, as, far from showing any " nationalist " tendency, she was one of the most servile to Moscow of all the Communists of eastern Europe. It was perhaps her very servility that was her undoing. This, and her Jewish origin, made her even more unpopular than her comrades among the Rumanian public. When economic conditions demanded a scapegoat, Moscow chose the most unpopular person available, regardless of former services. Luca's Jewish origin also made him particularly vulnerable, while Georgescu, as the minister responsible for the police, was detested by all. It was more advantageous for Moscow to conduct its exploitation of Rumania through Gheorghiu-Dej, the remaining leader, who was a " pure Rumanian " and had not lived in exile in Moscow, than through Pauker and Luca.

Gheorghiu-Dej's authority was increased on June 2, when he assumed the premiership. Groza, who for seven years had held the title but not the powers of premier, became chairman of the presidium of the National Assembly, while the former chairman, Parhon, retired.

On July 18 the press published the text of a new draft constitution Its main significance was as a statement of the political and social principles of the régime From this point of view it marked one more stage towards the Soviet model The constitution of 1948 already introduced institutions closely copied from those of the Soviet Union The new constitution made few changes of substance, but its language was more thoroughly Stalinian The main specific innovation was the establishment of a Hungarian autonomous region, with its centre at Târgu Mureş, and comprising the Székély counties in the southeast corner of Transylvania, whose population was almost exclusively Hungarian. On Sept 24 the new constitution and the following day the new electoral law were unanimously approved by the National Assembly. New elections were held on Nov 30. (*See* ELECTIONS.)

The most striking event in the industrial field was a trial for sabotage, held at the end of August, of engineers engaged in the construction of the Black Sea-Danube canal. The accused persons confessed that they had been under the influence of the U.S. espionage service, though neither they nor the prosecution claimed that they had ever been in contact with U.S. agents.

From March onwards large-scale deportations took place, first from Bucharest and then from other cities. The victims were mostly members of the former middle class. (*See* also EASTERN EUROPEAN ECONOMIC PLANNING.) (H S -W.)

Education. Schools (1950-51) elementary c 14,000, pupils 1,795,000, secondary and technical, pupils 323,000, institutions of higher education 11, students 57,000 Illiteracy (1951) 10 6%

Agriculture. Main crops ('000 metric tons, 1934-38 average, latest estimates in brackets): maize 4,032 (1948, 5,279), wheat 1,965 (1948, 2,600), barley 596 (1947, 360), oats 528 (1946, 280), rye 165 (1947, 66), potatoes 2,007 (1949, 1,090) Sugar, raw value 988 (1951, 110) Wine production (1938) 9,924,000 hl , (1951) 4,000,000 hl Livestock ('000 head, 1939, latest estimates in brackets) cattle 3,494 (1950, 4,950); pigs 2,296 (1950, 2,300), sheep 9,767 (1948, 7,088), horses (1948, 939) Wool production, greasy basis (1934-39 average) 24,166 metric tons

Industry. Persons employed in industry (Oct 1947) 462,300 Fuel and power ('000 metric tons, 1938, 1950 est in brackets) coal 299 (264), lignite 2,097 (3,150), crude oil 6,594 (4,360), natural gas (million cu m) 1,860 (3,300), electricity (million kwh) 568 (1,033) Raw materials ('000 metric tons, 1938, 1950 est in brackets) pig iron 133 (190); steel ingots and castings 277 (270), lead 6 4 (6 0), zinc 4 0 (3 8); cement 532 (740)

Finance. Budget (million old lei, 1951 est.) revenue 433,900, expenditure 429,900, (million new lei, 1952 est) revenue 32,108, expenditure 30,608 including 16,101 invested in the national economy Monetary

unit *leu* (pl *lei*) revalued on Jan 28, 1952, with official exchange rates of L 2 80 = Rb 1 00 (as compared with the previous exchange rate of L 37 40 = Rb 1 00), £1 L 31 36 and $1 00 L 11 20

Foreign Trade. (Million U S dollars, f o b, 1938; 1950 in brackets) Imports 125 (213), exports 160 (239) Main sources of imports (1950) U S S R. 49%, Czechoslovakia, Poland, Hungary and Bulgaria 33 3% Main destinations of exports U S S R 58 2%, four eastern European countries 30 4%

Transport and Communications. Roads (1945) 43,163 mi, including 1,150 mi modernized in 1947 Licensed motor vehicles (Dec 1950) cars 14,000, commercial 12,000 Railways (1949) 7,363 mi Shipping (1948) merchant vessels 15, net registered tonnage 32,962 Telephones (1950). 135,000 Radio receiving sets (1949). 226,000

RUSSIA: *see* UNION OF SOVIET SOCIALIST REPUBLICS.

RUSSIAN LITERATURE. Criticism and self-criticism were particularly severe in the field of literature in 1952. Soviet writers were put in the dock during the Communist congresses of the 16 federated republics in September and were further reprimanded from the rostrum at the 19th Congress of the Communist Party of the Soviet Union (Moscow, Oct. 5-14).

The party continued to level the same reproaches at these "engineers of the spirit": they were not deriving sufficient inspiration from "Soviet reality" or from the great achievements of the era of Stalin, they were idealizing the past, committing all kinds of ideological errors and lapsing into "bourgeois nationalism"; too many publications were commonplace or badly written or failed to respect "the truth of life", novels and plays gave a one-sided and stereotyped view of present Soviet society; too much concerned with technique, authors were forgetting man and neglecting to portray the conflicts and contradictions of his soul, the struggle taking place between the old and the new and between routine and progress *Pravda* (in an article of April 7 on "The Backwardness of Drama") declared for the first time in recent years that there was room for satire in the country of socialism and launched a slogan that received much attention from the Soviet writers' unions: "We need Gogols and Shchedrins!"

The Stalin Prize jury emphasized this absence of good work: in March it found no play that deserved a first prize, and it awarded only one first prize for poetry (to Nikolay Tikhonov) and two for novels (to S. Zlobin for his historical *Stepan Razin* and to the Latvian author V. T. Latsis for his *To the New Shore*). As Soviet authors fell short, the jury had for the first time to reward foreign writers, including the French Communist André Stil, a Hungarian and a Chinese.

Meanwhile the novels that got most praise from the party were: *The White Birch Tree*, by Mikhail Bubennov (the second volume of a work on the Patriotic war, covering the period between the checking of the Germans before Moscow and the Red army's victorious counter-offensive); *The Ninth Wave*, by Ilya Ehrenburg (a sequel to *Storm*, a vast survey of European history 1948-51); *Bells of the Evening*, by Nikolay Virta (on Russian workers and peasants, showing how their revolutionary feelings were aroused at the beginning of the century); *Our Summer*, by Elena Uspenskaya (on student life); *The Zhurbins*, by V. Kochetov (on workers' life in a naval shipyard); *Birth of a Sea*, by Konstantin Paustovsky (the first novel on the artificial lake of Tsymlyansk and the building of the Volga-Don canal), and *The Metalworkers*, by A. Bylinov (which readers in a Moscow factory found too technical and boring, according to the *Literaturnaya Gazeta* of Sept. 13).

Pravda's article on the bad state of the drama called forth many articles in newspapers and periodicals and even controversies between writer and writer on the pernicious theory that there were no conflicts in Soviet society. This theory was made to take the blame for the stagnation of the theatre, and lively argument ensued when a woman writer, in an article of April 15 in the *Literaturnaya Gazeta*, demanded that love be restored to the Soviet stage.

More than 300 writers from all parts of the U.S.S.R. attended a conference on children's books (April 14-18). It was shown that there were about 250 writers for children and that since 1918 more than 39,000 works had been published, with a world total of 16,000 million copies printed. The most popular writer, Samuil Marshak, had had 23 million copies of his books printed, and they had been translated into 62 languages.

Works of literary history included: *Gogol*, by Prof. V. Yermilov, *Nikolay Dobrolyubov*, by V. Zhdanov (a work on the 19th-century democratic writer), *A History of 18th-century Russian Literature*, by D. Blagoy; and some new books on Maxim Gorky, including A. Volkov's *Maxim Gorky and the Literary Movement at the End of the 19th and the Beginning of the 20th Century*.

Anniversaries celebrated in the U.S.S.R. included the 100th of Nikolay Vasilyevich Gogol's death and of the Siberian novelist Mamin-Sibiryak's birth, the 140th of Alexander Herzen's birth, the 150th of Alexander Radishchev's death and the 50th of Gleb Uspensky's death; also the 150th of Victor Hugo's birth and the 50th of Emile Zola's death. The year was moreover the centenary of the publication in book form of Ivan Turgenev's *Sportsman's Sketches*.

Writers who died in the course of the year were: the poet Vladimir Zamyatin, the Siberian novelist F. Berezovsky, the aged S. Basov-Verkhoyantsev, a satirist of the tsar's time, Mikhail Morozov, an authority on Shakespeare and the chief editor of the English-language periodical *News*, and the novelist and playwright T Shchepkina-Kupernik, who had begun writing 60 years before Russian literature in exile also lost a popular woman writer Nadezhda Teffi, who died in Paris at the age of 80. (A. PR)

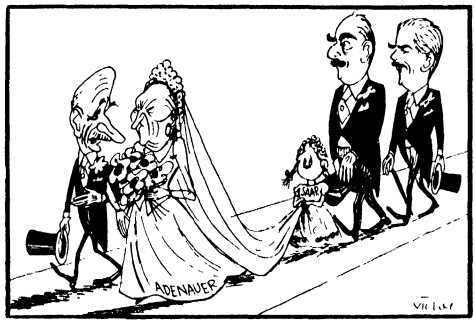
RYE: *see* GRAIN CROPS

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. Religion: Roman Catholic 75%, Protestant 24% Capital: Saarbrucken (pop, 1939 est.) 135,000, (June 1947 est.) 97,752 High commissioner of the French republic, Gilbert Grandval; prime minister, Johannes Hoffmann.

History. During 1952 the Saar became the hinge of Franco-German relations. On Jan. 27 Grandval, high commissioner in the Saar, became French ambassador to Saarbrucken. Although following logically from the conventions of 1950 the change caused an uproar in Germany where it was regarded as a French attempt to make permanent the political autonomy of the Saar. This autonomy made possible the economic union of the Saar with France upon which the French insisted as a condition of their participation in the Schuman plan, for only with the Saar mines and foundries did they feel that their own heavy industry could sufficiently counterbalance that of western Germany.

Elections to the Saar Landtag fell due not later than Dec. 1952, and the Germans and pro-German Saarlanders hoped to make them into a pro-German demonstration against the autonomous régime. To prevent this, the existing Landtag passed a law on March 17 forbidding the existence of political parties, such as the Democratic party (D.P.S.) suppressed in 1951, which were disloyal to the autonomous constitution.

Although the Saar Socialist party (S.P.S.) had left the Saar government in 1951, it seemed less and less able to retain support. In April the Saar T.U.C. elected as its president a miner named Paul Kutsch, a rebel against the S.P.S. In May and August important groups of Socialists seceded, forming themselves into a new German Socialist party (D.S.P.) closely associated with the Social Democrats



Vicky's cartoon "Of course, you'll have to say 'and obey', dear" which appeared in the "News Chronicle" (London), Feb 19.

in Germany. On Sept. 7, with the possibility of imminent elections which the Germans now wished to postpone, the S.P.S. published a fresh programme attacking the Franco-Saar conventions and declaring against tariff and passport barriers between the Saar and Germany. After this the S.P.S. seemed to recover ground.

The D S P. and a new pro-German Christian Democratic union (C.D U.) founded in the Saar in June more than once applied unsuccessfully to the minister of the interior for registration as parties. The Germans therefore complained to the Council of Europe that human rights were not respected in the Saar, but the complaint was rejected on Sept. 15.

The best hope for an agreed solution of the Saar dispute seemed to be to Europeanize the Saar territory within the European Coal and Steel community of which France suggested that Saarbrucken should become headquarters After abortive discussions in March, Franco-German conversations on the Europeanization of the Saar began on July 25 in Paris and continued at intervals until their break-down at the end of October. At this point the Saar government announced that the elections would be held on Nov 30. On Nov. 26 the French government announced its willingness to consider the revision of the unpopular conventions. From Germany came exhortations either not to vote or to spoil the voting-papers.

On Nov. 30, 579,331 (or 93%) out of a possible 621,948 voters voted. Of these 24·4% spoiled their papers. The rest voted as follows:

Christian People's (or government) party (C V P)	239,383	54 9%
Socialist Party of the Saar (S P S)	141,855	32·4%
Communists (K P)*	41,346	9·4%
Democratic People's party (D V P)	14,744	3·3%

* The Communists took a pro-German line and probably increased their strength only for this reason.

Thus Johannes Hoffmann remained prime minister with a C.V.P. cabinet. (E. WI.)

Economy. Production in thousand metric tons

	1936-38	1950	1951	1952
Pig iron	2,280	1,692	2,368	2,552
Steel	2,418	1,896	2,598	2,823
Coal	12,500	15,096	16,281	16,078
Cement	218·4	207 6	233 2	216 0*
Gas (million cu m.)	—	1,320	1,510	1,560*
Electricity (million kwh)	1,260	1,500	1,722	1,740*

* Estimate

See Frank M Russell, *The Saar. Battleground and Pawn* (Stanford, California, U.S., 1951).

ST. CHRISTOPHER: *see* LEEWARD ISLANDS.

ST. CROIX: *see* VIRGIN ISLANDS.

SAINT HELENA. British colony in the South Atlantic with dependencies of Ascension (34 sq.mi.; pop. 1946 census, 292; 1951 est., 170) and Tristan da Cunha (38 sq mi incl. islets, pop. 1951 est., 270). *Colony:* area 47·3 sq.mi.; pop. (1951 est.) 4,700. Language: English. Religion: Christian (90% Anglican). Capital: Jamestown (pop. 1,547). Administration: governor; executive council; advisory council. Governor, Sir George Joy.

History. The new British company which had taken over the hemp industry in 1951 adopted a policy of land conservation and agricultural reform. The price of hemp fell from £170 to £63 a ton and much of the season's crop could not be sold; some mills had to close and unemployment resulted. In Tristan da Cunha the new crawfish canning industry had a difficult 1951 season but improvement took place early in 1952 and prospects were hopeful. The island now had a doctor, a nurse and an agriculturalist as well as an administrator, and its own stamps (those of St. Helena overprinted). (K. G. B.)

Education. Schools (1951) 11 primary and 1 secondary (total attendance 1,251), 1 domestic science centre

Finance and Trade. Currency sterling Budget (1952 est.) revenue £116,139, expenditure £116,139 Foreign trade (1951) imports £163,605, exports £241,537 (mostly flax, of which 1,130 tons was produced) Livestock 2,780 sheep, 2,216 goats, 996 cattle, 7,205 poultry

ST. JOHN: *see* VIRGIN ISLANDS.

ST. KITTS-NEVIS: *see* LEEWARD ISLANDS

ST. LAURENT, LOUIS STEPHEN, Canadian statesman (b. Compton, Quebec, Feb 1, 1882), was educated at St Charles college, Sherbrooke, and at Laval university, Quebec. He was called to the bar at Quebec in 1905 and practised until W. L. Mackenzie King called upon him on Dec. 10, 1941, to be minister of justice and attorney-general. From Sept. 4, 1946, he was also secretary of state for external affairs, but on Dec. 10, 1946, relinquished the portfolio of justice. He was elected member for Quebec East on Feb 9, 1942, and re-elected in 1945 and 1949 In Aug. 1948 the Liberal party elected St. Laurent to succeed Mackenzie King as its leader, and he became the 17th prime minister of Canada on Nov. 15, 1948. He attended the meeting of Commonwealth prime ministers in London in Jan 1951 On Dec. 3, 1951, he announced the signing of an agreement between the federal and Ontario governments for the development of the St. Lawrence seaway, on June 30, 1952, he announced that the government had applied to the International Joint commission for approval to start work on the seaway. On Feb. 6, 1952, St Laurent and his ministers swore allegiance to Queen Elizabeth II. On Sept. 8 it was announced that he would lead the Liberal party in the next federal general election. He attended the opening of the parliamentary session, Nov 20, and on Nov. 25 left Canada to attend the meeting of Commonwealth prime ministers in London. He returned to Ottawa on Dec. 12. During the year he welcomed to Ottawa Winston Churchill (*q.v.*) in January, Queen Juliana of the Netherlands in April and R. G. Menzies (*q.v*) in June.

ST. LUCIA: *see* WINDWARD ISLANDS.

SAINT-PIERRE AND MIQUELON. Eight small islands off the south coast of Newfoundland, a French overseas territory. Area: 93 sq.mi. Pop. (1945 census): 4,354. Language: French. Religion: Roman Catholic. Chief town, Saint-Pierre (pop., 1945, 3,636). Administrator, Irénée Darier.

History. A new General Council took office; the retiring senator was re-elected.

The Société de Pêche et de Congélation, which had been founded with state aid, was made responsible for the

cold-storage plant Some of the frozen fish was to be sold in North America Progress was made on the fur farms. A seal-hunting company was founded. Thanks to regular services by sea to and from Newfoundland, about a thousand tourists were able to visit the islands.

A specialist in lung surgery was put in charge of the campaign against tuberculosis.

Education. Pupils (1952) primary 1,067, secondary and technical 118. Bursaries in France 11.

Finance. Budget (1952 est.) balanced at Fr C F A 330 million Monetary unit the franc of the Colonies Françaises d'Afrique is used, franc C F A = metropolitan franc 2

Foreign Trade (1951, million francs C F A.) Imports 410 (incl 108 from France and 220 from Canada); exports 128 (incl 75 to the Antilles), mainly cod 98, silver fox skins 4

Communications (1951) Ships entered 163 (HU. DE.)

ST. THOMAS: *see* VIRGIN ISLANDS.

ST. VINCENT: *see* WINDWARD ISLANDS.

SALVADOR, EL. Republic on the west coast of Central America Area: 13,176 sq.mi. Pop. (1950 census) 1,858,656. Aboriginal and mixed races, *ladinos* and *mestizos*, constitute the bulk of the population. Language: Spanish. Religion: Roman Catholic. Chief towns (pop., 1950 census): San Salvador (cap., 160,380), Santa Ana (51,676). President, Lieut.-Colonel Oscar Osorio.

History. In elections in 1952 for a new National Assembly in May, the government's Revolutionary party was unopposed. More than 700,979 votes were cast. Progress continued to be made on the government's economic and administrative reform programme. A new income tax measure which entered into force at the beginning of the year established levies up to 44% on incomes higher than 150,000 colónes and provided for a 5% tax on profits of all locally domiciled businesses. (G. I. B.)

Education. Schools (1950) primary 1,832, teachers 4,840, pupils 145,226, secondary 99, pupils 7,231 National university, students 1,120, professors and lecturers 147

Agriculture. Coffee production (1950-51 season) 1,111,855 bags of 132 lb each, coffee exports 1,086,214 bags, most of which went to the U S Main crops (1950-51) sesame seed 4,600 tons, maize 156,000 tons, cotton, ginned 6,500 tons, tobacco (1951-52) 1,900,000 lb Exports of balsam, of which El Salvador is the chief source, were 152,000 lb in 1951. Livestock (1950, '000 head est.) cattle 800, pigs 350, sheep and goats 22

Industry. (1951) gold 27,100 troy oz., silver 351,800 oz Centrifugal sugar production (plantation) 1950-51 29,000 short tons.

Finance (million colónes) Budget (1952 est.) balanced at 132 5 Public debt, external (Dec 31, 1951) 23 8 Currency in circulation (Sept 30, 1952) 80 3 Monetary unit *colón*, with an exchange rate of 2 5 to the U S dollar, and 7 to the pound sterling

Transport and Communications. Railways (1950) 385 mi., all narrow gauge; passengers carried 3,403,261, freight carried 458,760 short tons Roads (1950) 1,693 mi., of which all-weather 934 mi

SALVATION ARMY. Towards the end of 1951, General Albert Orsborn, leader of the Salvation Army, issued a call to Salvationists in all parts of the world to make 1952 a year of increased evangelistic effort, in view of the mounting tensions in the world, the gravity of the problems with which many nations were faced, and the general decline in religious faith and practice. The call was given effect in what was known as the "Midnight Cry" campaign. This started on the eve of the new year with watch-night services held in practically every centre in every country in which the Salvation Army was operating. No general assessment of results was possible before the end of the year, but reports indicated that in many parts of the world there had been a very considerable measure of success.

In the course of the year the last of the Salvation Army's officers in China from overseas were withdrawn in accordance with the requirements of the Chinese People's government that Christian churches and missions in China should be self-governing, self-propagating and self-supporting. Although the continuance of the war in Korea meant that Salvationists there were still faced with great difficulties, progress towards recovery was maintained. Korean Salvationists, largely by their own labour, rebuilt a considerable number of halls that had been destroyed. Apart from the fact that his name appeared on the official list of civilian prisoners, there was still no definite news of Lieut.-Commissioner H. A. Lord, the Salvation Army's leader in Korea, who was taken prisoner soon after the war started.

In the early part of the year General Orsborn undertook a 30,000-mi. tour, primarily for the purpose of conducting campaigns and inspecting work in Canada, the United States, the Hawaiian Islands and Japan. This was the fifth extensive tour undertaken since he became the Army's leader in 1946. At dawn on Easter day he spoke at the annual sunrise service in the Hollywood Bowl, California, to a visible audience of 20,000 and an estimated radio audience of 90 million—probably the largest number of people ever addressed by a Salvationist at one time. In Washington he was received by President Truman, and in Tokyo by the emperor of Japan.

In May, the Salvation Army's premier band—the International Staff band—flew from England to Canada for a memorable month's tour in connection with 70th anniversary celebrations of the beginning of Salvation Army work in that land. Most of the more important cities and towns, from Halifax to Vancouver, were visited.

The progress of the Salvation Army's various organizations for young people continued to be one of the most promising and encouraging features of its work. Of special interest was the first international Motondo for boy scouts from Salvation Army sponsored groups. The word *Motondo* comes from the Belgian Congo, where it is used by Salvationists for large thanksgiving gatherings. The scouts' Motondo was held in August at Lunteren in the Netherlands, and was attended by nearly 600 scouts from 15 countries. Queen Juliana visited the camp.

A notable book published in 1952 was a biography of Hedwig von Haartman, pioneer of the Salvation Army work in Finland. Written by Helmi Gulin, wife of the bishop of Tampere, it was published simultaneously in Finnish and Swedish (W. H. A.)

See Gustave Isely, *First Called Christians* (London, 1952).

SAMOA, AMERICAN: *see* PACIFIC ISLANDS, U.S.

SAMOA, WESTERN: *see* NEW ZEALAND; TRUST TERRITORIES.

SAN MARINO. 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. (June 30, 1951, est.): 12,969. Language: Italian. Religion: Roman Catholic. San Marino is governed by two *Capitani Reggenti* appointed every six months by a Grand and General Council of 60 members elected by universal suffrage every four years.

History. On Feb. 5, 1952, the government asked the U.K. government to settle a claim for £420,000 in compensation for war damage caused in June 1944 by an air raid allegedly carried out by the R.A.F. On June 3 the British Foreign Office, through its vice-consul at Florence, sent a reply denying any British responsibility, but offering an *ex gratia* payment of £26,000 to be accepted by July 3. On June 25 the regents Domenico Morganti and Mariano Ceccoli wrote directly to Queen Elizabeth, in Latin, protesting against the £26,000 offer as "mortifying and inadequate". On Aug. 21 the Foreign Office replied that although the *ex gratia* offer of £26,000 had lapsed, the Sammarinese government could apply for it again if they wished.

Luigi Gozi, San Marino's treasurer, revealed on July 3 that the republic's deficit amounted to L. 500 million (about £285,700). It was also reported that civil servants were not paid for 15 weeks.

On April 18 the *Neue Zürcher Zeitung* reported that the legations of the European people's democracies to San Marino were each 10-20 members strong and included military *attachés*.

Finance. Budget (1951-52 est.). provisionally balanced at L.570,411,538

SÃO TOMÉ: *see* PORTUGUESE OVERSEAS TERRITORIES.

SARAWAK: *see* BRITISH BORNEO.

SAUDI ARABIA. Independent Arab kingdom covering three-quarters of the Arabian peninsula. Area: *c.* 597,000 sq.mi. (excl. Rub al-Khali desert covering *c.* 193,000 sq.mi.). Pop. (no census ever taken; 1950 est.) 6 million. Chief towns: Riyadh (cap., 60,000); Mecca (150,000); Medina (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, the king's second son

History. In January King Ibn Sa'ud addressed King Farouk and Mustapha Nahas (then the Egyptian prime minister) suggesting means for the solution of Anglo-Egyptian differences, later Saudi Arabia, as a member of the Arab league, ratified the Arab security and economic pact.

In February the Arabian American Oil company (Aramco) announced that it was transferring its operating headquarters from New York to Dahran in Saudi Arabia. The output from the company's oilfields in the Hasa province, which had been stepped-up to offset the loss of supplies from the Anglo-Iranian oilfields after June 1951, was maintained in 1952 and showed an increase over the 1951 production figures of about 25%. In September a Saudi Arabian official took part in the occupation by armed tribesmen of the Baraima settlements. Later the British government on the request of the sultan of Muscat, who claimed sovereignty over the settlements, took the matter up with the Saudi Arabian government

In July the Saudi Arabian government set up an official monetary agency in Jedda Its objects were to strengthen and stabilize Saudi Arabian currency and to fix its foreign exchange rates, and to help the finance ministry by centralizing government receipts and by controlling budget expenditure. Its authorized capital of 500,000 gold sovereigns was to be provided by the government and its board of control would be appointed by the king on the nomination of the minister of finance. It was announced in August that George A. Blowers, a U.S. finance expert, had been nominated as its first governor.

In May it was announced that the king had ordered that the existing railway from Damman on the Persian gulf to Riyadh, the capital (556 km., which were covered in 9 hr.), should be extended westwards from Riyadh to Medina and on to Jedda. The extension would be of 1,200 km. Construction, it was estimated, would take four years. This Trans-Arabian service was expected considerably to assist pilgrim traffic from the far east.

Other projects announced during 1952 included an irrigation scheme using surface water in the Yanbo district of Hejaz, and the exploitation of newly discovered wells in central Arabia to supplement the water supplies of Riyadh. A tannery was to be erected in Jedda under British management. (O. Tw.)

SCANDINAVIAN LITERATURE. Norway. There was a trend in Norwegian literature during 1952 from radicalism towards romanticism, but the two opposing schools of thought did not engage in open conflict. On the other hand the language dispute, which had been smouldering for some years, flared up and led to a breach in the Norwegian Authors' society, 21 authors resigning. This dispute arose from a movement to replace the traditional Danish-influenced language, *riksmålet*, by *nynorsk*, based on the country dialects. Attempts by a state committee to amalgamate the two into *samnorsk* were not successful and the position was still so confused that many authors did not know which language to write in.

An interesting novel was *Før hanen galer*, the point made by the author—Jens Bjørneboe—being that there is hope for a ruffian but not for a cold intellectual. In *Piken og fuglen* the young Finn Carling continued in his experimental style and Erik Vendel's first novel, *Tornerose er våken i natt*, was a skilful blend of satire and naive romance about the adventures of a British secret service agent in an imaginary European country very like Scotland. Johan Falkberget, several times mentioned as Norwegian candidate for the Nobel prize, completed his trilogy *Nattens brød* with the eagerly awaited third volume, *Johannes*. Solveig Christov's best novel to date was *Torso*, and Ernst Orvil, with his original, often bizarre, style and insight into feminine psychology, published *Leken går videre*.

Four outstanding volumes of short stories were *Vindane*, by Tarjei Vesaas, *Noveller om kjærlighet*, by Johan Borgen; *Jeg er like glad, sa gutten*, by Agnar Mykle and *Både vinter og vår*, by Nils Johan Rud Sigurd Hoel produced a collection of essays and articles on current topics and Carl Keilhau's new collection of poems was called *Vi kan ikke flykte*

Sweden. Two good novels about women by women were *Den långa vintern*, by Lise Drougge, and *Kvinnohuset*, by Ulla Isaksson; Sigfrid Siwertz, in his usual polished style, wrote *Glasberget*, *Sommarvaka* was a novel with a country setting by a promising writer, Sigvard Mårtensson, and a Swedish translation appeared of *Atomstationen*, by the great Icelandic writer Halldór Kiljan Laxness. *Skepparhistorier av mig sjalv och andra* was a book of sailors' yarns by the masterly humorist Fritiof Nilsson Piraten.

The doyen of Swedish poets, Bo Bergman, published *Stunder*, and Hjalmar Gullberg's first collection of poems for ten years appeared, *Dodsmask och lustgård*, other noteworthy poems were *Hemliga slagfalt*, by Johannes Edfelt, and *Narren*, by Lars Forssell Some delightful essays by Goran Schildt were called *Daphne och Apollon*.

Denmark. Perhaps the most noteworthy book in 1952 was the large illustrated work by Martin A Hansen, *Orm og Tyr*, a description of Denmark's culture in antiquity and the middle ages. H. C. Branner published the text of his play, *Søskende*; Aage Dons wrote a novel about a woman who is confronted with her past during a visit to Tunis, *Afskedsgaven*; and another woman fights to overcome a crisis in her life in the much-praised *Den Sommer på Bella Vista*, by Karen Enevold William Heinesen chose the Faroe Islands as a setting for *Moder Syvstjerne* and Harry Søiberg's childhood town of Århus was the scene of *Paa vej mod tiden*. *Paradisets Børn*, by Preben Hovland and *Paraplyen* (short stories) by Tove Ditlevsen, won great praise, as did the latter writer's love poems, *Kærligheds digte*. Two books also appeared by Johannes Wulff: poems published on his 50th birthday, *Dørene*, and an account of a cat's life on a farm and its conversations with animals and humans, *Katten, der fik Feber*. One of the most widely read poets of the young generation, Ole Wivel, published *Maanen*. (A. L. BLR.)

SCHUMAN PLAN: *see* EUROPEAN COAL AND STEEL COMMUNITY.

SCOTLAND. Part of the United Kingdom of Great Britain and Northern Ireland. Area· 30,400 sq mi. Pop. (1951 census): 5,095,969. Scotland has its own legal system, and the secretary of state for Scotland, a United Kingdom minister, is responsible for the agriculture, education, health and home departments and shares responsibility for certain services organized on a United Kingdom basis. Secretary of state, James Stuart.

History. The setting up of a royal commission on Scottish affairs was one of the major events of 1952 in Scotland. Under the chairmanship of the Earl of Balfour the commission was appointed " to review with reference to the financial, economic, administrative and other considerations involved, the arrangements for exercising the functions of Her Majesty's Government in Scotland ". The decision to set up the commission followed the publication of the report of Lord Catto's committee on the financial and trade statistics of Scotland. This committee found that while it would be practicable to make a return of Scottish revenue and expenditure and of the balance available for general expenditure, it was not practicable to prepare a return of Scotland's share in the external trade of the United Kingdom or of Scotland's balance of payments Another report which aroused much attention during the year came from a committee under the chairmanship of Professor A. K Cairncross of Glasgow university which reported to the Scottish Council (Development and Industry) This committee enquired into the distribution of industry throughout Scotland and one of its main recommendations was that the government should have power to contribute toward the cost of building factories in any part of the country where conditions justified this step, and not only in the development areas.

Industry in Scotland suffered, particularly at the beginning of the year, from a shortage of raw materials, notably steel, and the number of unemployed increased, during the summer however, both home and export trade revived and the working of short time, which had been considerable in earlier months, almost disappeared As part of Great Britain's rearmament programme, government departments placed in Scotland a considerable volume of work on tanks and other vehicles, clothing, radio equipment, aero-engines and ships

In October the Duke of Edinburgh opened the 66,000-kw Fasnakyle generating station, part of the North of Scotland Hydro-Electric board's Glen Affric scheme With other schemes already in operation, the capacity of new hydro-electric plant commissioned by the board now exceeded 300,000 kw., while schemes under construction would add a further 320,000 kw. in the next few years. By the end of 1952 the board's services were connected to 50% of the potential new consumers in its area. There were now 18 hydro-electric, 2 steam and 21 diesel stations in full or partial operation. A number of diesel stations were reduced to emergency duty as hydro-electric plant was brought into operation.

Several forestry surveys were in hand, the most important being in the Spey valley. These were being undertaken jointly by the Department of Agriculture and the Forestry commission, and new surveys were begun in Skye, in eastern and central Sutherland, and in the Gairloch district of Rossshire. Land acquired for the secretary of state by the Forestry commission amounted to 103,400 ac.—more than twice the area of that acquired in the previous year—of which 25,480 ac. were scheduled as plantable. The total area planted, including felled woodlands re-planted, was nearly 27,000 ac., as compared with 24,000 ac. in the previous year. More than 4,000 workers were employed. The commission completed 206 new houses in 1952.

While notifications of respiratory tuberculosis were still many more than before World War II, they were considerably fewer than in 1949 The death rate was much lower, 37 per 100,000, as compared with 66 in 1948 and 54 in 1939. More hospital beds were available than ever before. Housing progress was shown by the number completed in the first nine months of 1952—21,826, which was 35% greater than the number completed in the same period of 1951. New towns were being developed at East Kilbride, Lanarkshire, and at Glenrothes, Fife. The former was intended to have a population of 45,000 and would relieve congestion in Glasgow; a large proportion of these householders would be employed in new industries in the town itself. The new town at Glenrothes was being built for about 18,000 inhabitants, and would provide houses for workers at the new pit at Rothes.

A particularly successful summer herring fishing season resulted in 60% more herring being landed in Scotland than in the summer of 1951; this meant a 50% rise in gross earnings. Very much larger quantities of herring went to reduction factories for conversion to oil and meal. Although white fish landings in the first half of the year were about 4% higher than in the same period of 1951, the value of the catch was nearly 5% lower. The white fish subsidy continued to be paid for fish caught in inshore, near and middle waters

(D. ME.)

National Movement. During 1952 the national movement in Scotland began to take on the semblance of a considerable political force In Oct 1951 the two leading nationalist organizations, Scottish convention and the National Covenant committee, combined as the Scottish Covenant association with the avowed intention of setting up an effective organization in all Scottish parliamentary constituencies The Covenant association reasserted that it did not intend to become a rival political party and that its ranks were open to members of all parties, but the fact that its organization was to be based on the constituencies was interpreted in many quarters as an indication that the movement might at some future date challenge the two major parties.

In the 12 succeeding months associations were set up in nearly all the constituencies and while nothing so spectacular as the signature of the Covenant by 2 million electors was achieved a large number of active and enthusiastic members was enrolled By Oct. 1952 the association felt itself strong enough to take a further significant step in the development of its policy. A new document known as the Scottish declaration was launched for public signature It pledged its signatories to vote in parliamentary elections against any government which had failed to take steps to secure the establishment of a Scottish parliament. The declaration was aimed specifically at the 20 marginal parliamentary seats in Scotland and while it was not known to what extent it was being subscribed there was no doubt that it might have a considerable influence in parliamentary elections.

In fulfilment of an election pledge given in response to the pressure of the Covenant movement before the general election of 1951 the government in July 1952 set up a royal commission " to review, with reference to the financial, economic, administrative and other considerations involved, the arrangements for exercising the functions of her majesty's government in Scotland and to report."

The royal commission had not held any public sittings by the end of 1952, but an invitation had been issued to all public bodies in Scotland to submit evidence and it was understood that already there had been a wide response. It was not clear whether the commission would interpret its terms of reference widely enough to permit the examination of claims for a measure of legislative self-government, but such claims would undoubtedly be submitted, along with many demands for further administrative and economic devolution.

The arrangements made by the government shortly after its election for facilitating the handling of Scottish business on the administrative level appeared to have worked satisfactorily and it was likely that they would be followed by any succeeding government They involved the appointment of an additional minister of state with cabinet status to act with the secretary of state for Scotland, as well as the appointment of an additional under secretary of state for Scotland and the clearer demarcation of the ministerial functions of each of the three under secretaries of state. A position had, therefore, been created in which, apart from Treasury control, Scotland had, in miniature, a complete governmental machine The question which was expected to be in the forefront of all public discussions during 1953 was whether that machine should be controlled and financed by a Scottish legislature or should continue to operate as a kind of branch office from London. (J. M. MacC)

SCULPTURE. No startling new tendency in sculpture emerged during 1952, though activity and public interest in that art were considerable All the customary styles, ranging from academic work to iron sculpture, found their protagonists. The acknowledged leaders of the advanced wing of the modern movement, Alberto Giacometti, Henri Laurens, Marino Marini and Pablo Picasso, retained their position; Jacques Lipchitz returned to Europe from the United States Much interest was aroused by the position of Jacob Epstein who received a welcome retrospective exhibition at the Tate gallery, London His most recent work, the *maquette* for the large scale "Madonna and Child" for the Convent of the Holy Child Jesus in Cavendish square, London, indicated that Epstein was continuing his attempt to convey general ideas in sculptural form If this was not to be rated as one of his most successful works, the exhibition as a whole stressed that he remained one of the most powerful of modellers. In particular his sculpture of Negroes demonstrated his solid appreciation for richly contrived figures, as well as his affection for firmly worked material

Henry Moore showed dissatisfaction with the plain statement of fact and a determination to reveal some of the inner meanings of existence, though he made no important contribution during the year It was apparent in his art that he wished to enliven the ponderous forms of his human figures by an examination of some of the passions that direct existence His sense of the evil within nature which had appeared of late, related him to the painter, Francis Bacon This trend lay less in the route of the now fashionable realism, and more towards symbolism. Nowhere was this symbolical style clearer than in the work of the younger British sculptors, who won a considerable reputation at the Venice *Biennale*.

Although men such as Lynn Chadwick, F. E. MacWilliam, Reg. Butler, Kenneth Armitage and William Turnbull proceeded along different paths, certain similarities of style and approach were noticeable. All these sculptors owed allegiance to Picasso, and to S. Gonzalez, Giacometti and Alexander Calder. They tended to avoid the treatment of the human form in the round, and to fasten on its outline. Their favourite media proved to be iron, stone, wood and wire. With a few exceptions they avoided the monumental, concentrating on small figures or constructions, which rarely yielded pleasure to the touch. Their statements were linear rather than colouristic; cerebral rather than sensual. MacWilliam showed in certain of his works a return to naturalistic protraiture; in his dancing figures he attempted to convey the shock of the impact of two bodies. If the movement as a whole was still in reaction against Rodin, the investigation of movement, in terms of solid or nearly solid figures (as shown by MacWilliam's sculpture) no less than the symbolical content, suggested a feeling for the French master. Their sculpture proved well suited to the expression of states of mind: one critic called their figures and forms "waifs" and the sculptors' sense of desolation and poverty was translated in the material, which was often thin and grey.

A similar lack of feeling for material (which may in part be attributed to the economic conditions of the time) was shown in France, where Germaine Richier proved successful with her gaunt, dramatic figures, which again stemmed from Giacometti. Certain other sculptors--Alberto Viani and Emilio Greco in Italy and Marina Nuñez del Prado in Latin-America—adhered to a more Mediterranean style, and showed a warm affection for their material A feeling for the surface play of objects, especially in wood, was displayed by Barbara Hepworth, and in her concern to give the silhouette form, and to embody the memory of objects seen in nature, the touch of the hand was confirmed and retained. This same sense for the properties of stone marked certain experiments in ornamentation undertaken by the painter Nicolas de Stael, who in his selection of material and in his work upon it showed the influence of Romanesque sculpture (D. Stn.)

United States. In view of its unexpected repercussions, the outstanding event of the year in sculpture was the exhibition "American Sculpture, 1951", presented by the Metropolitan Museum of Art, New York, up to the end of Feb 1952. It included 101 sculptures selected from some 5,000, by means of photographs, by about 1,100 sculptors The first prize went to Minna Harkavy for "Two Men". Although the method of jurying was well planned and the jury itself carefully selected, the exhibition pleased few. It was condemned by the New York art press for its inclusion of banal academic work, especially well illustrated by Paul Manship's gigantic study of two young soldiers, "Buddies", and also for the selection of numerous "modern" works which were superficial, derivative and incompetent in execution (*See* also Lloyd Goodrich in *Art Digest*, New York, March 1, 1952)

The trend toward open-work sculpture continued in 1952, and also the use of metals and welding, as in "direct steel" sculpture Such artists as Alexander Calder, Theodore Roszak and David Smith were among the most highly honoured and frequently exhibited and imitated, from outside the U S Jacques Lipchitz, Alberto Giacometti and Henry Moore continued to exert strong influence At the Venice *Biennale*, the American section presented Calder alone, who won the President's prize for sculpture and proved to be a great attraction.

One of the most important exhibitions of the year was "Sculpture of the Twentieth Century", organized by the Museum of Modern Art, New York, with the collaboration of the Philadelphia Museum of Art and the Art Institute of Chicago Presenting more than 90 works covering the period from Auguste Rodin to the present, it opened in Philadelphia in October and was to continue in Chicago and New York during most of 1953. In an earlier exhibition at the Museum of Modern Art, "Fifteen Americans", the open-work metal sculpture of *avant-garde* artists Richard Lippold and Herbert Ferber was presented, and wood construction by Frederick J. Kiesler. At the Pennsylvania Academy of the Fine Arts' 147th Annual at Philadelphia, the first prize for sculpture went to Lipchitz for his "Prometheus Strangling the Vulture". (*See* also Art Exhibitions.) (L. D. L.)

SEDGMAN, FRANK A., Australian lawn tennis player (b. Mont Albert, Victoria, Australia, Oct. 29, 1927), received his first tennis coaching at an after-school coaching class in Melbourne. He had been invited to attend this class by Harry Hopman (captain of the Australian Davis cup team) who had been impressed by the tenacity shown by Sedgman in a junior tournament. He was encouraged to

undergo a gymnastic course to increase his strength and stamina. In 1946 he became junior champion of Australia and in 1948 narrowly missed selection for the Davis cup team. In the same year a " Sedgman for Wimbledon " fund was run by the *Melbourne Herald*, and he rewarded his admirers by winning, with John Bromwich, the Wimbledon doubles title. It was not until 1949 that he won his first adult national titles: the Australian singles and the Australian hard court singles. In 1951 he and K. McGregor won doubles titles in Australia, France, England and the United States. With D. W. Candy Sedgman won the Australian hard court doubles championship, and, with Doris Hart, the U.S. mixed doubles. He retained his Australian singles championship in 1950, but lost it to D. Savitt in 1951 and to K. McGregor in 1952. On Sept. 7, at Forest Hills, New York, he won the U.S. amateur singles championship. On Nov. 8 he beat M Rose in Sydney to win the Queensland tennis title. Moreover, he won the Wimbledon singles championship in 1952. From 1949 Sedgman had played for Australia in the Davis cup tournament, and in Dec. 1951 he won both his singles and doubles (with McGregor) matches, when Australia retained the cup. He again helped Australia to retain the cup in Dec. 1952. Shortly afterwards he and McGregor became professionals. In Jan. 1952 he married Jean Spence, of Melbourne.

SEISMOLOGY. Normal earthquake activity continued during 1952 with no great cataclysms and few shocks of unusual scientific interest. Popular excitement resulted, however, from the Arvin-Tehachapi shock on July 21, among the five strongest in Californian history. This series of disturbances occurred over the little-known White Wolf fault system, south of Bakersfield and not related to the San Andreas fault. In this and the minor aftershocks which continued for more than a month, much damage was done to buildings, roads and railways and more than a dozen people lost their lives

The Chinese radio on Jan. 4 reported a hitherto undescribed earthquake on Dec. 21, 1951, as having killed 300 persons in western Yunnan, injured 1,537 and rendered 100,000 homeless. An earthquake struck the vicinity of Erzerum and Hasankale, Turkey, on Jan. 3, causing 600 huts to collapse, killing 62 persons and injuring 250. Hokkaido, Japan, experienced a shock on March 4, among the strongest in Japanese history, which killed about 30 people and made 2,800 homeless. Effects included derailed trains, inundation of 14 villages by tidal waves and the loss of 515 boats.

Earthquakes also occurred on March 19 near Mt. Etna, Italy, killing 3 and making 1,500 homeless, on June 10 at San Juan, Argentina, where 2 died and 150 were injured; and on July 4 at Johannesburg, South Africa, where 7 natives died in a mine rockburst.

Under the sponsorship of the United Nations Educational, Scientific and Cultural organization, two Pakistan seismograph stations were established at Quetta and Lahore, and a Jesuit station at Baguio, Philippine Islands, destroyed during World War II, was re-established.

Scientific interest was stimulated by publication of many technical papers. These dealt with such problems as earthwave mechanics, the release and dissipation of earthquake energy, regional earthquake-wave travel speeds and the use of microseisms in hurricane detection. In the important field of engineering seismology two symposium meetings were addressed by eminent seismologists and structural engineers. The larger of these was held at Los Angeles, California. Theoretical and practical papers indicated that solutions of some aspects of the complex problems of earthquake-resistant design were in sight.

The Coast and Geodetic survey, besides observing and analysing strong earthquake motions for engineering purposes, continued to collect international reports and plot and report the locations and nature of observed earthquakes everywhere, in this way mapping the seismicity of world areas for use of insurance companies in setting rates, for construction engineers in evaluating earthquake hazards and for scientists in attacking geophysical problems. (*See* also OCEANOGRAPHY.)

(E. B. R.)

SENANAYAKE, DUDLEY SHELTON, Ceylonese statesman (b. Colombo, June 19, 1911), was educated at St. Thomas's college, Colombo, and at Corpus Christi college, Cambridge. He was called to the bar in 1934, returned to Ceylon and, when only 24 years old, was elected to the state council in 1936, becoming its youngest member. When his father became prime minister of Ceylon in Sept. 1947, Dudley succeeded him as minister of agriculture and lands—a post which his father had held since 1931. On March 22, 1952, his father died from a riding accident, and four days later Lord Soulbury, the governor-general, called on him to succeed his father as prime minister, minister of defence and minister of external affairs. He announced his government on the same day, and he pledged in a broadcast that " the administration of this country will be so carried on that everyone among you may live and move on terms of absolute equality." On March 31 he went to Kandy where he knelt before the Sacred Tooth relic, dedicating himself to the cause of Ceylon. He was unanimously elected president of the United National party, and immediately asked the governor-general for a dissolution of the House of Representatives He conducted a strenuous election campaign in which he made at least six speeches daily, and was re-elected in his own constituency of Dedigama. The elections (May 24-30) resulted in a majority for the United National party. Senanayake re-formed his cabinet on June 2. He attended the Commonwealth prime ministers' conference in London (Nov. 27-Dec. 11).

SENEGAL: *see* FRENCH WEST AFRICA.

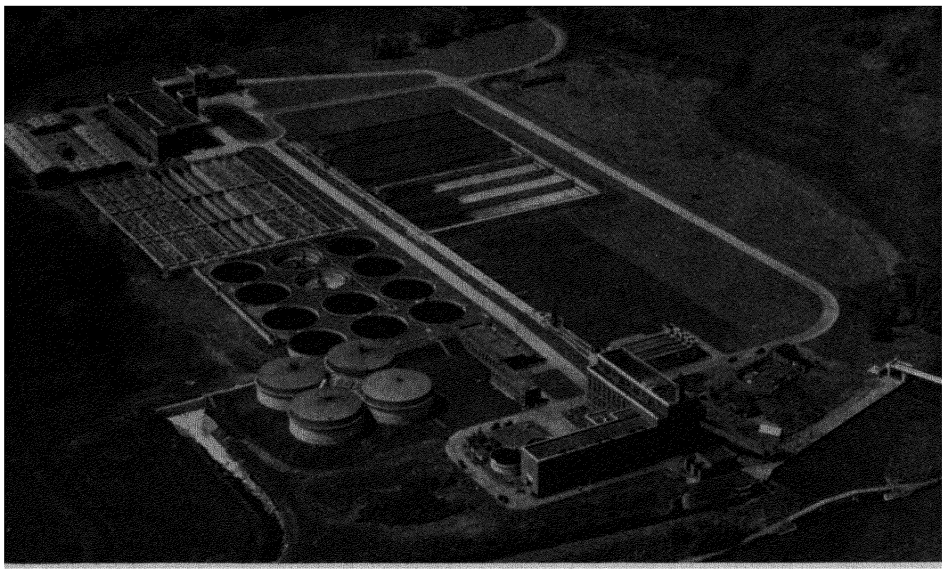
SEWERAGE. The construction of works of sewerage and sewage treatment continued to be handicapped in 1952 by the restriction of capital expenditure and by shortages of materials. Steel being of special importance in the latter connection, particular interest attached to an article by L. B. Escritt on " Constructing Sewage Works Without Steel " (*The Surveyor*, London, April 12, 1952), in which the author suggested ways of decreasing the amount of steel required in the construction of the various stages of sewage purification plants.

While several old towns were busy designing major reconstructions and extensions of their sewers and sewage disposal works, the new towns made headway with their schemes, unhampered by the necessity of attempting to adapt ageing plant for further service.

A noteworthy event was the opening of Hereford's new sewage treatment works, which, it was thought, would do much to safeguard the condition of the Wye, an important salmon river. The total cost of the work was about £530,000.

Basildon New Town made progress with its main sewerage project which, together with sewage treatment works, was estimated to cost £1,182,000; while Crawley New Town accepted a tender of £167,000 for the second section of its sewage works.

The treatment of industrial waste waters gave rise to much research and discussion during the year, problems in connection with the disposal of gas liquor being particularly prominent. The policy of centralizing gas-making adopted by gas boards in England and Wales had intensified the



An air view of the Maple Lodge works of the Colne Valley Sewerage Board which were officially opened in July. The four sludge digestion tanks and 12 final settlement tanks can be seen with the aeration tanks immediately behind.

difficulties of gas liquor disposal in some districts, while others had been relieved of the problem altogether.

The production of very considerable amounts of foam on sewage works and in rivers caused concern in several countries. Synthetic detergents, the sale of which had soared in recent years, were thought to be largely responsible for this phenomenon. Investigations were initiated concerning the effects of synthetic detergents on the treatment of sewage, as well as on methods for diminishing foaming. The results of large-scale experiments at Wolverhampton were reported by J. Hurley at the Public Works and Municipal Services congress held in London in November. (J. Hy.)

SEYCHELLES. British colony and dependencies, 92 islands (Mahé being the largest) in the Indian ocean. Area 156 sq.mi. Pop.: (1947 census) 35,232, mainly Negro; (1951 est.) 37,000. Language: English; French creole *patois*. Religion: Christian (*c.* 66% Roman Catholic). Capital, Victoria (pop. 1947, 9,478). Administration: governor; executive council, 3 *ex-officio* and 5 unofficial members; legislative council, 6 official and 6 (2 nominated, 4 elected) unofficial members. Governor, Frederick Crawford.

History. In 1952 a fall in the price of copra from £95 to £48 a ton caused a setback to development and a revision of government expenditure, and gave added importance to the current policy of diversifying the colony's agricultural production. The Colonial Development corporation's fishing experiment had to be abandoned because there were not enough fish. A small outbreak of poliomyelitis occurred in April. (K. G. B.)

Education. Schools (1951): 23 primary (3,965 pupils); 2 modern (129 pupils); 2 secondary (188 pupils); 1 technical training centre.

Finance and Trade. Monetary unit: Seychelles rupee (Re. 1 = 1*s.* 6*d.* sterling). Budget (1952 est.): revenue Rs. 4,802,154; expenditure Rs. 4,997,241. Foreign trade (1951): imports £407,000; exports £838,000. Production (1951): copra 6,574 tons; cinnamon oil 99,332 kg.; cinnamon bark 207 tons; vanilla 484 kg. Livestock (1950 census): 2,112 cattle; 2,328 pigs; 1,200 goats; 40,000 chickens.

See F. D. Ommaney, *The Shoals of Capricorn* (London, 1952).

SHAMUN (CHAMOUN), **CAMILLE,** Lebanese statesman (b. Deir el-Kamar, Lebanon, 1899), member of an ancient family of Christian (Maronite) Arabs, was sent to a French Roman Catholic secondary school at Beirut, and later obtained a law degree at the French university there. After World War I he joined the Beirut bar and took an active part in political life. He was elected deputy in 1934, was constantly re-elected and from 1938 served as minister of finance of the regional Lebanese government under the French mandate. In 1943 he resolutely sided with those who supported Lebanese independence and was appointed minister of the interior in the first Riad es-Sulh cabinet (1943-45). From 1945-47 he served as minister to Great Britain. Returning to his country he became minister of finance in the third es-Sulh cabinet. He resigned in 1948, opposing the re-election of Beshara Khalil el-Khuri as president of the republic for a second six-year term. He was instrumental in forcing el-Khuri's resignation three years before his term of office was to expire. His election as president of the republic on Sept. 23, by 74 votes to 2, in a chamber in which el-Khuri's supporters were in great majority was a personal triumph for Shamun, who was universally respected for his character and integrity.

SHEEP: *see* LIVESTOCK.

SHIPBUILDING. Outstanding features of shipbuilding in Great Britain during 1952 were the high proportion of the total volume of work represented by oil tankers and the insufficiency of steel. Besides not securing all the steel they needed builders were troubled by the irregularities of supplies. Delays were sometimes caused by failure to receive these in the sequence wanted. Some builders thought that there had been more understanding and practical recognition of their needs before the steel industry was nationalized. The close relationship between the steel and shipbuilding industries had not been fully maintained after the transfer of the steel industry to state ownership.

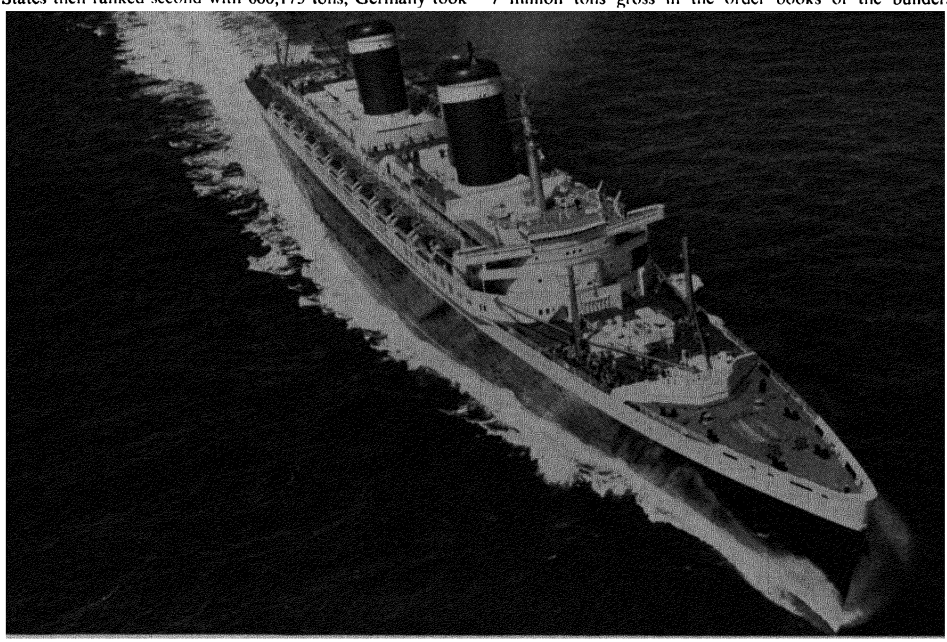
The ability of the shipyards to absorb larger quantities of raw materials was emphasized by the considerable volume of work proceeding and by the state of the order books, which was the heaviest ever recorded. The volume of shipping under construction in the yards of the United Kingdom throughout the year, according to returns of Lloyd's register, ranged between two million tons and 2,270,000 tons gross. At 2,062,482 tons gross the amount under construction on Sept. 30 represented a decline as compared with 12 months previously of more than 200,000 tons gross. This was a reflection of the insufficiency of steel. So were the tonnages of work started and of ships launched and completed. During the three months ended Sept. 1952, the work begun was 267,648 tons, as compared with 324,831 tons at the end of the first quarter. There were launched in the third quarter of the year 291,276 tons, as compared with 327,141 tons in the first quarter. The shipping completed was almost the same as during the first three months at 266,255 tons, as compared with 267,511 tons.

Construction abroad increased throughout 1952. At the end of March there were 3,409,947 tons gross being built, an increase on the quarter of 124,894 tons. At the close of the June quarter the work proceeding was higher by 127,995 tons and at the end of September the amount had expanded further by 264,449 tons to 3,802,391 tons gross. Figures were not available for China, Poland and the U.S.S.R. At the beginning of the year the United States led the way after Great Britain with 662,892 tons, the largest volume of shipping being built. Later the effect was shown of the completion of the new liner "United States" and by the end of September Japan, which had increased the volume of construction during each quarterly period, took first place with 603,500 tons, an increase of 146,867 tons. The United States then ranked second with 600,173 tons, Germany took third place with 472,971 tons, the Netherlands came fourth with 381,138 tons, Sweden was fifth with 375,958 tons and Italy sixth with 335,104 tons.

During the first nine months of 1952 builders in the United Kingdom were constantly urging the government to allot a larger share of the steel supplies to shipbuilding. They could claim, as the shipping leaders did, that rearmament would be useless unless the British mercantile marine was maintained in a state of efficiency. A considerable proportion of the work of the yards was for foreign owners and oversea credits were earned thereby. When the ships were completed they figured among the direct exports of the country. The proportion of the work for oversea owners remained at rather over 30% of the total. No exact comparison could be made between the benefits to the country of building ships for foreign owners and for the British mercantile marine. Many of the ships which were to fly the British flag would, in due course, contribute to the invisible exports of the country. These earnings would be spread over years, whereas when ships were built for foreign owners the financial proceeds were received at once.

In reply to urgent representations the allocation for the last quarter of the year was 8% more than for the third quarter, and on Oct. 22 the civil lord of the Admiralty announced that the allocation for the first quarter of 1953 would be higher by 9% than that for the last quarter of 1952. The representations on behalf of the shipbuilding industry were therefore not in vain.

During the first nine months of 1952 orders were received by British builders for just over a million tons gross of new British shipping. This total, although itself considerable, was less than one-third of the abnormally large figure for the first nine months of 1951. There were on Sept. 30 nearly 7 million tons gross in the order books of the builders,



The "United States" (53,300 tons), built by the Newport News Shipbuilding and Dry Dock company for the United States Lines. She left New York on her maiden voyage to Southampton and Le Havre on July 3, and took the blue riband of the Atlantic from the Queen Mary.

which represented a current value of about £670 million. Work for owners abroad then represented 34% of the total. Oil tankers constituted over 56% of all orders on the books, cargo liners 22%, and cargo tramps 12%.

There were then comparatively few passenger liners under construction. A vessel of 28,000 tons, to be named " Ormonde " after a successful ship which had long served the owners, was being built by Vickers-Armstrongs at Barrow-in-Furness for the Orient Line and one liner of similar size was being built by John Brown and Co. at Clydebank for the P. & O. company and another, also of similar tonnage, for the same company by Harland and Wolff at Belfast. In the summer the " Uganda ", of 15,000 tons gross, a sister-ship to the " Kenya " built in the previous year, was commissioned by the British India company for their east African service and in November the Union-Castle Mail Steamship company commissioned for the round Africa service the liner " Braemar Castle ", a sister ship to the " Kenya Castle " completed in the previous March. (C. MN.)

MERCHANT SHIPS UNDER CONSTRUCTION IN THE WORLD (JULY 1952)
(1,000 gross tons or more)

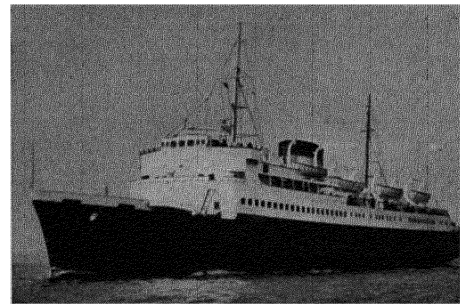
Country of building	No. of vessels	Gross tonnage	Country of building	No. of vessels	Gross tonnage
Great Britain	721	6,372,144	Denmark	63	408,434
Sweden	193	1,778,265	Italy	33	294,620
German Fed. Rep.	245	1,722,726	Belgium	23	233,671
United States	102	1,364,370	Spain	35	174,437
Netherlands	135	1,106,600	Canada	14	125,000
France	92	859,688	Australia	17	77,508
Japan	64	700,750	Trieste	7	59,700
Norway	83	578,259	Ireland	2	2,300
			Total	1,829	15,858,472

United States. On Jan. 1, 1952, 80 seagoing commercial vessels (each of 1,000 gross tons or more), aggregating 1,074,320 gross tons, were under construction or under contract for construction in the private seaboard shipyards of the United States. In the Great Lakes shipyards there were contracted for or under construction 16 vessels (each 1,000 gross tons or over) aggregating 176,870 gross tons. There were 21 new vessels delivered in the United States in 1952 up to Oct. 1. Of special interest was the passenger ship " United States ", the largest and fastest commercial vessel ever built in the United States, which was put in service by the United States lines in July 1952.

The first nine months of 1952 witnessed the launching of 11 cargo vessels of the Maritime administration's programme of 35 " Mariner " class ships. These were the largest and fastest cargo ships afloat, each having a capacity of 12,900 dead-weight tons. Construction of these vessels was divided among seven of the U.S. shipyards.

During the year 1952 up to Oct. 1, contracts for 21 vessels were awarded, all tankers, with the exception of one lake ore carrier. On Oct. 1, 1952, there were 96 merchant vessel (of 1,000 gross tons or over) aggregating 1,314,780 gross tons, under contract for construction in the United States of which 9, aggregating 102,300 gross tons, were for construction in the shipyards on the Great Lakes and the remainder in seaboard shipyards. In addition to the somewhat inadequate allocation of steel in the early part of the year, the steel strike further retarded construction, which in general was from four months to one year behind original schedules.

During 1952 the U.S. navy continued its programme of reactivation, modernization and new construction, resulting in the award to private shipyards of contracts for a second nuclear-powered submarine and for minesweepers, fleet oilers, tank landing ships and an icebreaker, as well as patrol and other service boats. This work, in addition to a number of contracts for small vessels awarded by the navy for the army, was widely distributed to shipyards throughout the United States.



The new British Railways' cross-Channel car ferry, " Lord Warden " (3,300 tons), built by William Denny and Brothers, Ltd., of Dumbarton, carrying 120 cars and 700 passengers.

World. The total of 80,216,000 gross tons of vessels in the world fleet was an increase of 2,792,000 gross tons since June 30, 1951. The U.S. fleet during the same period decreased by 36 vessels, aggregating 142,000 gross tons. The remainder of the world gained about 2,934,000 gross tons of shipping. The Shipbuilder's Council of America reported that in July 1952, 1,829 vessels of 1,000 gross tons or over, aggregating 15,858,472 gross tons, were under construction in the various maritime countries of the world, excluding the U.S.S.R. (H. G. S.)

SHIPPING, MERCHANT MARINE. Conditions affecting the employment of both ordinary cargo ships or tramps and passenger and cargo liners underwent great changes in Great Britain in 1952. An early intimation that the British government did not propose to import further large quantities of coal from the United States was a considerable influence in the freight markets, for the purchases of over a million tons of coal during 1951 had been an important factor in the rise in freight rates generally. There was also not the same urgency about arrangements for the importation of timber and grain as had stimulated the freight markets in 1951. Other European countries were also able to buy less coal from overseas. Europe generally was favoured by a mild winter.

Freight rates began to decline early in 1952 and, with the exception of one small upward movement during May, they continued to fall away till autumn was well advanced.

In March the Australian government announced a drastic cutting down of imports. This was primarily a matter of direct concern to liner companies which carry such varied manufactures as Australia had been importing throughout 1951 on an unprecedented scale. Indirectly the decision also materially affected tramp shipping. The liner companies had been quite unable to carry all the immense volume of merchandise which Australian importers wanted and the lines had been chartering tonnage freely so that there had been several extra sailings each month. This chartering had contributed notably to increase the varied demands which had been made on cargo tonnage. So-called tramps of high class and of specially suitable types were secured at constantly rising freight rates. The declaration of the Australian government that imports were excessive and must be curtailed found the regular lines with more tramp tonnage chartered than they could employ. Certain manufacturers of motor cars had also specially chartered ships to carry some of the great numbers of vehicles which had been exported to Australia.

Imports of all kinds of manufactures to New Zealand had also been rising and the regular lines had found it necessary

to charter additional ships to supplement their own sailings. This trade was still disturbed by the long stoppage of work during 1951, which meant that when cargo began to be discharged congestion occurred. Voyages were therefore prolonged and the consequent reduced carrying capacity of the ships, owing to the fewer sailings that could be made, led to further chartering. Imports were restricted in the spring of 1952 by limitation of credit and other means and the chartering of additional ships was no longer required.

This cessation of chartering for the Australian and New Zealand trades withdrew one of the main supports of tramp shipping. The stoppage occurred when there was less pressure in other directions on ordinary cargo ships for the transatlantic shipment of coal and timber from North America. Some 400 ships had been re-commissioned from the U.S. reserve of cargo vessels to participate, particularly, in the transport of coal and in view of a marked decline in the demand for tonnage arrangements were made for these gradually to be returned to the mooring berths.

The marked changes in the freight situation which began with the outbreak of war in Korea were indicated in the freight index numbers of the Chamber of Shipping of the United Kingdom. These figures were based on 100 as the average of the monthly numbers for 1948. In May 1950, the figure was 71·4. This rose sharply with only one check until 203 8 was reached in May 1951. Then, with certain interruptions, a downward movement began and in Jan. 1952 the figure was 163 9. Following a slight recovery during May 1952, the number declined until in August 79 2 was reached which was below the figure for Aug. 1950 of 86 6. Meanwhile expenses had risen sharply, particularly of oil fuel The wages of British seafarers had been increased and freight rates which would have left a profit before the Korean war became unremunerative. Some owners, both in Great Britain and in other European countries, decided to lay up their ships, and many others kept ships in port with skeleton crews on board in the hope that freight rates would before long take a turn for the better

Those owners were fortunate who had modern oil-burning steamers or motor ships in their service, for it was found that only efficient, economical ships could cover their expenses or earn small margins of profit at the ruling rates The newest ships, however, were at a disadvantage because although economical to operate they had cost so much to build that allowance for depreciation at the traditional rate of 5% and interest on the large capital invested imposed a heavy charge on earnings. The oldest ships were uneconomical and owners did not always feel justified in incurring the expenditure which they knew would be required as the result of the periodical surveys that the vessels would need to pass. So a number of these veteran ships were sold for breaking up at prices which, as scrap material was much wanted, were attractive.

The decline in tramp rates emphasized the claim of British owners that high taxation absorbed too much of their earnings and, one after another, spokesmen for shipping companies urged the need for some provision that earnings set aside for replacement should not be taxed. There was precedence for such discrimination in shipping policy on the continent of Europe. Failing such treatment owners foretold the gradual diminution of fleets of dry cargo ships. Although in total volume the tonnage of the British mercantile marine before World War II had been regained this recovery was due partly to a great increase in oil tanker tonnage. Some of the best-known British cargo fleets were only a fraction of their prewar size.

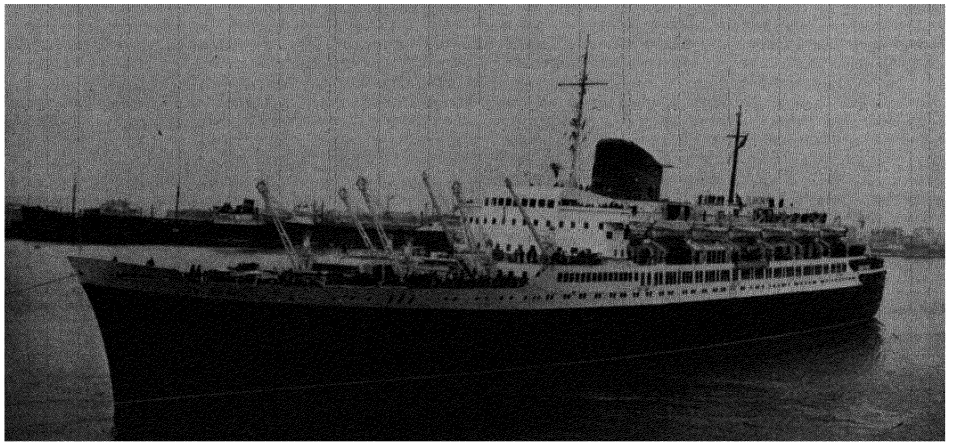
In the autumn there was some expansion of the demand for cargo shipping, which was in accordance with past experience that at this time of year, when the state of the crops in Europe is known, an improvement occurs after summer quietness. Among the influences was a strong demand for ships to carry grain from North America to India and Pakistan. Generally the demand for shipping became widespread and there was some competition between different markets for tonnage, a state of affairs which is always favourable to owners. The index number of the Chamber of Shipping rose by nearly 10% on the month to 87 0 for September. Rates were still well below the levels ruling at the beginning of the year. The number continued to rise to 94·2 for October and 99 for November. The freight index number was based on trade movements in 1935, and although it reflected broadly changes in the state of the markets its composition was examined by a special committee of the Chamber of Shipping which recommended alterations in the basis of the calculations for 1953.

Subject to the falling-off of shipments in the Australian route, cargo liners continued to be well employed. Demands on the passenger accommodation of liners also continued heavy. The passenger season in the north Atlantic opened unusually early in the spring and closed exceptionally late in the autumn. An outstanding event was the commissioning of the new U.S. liner "United States" which made the fastest eastbound passage from the Ambrose lightship to Bishop rock at an average speed of 35 59 knots, and also made the westbound crossing in the shortest time. The ship of 53,000 tons gross had been designed partly with a view to her adoption in case of need as a transport, and her design accorded with the specifications of the U S. naval authorities. The total cost of the ship was divided between the U.S. government, which paid $42 million (£15 million), and her owners, United States Lines, who paid $28 million (£10 million). (C. MN)

United States. The U.S. merchant marine consisted of 3,347 ocean-going vessels of 1,000 gross tons and over on Sept. 30, 1952. The active vessels numbered 1,495, divided between 978 dry cargo ships, 71 combination passenger and cargo vessels and 446 tankers, 85% of the active fleet was privately owned; the rest were government-owned vessels. This was in sharp contrast to the situation on Jan 1, 1952, when the active fleet numbered 2,009, of which 36% were government-owned The drop in active government-owned ships was caused by a partial reversal of the conditions which prevailed shortly after the outbreak of war in Korea when the best and fastest ships were withdrawn by the Maritime administration from its reserve fleets for use by the Military Sea Transportation service and when many of the slow but capacious reserve Liberty ships had been brought into service to supplement the privately owned vessels carrying much-needed coal and grain to Europe and Asia.

The National Shipping authority had been set up in March 1951 as part of the mobilization effort to direct government-controlled shipping in programmes of national interest. Government ships were operated under its direction by private companies serving as its general agents. In the year following its establishment, the N.S.A. appointed 48 companies as general agents, withdrew about 460 vessels from reserve and directed the shipment of 13·5 million tons of non-military cargo overseas, in addition to making tonnage available to transport military supplies.

By the early part of 1952, however, there was a falling-off in demand for foreign-aid cargoes. A mild winter in Europe and increased production capacity abroad lowered the requirements for imports of coal and grain from the United States, and a rapid addition of new vessels to foreign fleets increased the number of ships available to carry the cargoes. Consequently, on the first anniversary of its establishment, the N.S.A. announced that 120 ships were being withdrawn from service to avoid competition of government-owned with



The French line "Flandre" (20,300 tons) which left Southampton on her maiden voyage to New York on July 23. After this, because of mechanical trouble, the liner was taken out of service until 1953.

privately-owned ships. By Oct. 1, 1952, 543 government ships had been returned to reserve and only 93 were still in operation, all engaged in carrying military supplies.

There were about 100 large vessels under construction or on order in U.S. shipyards during the first nine months of 1952. Thirty-five of these were of the "Mariner" type, ordered by the Maritime administration in 1951. By Oct. 1, 1952, 11 of these vessels had been launched. The first two were delivered early in October and were assigned under general agents to carry military supplies. A total of 85% of the other large vessels under construction in U.S. yards on Oct. 1, 1952, were tankers ordered by private operators.

In June 1952 the largest and fastest passenger liner ever built in an American shipyard, the S.S. "United States" (*see* page 532c), was delivered into service. On her maiden voyage across the north Atlantic, this vessel broke all speed records for merchant ships. (*See* also SHIPBUILDING.)

(A. W. G.)

SHOE INDUSTRY. The year 1952 opened with the shoe industry in a pessimistic mood. It had just experienced a six-month period of declining prices for its raw material, leather, and was by no means certain that the decline was at an end. Manufacturers' order-books were far emptier than usual at the opening of the year and distributors were still carrying unliquidated stocks which they had ordered before the heavy decline in leather prices. Reluctance to face losses on those stocks was slowing down retail sales, and the "pipe-line" was choked. Faced with the prospect of short-time working in their factories, manufacturers were in a mood to trim their costs to the bone to attract orders.

January's sales moved much stock from retailers' shelves and put buying-power back into their hands. Simultaneously there began to be a feeling that hide and leather prices were not likely to go much lower. Tightening of financial credit and shortage of liquid capital, however, were still forcing some weak holders of leather to sell below replacement costs and this delayed stability of prices. Yet there was a growing belief that the point at which values would stabilize was approaching. Buyers, however, were still cautious and well enough stocked to postpone any bulk ordering, even for Easter trade. At the end of January, however, there were some signs of improvement in demand from shoe factories. The chief obstacle to improvement was the heavy stocks still in the hands of big distributors.

As short-time working developed in some factories the influence of the guaranteed week agreement with operatives began to be felt. Manufacturers under an obligation to pay at least 75% of basic earnings began to dismiss operatives and before that process had ended some 10,000-12,000 workers were estimated to have left the industry.

Publication of the Douglas committee's report towards the end of February indicated the end of the utility footwear scheme and adoption of the report by the chancellor of the exchequer meant that the substantial quantities of footwear which had been free of purchase tax became taxable. Trade opposition was based on the fact that non-luxury footwear was being made more expensive. In practice, increases caused by taxation were largely countered by still lower leather prices. These, added to fears that taxation of so much footwear would reduce demand, acted as a brake on buying shoes above the "D" level. Reduction of the rate of purchase tax on footwear, which came into operation on May 14, was welcomed by the industry.

Whitsun trade began to restore confidence and the outlook for manufacturers brightened. Firmer leather prices helped. Summer sales proved successful and put much buying power in retailers' hands. By mid-July factories began to be more fully employed, with requests for early deliveries. The prospect of a cost-of-living increase in operatives' wages further stimulated buying. In August it began to be evident that with a reduced labour force and a sustained public demand, shoes were not likely to be in excessive supply. Leather prices also grew firmer and the pace of production in shoe factories increased. September saw requests for early deliveries becoming more urgent. Contraction of the labour force began to show its influence and by October buyers were beginning to regret their failure to order sooner and in greater quantity.

The Shoe and Leather fair opened on Nov. 17 with shoe manufacturers' productive capacity booked up to March, and even to May, and the year ended with such conditions prevailing. (*See* also LEATHER.)

(C. A. SD.)

SHOPS AND DEPARTMENT STORES. The setback to retail sales which began in 1951 continued

well into 1952. It was not confined to any one country but was widespread. In Great Britain it was not until the third quarter of the year that the total physical volume of business showed an increase over the previous year. Total spending by the public in the first half of the year was still nearly 4% higher than a year earlier. During the same period however prices in general had risen by more than 10% In consequence the volume of goods sold fell considerably during the first half of the year. The general depression in retailing during the first half-year led to a big increase in displays, advertising and salesmanship generally. Prices in Great Britain reached their peak in June and fell steadily during the rest of the year. This pattern of events was similar to that in the United States and the countries of western Europe. Falling trade was met by an intensified price competition

One factor peculiar to Great Britain was the fact that the first budget of the Conservative government introduced progressive reductions in the food subsidies and consequent big increases in retail food prices. While world primary food prices were tending to fall the British consumer found prices rising steadily through the year. It was this trend that was partly responsible for the depression in non-food sales. The public had not the money to spend.

Recovery in retailing was evident by the end of September in Great Britain. There was also evidence that this was so in the United States. In the first quarter U S sales in total had been 4% lower than in the same period of 1951. In the second quarter they were 6% higher. Recovery was slow in western Europe, but by the beginning of the fourth quarter was clearly under way. In Australia, owing partly to government financial policy and partly to the crash in wool prices, there were no signs of recovery until late in the year.

In the United States the development of non-food sales by super-markets gathered momentum. The drive for reducing costs also found expression in a renewed expansion of self-service The Woolworth chain opened its first complete self-service store in Manhattan, New York, during the year. One feature of the year both in Great Britain and the U.S. was the trend towards longer shopping hours. In the U.S. a steadily rising proportion of stores stayed open late in the evening and there was an extension of all-night shopping facilities. In Britain the government amended the regulations to allow of later closing hours for shops. The Union of Shop Distributive and Allied Workers opposed this but was not successful in checking the trend.

The expansion of multiple organizations at the expense of the department stores continued in both the U.S. and Great Britain. The department stores, faced with rising costs and stagnant sales, found it increasingly necessary to reduce the quality of service offered to the customer. In both countries there was a marked trend of shoppers away from the main centres like the West End of London to the suburbs. Many of the big multiples in the U.S. developed special types of stores to meet "neighbourhood" shopping needs. Such stores, built away from main centres of population, drew shoppers from a wide area.

The final abandonment of the utility scheme for clothing in Great Britain was received by both manufacturers and traders with relief. Owing to the increased difficulty in selling there was, however, strong opposition to the widening of the range of purchase tax that came in with the D scheme which replaced utility. In November the Anglo-American Productivity council team, which visited the U.S. to survey retailing there, published its report. The main emphasis was on the much wider use of self-service methods in the U.S. compared with Great Britain. (*See* also BUSINESS REVIEW.)

(J. BX.)

SHOWS: *see* FAIRS, SHOWS AND EXHIBITIONS.

SIAM: *see* THAILAND.

SIERRA LEONE. British colony and protectorate on the west coast of Africa, bounded N. and E. by French Guinea and S.E. by Liberia Area: colony 270 sq mi.; protectorate 27,655 sq.mi. Pop.: (1948 partial census est) colony 124,657, protectorate 1,733,618, total (1950 est.) 1,975,000. Language: tribal dialects, Hausa. Religion: protectorate, pagan with Moslem minority; colony, mainly Christian. Capital, Freetown (pop, 1948 census, 64,576). Administration: governor, executive council, 4 *ex-officio* and 4 or more unofficial members, legislative council, 7 official members, 7 directly elected (colony), 14 indirectly elected by protectorate assembly (2) and district councils (12), 2 nominated Governor, Sir George Beresford-Stooke.

History. In March 1952 Bankole Bright, leader of the National Council of Sierra Leone, led a deputation to London to protest against the new constitution, under which the legislative council had first met in Nov. 1951. His party had gained five out of the seven Freetown seats, 16 seats in the colony and protectorate had been won by the Sierra Leone People's party The creoles of the colony therefore felt that they were being swamped by representatives of the comparatively illiterate peoples of the protectorate In March it was announced that as a step towards the formation of ministries five unofficial members of the executive council would each assume a special interest in a group of government departments. They would each gather together two or three unofficial members of the legislative council to form small informal committees.

The deep water quay at Freetown, 1,330 ft long, was nearing completion. Ancillary facilities under construction included transit sheds, export warehouses, road and rail services, slipways and workshops The seventh conference of directors of public works of the west African territories was held at Freetown in February.

The first groundnut decorticating mill in west Africa started working at Kissy in March. A west African fisheries conference attended by representatives of the four west African territories was held at the same town on April 22.

In July, the legislative council decided that the £2 5 million hydro-electric scheme to supply water and electricity to Freetown and the rural area should proceed The scheme was expected to take four or five years to complete. Oliver Lyttelton, the secretary of state for the colonies, visited Sierra Leone in June. (W.H.Is.)

Education (1951) Colony primary schools 84 (attendance 16,556), secondary 11 (1,929), teachers' training colleges 2 (316) Protectorate primary 205 (20,949), secondary 2 (304 in 1949), teachers' training colleges 3 (231) Fourah Bay college, affiliated to Durham university, included university and technical departments

Finance and Trade. Monetary unit, West African pound (£WA 1 £1 sterling). Budget (1951) revenue £3,850,500, expenditure £3,904,500 Foreign trade (1951) imports £8,206,894, exports £10,068,442 Principal exports palm kernels, iron ore, diamonds

See Pearce Gervis, *Sierra Leone Story* (London, 1952).

SIKKIM. Indian-protected state, bounded N. by Tibet, E. by Bhutan, S. by India and W. by Nepal. Area: 2,745 sq.mi. Pop. (1951 census): 135,646, mostly Nepalese; also Bhotias of Tibetan extraction (10,980) and Lepchas or Rongpa (13,060) of Indochinese origin. The state religion is lamaistic Buddhism but most Nepalese are Hindu. Capital, Gangtok. Ruler (from 1914), Maharaja Tashi Namgyal; premier, J. S. Lal.

History. In May Jawaharlal Nehru, prime minister of India, visited Sikkim, underlining the Indian government's close interest in the progress of this strategically important border state. At Gangtok Nehru met separately the leaders

of the three political parties represented in the provisional government formed in Nov. 1951.

Sonam Chering, leader of the Nationalist party, asked for a revision of the protectorate treaty signed on Dec. 5, 1950, and put forth a demand that the maharaja of Sikkim should be the supreme constitutional and administrative head of the state. Tashi Chering, leader of the Sikkim Congress party, wanted the maharaja to enjoy the same status as that of an Indian governor of a class "A" state. The spokesman of the Rajproja Sammelan party demanded that the state administration should be headed by a commissioner appointed by the Indian government.

Nehru spoke at a mass meeting at Gangtok. He asked the Sikkimi not to rely too much on the Himalayas as their natural defence but to build up their united strength for the permanent safety of their country

Finance. Budget (1951 est.) balanced at Rs 2,100,000, including the subsidy of Rs 300,000 from India. Monetary unit—Indian *rupee*.

SILK. Japanese production of raw silk in the first eight months of 1952 was 156,705 bales (of 132 lb each), as compared with 125,044 bales produced in the corresponding period in 1951. For the entire year world production of silk was expected to reach 55 million lb., an increase of 11.5 million lb. over 1951 production.

At the third international Silk congress in London in Sept. 1951, the Japanese agreed that the price of raw silk should be stabilized and in Feb. 1952 the Japanese government established a maximum price of 230,000 yen per bale ($4.83 per lb.) for grade 20/22 A silk, f.o.b. Japan. By June silk prices broke through the ceiling. In early July the Yokohoma Raw Silk exchange decided to refrain voluntarily from transactions at prices higher than 240,000 yen per bale. Later in the month the government established 240,000 yen (approximately $5.10 per lb.) as the "prohibition price" (the price above which transactions were illegal) for all grades of silk.

Efforts to promote the use of silk on an international scale continued through the medium of the International Silk association with headquarters in France. In 1952 Japan provided a $200,000 fund for the promotion of silk in the major consuming countries, while for 1953 the Japanese Ministry of International Trade and Industry asked for an appropriation of $300,000. The United States was spending $1.5 million annually, and Great Britain, Switzerland and France were together contributing another $500,000 for the same purpose. (*See* also RAYON AND SYNTHETIC FIBRES, TEXTILE INDUSTRY.) (I. L. BL.)

SILVER. The silver outputs of the world's major producers are shown below, as reported by the U.S. Bureau of Mines.

WORLD SILVER PRODUCTION
(In millions of fine ounces, smelter output)

	1947	1948	1949	1950	1951
United States	38 58	39 23	34 94	42 31	39 91
Canada	12 50	16 11	17 64	22 39	24 24
Newfoundland	0 96				
Mexico	58 84	57 52	49 45	49 14	43 80
Honduras	2 41	3 17	3 43	4 05	?
Argentina	2 44	1 20	1 25	1 15	1 25
Bolivia	6·23	7 56	6 63	6 57	7 17
Chile	0 75	0 86	0 80	0 75	0 98
Peru	10 78	9 29	10 63	13 05	14 86
Sweden	1 09	1 14	1 14	1 29	1 29
Belgian Congo	4 06	3 81	4 55	4 46	3 80
South Africa	1·15	1 17	1 16	1 12	1 16
Japan	1·79	2 19	2 89	3 68	4 61
Australia	9 53	10 06	9 86	10 68	10 44
Total	168	172	174	192	199

In the United States mine production dropped 7% in 1951, as compared with 1950, to 39,463,661 oz., and continued at about the 1951 level in the first eight months of 1952, with a total of 26,050,181 oz.

In Canada silver production rose from 22,386,456 oz. in 1950 to 24,244,949 oz. in 1951.

In Mexico, the world's leading silver producer, the output was 49,141,445 oz. in 1950 and 43,797,734 oz. in 1951.

(G. A. Ro.)

SIMONDS, GAVIN TURNBULL SIMONDS, 1st Baron, of Sparsholt, lord chancellor of England (b. Nov. 28, 1881), was created a life baron in 1944 and a baron in 1952. He was educated at Winchester college and New college, Oxford, and was called to the bar in 1906. In 1924 he took silk and in 1929 became a bencher at Lincoln's Inn. By 1937 he had risen to be judge of the High Court of Justice, in the Chancery division, and in 1944 was made a lord of appeal in ordinary. During 1940-44 he had been chairman of the National Arbitration tribunal. In 1946 he was made warden of Winchester. With the return to power of the Conservatives in 1951 Lord Justice Simonds was appointed lord chancellor. On Feb. 29, 1952, the lord chancellor refuted rumours, referred to in the House of Commons, that there had been faulty administration of justice in Northern Ireland. He reported in parliament on March 18 that judges in the Divorce division were making increasing use of the court welfare officer in divorce cases. Later the same month he spoke of the difficulty of finding juvenile court magistrates of the right age. The subject of child cruelty had been discussed earlier in the month and, while Lord Simonds deplored the continuance of cases of cruelty, he upheld the citizen's privacy in his own home and would lend no support to recommendations that officers of such organizations as the National Society for the Prevention of Cruelty to Children should be granted free access to houses where there were suspected cases of cruelty.

SINGAPORE. British island colony off southern end of Malay peninsula with dependency of Christmas Island in the Indian ocean. Area: Singapore and adjacent islets 224 sq.mi., Christmas Island 62 sq.mi. Pop.: Singapore island (1947 census) 938,144, incl. 727,863 Chinese, 114,654 Malays, 71,289 Indians, 8,718 Europeans, 9,012 Eurasians, (mid-1951 est.) 1,042,000; Christmas Island (1951 est.) 1,500. Capital, Singapore city (pop. 1947, 769,000). Administration: governor, executive council, 4 *ex-officio*, 2 official and 6 (incl. 2 elected by legislative council) unofficial members, legislative council, 4 *ex-officio*, 5 nominated official and 4 nominated unofficial members, and 3 members elected by the Singapore, Chinese and Indian chambers of commerce and 9 elected by all British subjects. Governors (1952): Sir Franklin Gimson and (from Jan. 15) John Nicoll. U.K. commissioner-general in southeast Asia, Malcolm MacDonald.

History. Singapore was virtually free of terrorist incidents in 1952, but the authorities suspected that the city was being used as an organizing and supply centre for the conduct of terrorist activities in the Malayan federation, and special steps were taken in August to "screen" persons passing to and from the federation and to watch the Straits of Johore, particularly at night. Sir Franklin Gimson, the governor, retired in April and was succeeded by John Fearns Nicoll. Reforms in police organization included a new pay code, improved living quarters, better educational facilities, and a Chinese instructional unit at the Singapore Police Training school; this latter was an attempt to recruit more Chinese into the force. The establishment of a rehabilitation centre for political detainees was announced (November). Detainees who it was considered might be weaned from Communist ideas would be sent to this centre.

Efforts were made in April and June to increase the number of citizens on the electoral register, and as a result 23,000 more persons registered, bringing the total number on the rolls to 75,000 or about 33% of those entitled to register; the proportion of men to women was about five to one. A committee was appointed to consider the enlargement of the Singapore legislative council. This was with a view to the institution of a "member" system under which elected representatives would become responsible for certain departments of government. In June a corrupt practices investigation bureau started work in the colony. Elections to six seats in the Singapore city council were held in December. The Progressive party won four seats, the Labour party one and Independents one seat.

The Naval Base Labour union, with a membership of 8,000, decided to boycott a local by-election to the Singapore legislative council in September on the grounds that its members were ineligible to enjoy the benefits of local legislation. In December the 10,000 workers of the naval base went on strike for increased cost of living allowances, pension rights and improved medical facilities.

On May 22 a raid by customs officers resulted in the seizure of 500 lb. of illegal opium in a house which was believed to be a transit centre for traffic in opium from Thailand. Later (July 27) the Singapore police authorities disclosed that there were estimated to be 2,000 illicit opium dens in the colony. In August preparations were made for the opening of a government agricultural estate of 2,566 ac. as part of a food production drive. In October it was announced that a surplus of revenue over expenditure for the year of 37 million Malayan dollars was expected. The programme of expenditure on social services had had to be severely cut because of the limited capacity of the public works department. The estimates had depended on a total public works department expenditure of 33 million dollars whereas the department's capacity was only 10 million dollars It was announced that recruitment of additional staff had enabled the capacity of the department to be increased by one-third.

During their visit to Malaya (Sept. 30-Oct 13) the Duchess of Kent and her son the Duke of Kent spent eight days in Singapore. The duchess received the freedom of the city, opened the new clinic of the Singapore Anti-Tuberculosis association and was present at a rally of 25,000 of the colony's schoolchildren. The duchess and the duke also visited naval and military installations and met many leading personalities of the colony, both Asian and European. (D. A. SN.)

Education. Registered schools (government maintained, aided and private, 1951) English 139 (55,024 pupils), Malay 43 (8,505 pupils), Chinese 288 (75,975 pupils), Tamil 20 (1,272) One teachers' training college. University of Malaya (1952-53) students 875, teaching staff 129

Finance. Monetary unit Malayan dollar ($M 1 = 2s 4d sterling) Budget (1951 provisional) revenue $165,895,917, expenditure $113,320,317, (1952 est) revenue $174,836,658, expenditure $169,071,159

Foreign Trade ($ million) Imports (1951) 3,625, (Jan-June 1952) 2,040 Exports (1951) 4,095, (Jan-June 1952) 1,998. Main sources of imports (1951) Indonesia 1,231, U K. 453, India and Pakistan 169, U S 189; Thailand 195. Main destinations of exports (1951) Indonesia 459, Australia 259, Hong Kong 159, China 83

SKATING: *see* ICE SKATING.

SKIING. Exceptionally little snow fell in Norway before the winter Olympic Games (*q.v.*) were held there in Feb. 1952, necessitating much additional preparation of the courses, especially on the Rödkleiva slalom hill to which snow was transported and packed down on broken-up ice. Skiers from 27 nations competed. The results were: downhill, Z. Colò (Italy); slalom, O. Schneider (Austria); giant slalom, S. Eriksen (Norway); 50 km. langlauf, V. Hakulinen (Finland); 18 km. langlauf, H. Brenden (Norway); combined langlauf and jumping, S. Slattvik (Norway); special jumping, A. Bergmann (Norway); relay race, Finland; ladies' downhill, G. Jochum-Beiser (Austria); slalom and giant slalom, A. Mead-Lawrence (United States). An innovation, the ladies' langlauf (10 km.), winner L. Videman (Finland), drew 20 starters. The slalom was refereed by Arnold Lunn, the only living man to see a competition he invented included in the Olympic Games. Following the Arlberg-Kandahar in March—winners: F. Huber (Kitzbuhel) and Fraulein E. Mahringer (Innsbruck)—Lunn received the freedom of Chamonix, and was later knighted by the queen "for services to British skiing and Anglo-Swiss relations".

Skiing increased in popularity all over the world, and there was an exceptionally good season in Scotland. More safety devices came on the market to counteract the high accident rate among beginners, believed to result from rigid bindings British skiing suffered a great loss in the fatal accident to J. A. Palmer-Tomkinson while practising. (P. W. B. C.)

See Arnold Lunn, *The Story of Ski-ing* (London, 1952)

SKIN DISEASES: *see* DERMATOLOGY.

SLIM, SIR WILLIAM JOSEPH, British soldier (b. Aug. 6, 1891), was educated at King Edward's school, Birmingham, and entered the army in the ranks in the early days of World War I. He was soon commissioned in the Royal Warwickshire regiment. He was wounded while serving in Mesopotamia and considered to be unfit for further service. However, he succeeded in returning to active service and subsequently won the M.C. for his part in the capture of Baghdad. Between World Wars I and II Slim served with the 6th Gurkha Rifles, was commandant of the Senior Officers' school in India, and an instructor at the Staff college, Camberley (1934-36). At the beginning of World War II he led the 10th Infantry brigade in operations in the Sudan and Eritrea and was wounded in an air attack. For his part in the Anglo-Russian operations in Iraq, Syria and Persia, he was awarded the D.S.O. In 1942 Slim was transferred to Burma and put in command of the First Burma corps. The following June he took command of the Fifteenth Indian corps, and in Oct. 1943 the new Fourteenth British army was placed under him, with troops from Britain, Africa, India and Burma. In 1944 the tide began to turn against the Japanese and gradually Burma was freed by Slim's offensive, in conditions of great hardship. When Japan surrendered, Slim was appointed commander-in-chief, Allied forces, Southeast Asia, serving in this capacity from 1945-46 when he returned to England to be head of the Imperial Defence college. Slim retired from the army in 1947 and became deputy chairman of the Railway executive. On Oct. 8, 1948, he was recalled to succeed Viscount Montgomery of Alamein as chief of the imperial general staff. During the next four years he visited troops and took part in military discussions in many countries and attended conferences on defence. In Dec. 1950 he accompanied C. R Attlee to Washington and in Jan. 1952 he was again in Washington, with Winston Churchill. His term of office was extended from Nov. 1951 to Nov. 1952 and on May 26, 1952, it was stated that Sir John Harding was to be his successor. Slim succeeded Sir William McKell as governor-general of Australia early in 1953.

SNOOKER: *see* BILLIARDS AND SNOOKER.

SOAPS, PERFUMERY AND COSMETICS. Preliminary figures for 1952 showed some reduction in the total sales of toilet preparations in the United Kingdom as compared with 1951 but a considerable increase over those

for 1950. Export markets suffered at the expense of relatively increased home sales. Thus, in the spring quarter, the total turnover was £1,070,000 more than in 1950, export sales were £230,000 down and home sales £68,000 up on 1951.

The U.S. Toilet Goods association released figures for the retail sales of perfumes, cosmetics and other toilet preparations (excluding soaps) in 1951. These amounted to a total of $912,800,000, representing a gain of nearly 9% on the total for 1950. Further expansion was expected throughout 1952.

World sales of alcoholic perfumes declined but there was a marked increase in sales of dentifrices and hair preparations. Synthetic detergent powders made notable progress at the expense of soaps, but soap sales rose in several of the relatively undeveloped countries

A technical advance of probably major importance was the introduction of the Chayen cold-rendering process for fats. This British invention was introduced into the United States and Canada, its special feature being the use of high-speed, water-borne impulses to rupture the fat cells and free them, without the deleterious application of heat, from accompanying proteins, etc, thus making readily available a high yield of first-quality fats and oils. At Naarden, the Netherlands, a new process for the solvent extraction of essential oils was introduced.

The modernization of soapworks plant continued throughout 1952 Batch methods were still commonplace but regarded as old-fashioned Partial or complete adoption of continuous soap-making methods was accompanied by the installation of automatic and semi-automatic machines for carrying out finishing and packaging operations.

In the cosmetic industry there was increasing evidence of a more scientific approach to the study of the skin and scalp. The international Society of Cosmetic Chemists published its journal conjointly in the United States and the United Kingdom, its counterpart being similarly active in France. Certain U S soapless shampoos having been found to cause eye injury, the comparative irritant properties of the various soapless (synthetic detergent) bases and of conventional soaps were investigated, early results proving unfavourable in this respect to the synthetics. Similar investigations were initiated at the university skin clinic, Tubingen, Germany Research into the nature of odour and odour-perception was further investigated at the University of Reading, England

New types of preparation introduced during 1952 included improved medicated soaps, chlorophyll-containing toothpastes and one-solution "cold-waving" fluids. A British range of barrier (protective) creams was successfully introduced into the United States.

See E Guenther, *The Essential Oils*, 6 vols (London, 1948-52), T Hempel *et al*, *Die Seife und ihre Herstellung* (Augsburg, 1952).

(F. V. W.)

SOCIALIST MOVEMENT. The second congress of the Socialist International was held at Milan from Oct. 17 to 21. Morgan Phillips (Great Britain) was re-elected chairman, and Erich Ollenhauer (Germany) and Guy Mollet (France) were elected vice-chairmen. Three more parties were admitted to membership: the New Zealand Labour party, the People's National Party of Jamaica and the newly formed Pan-Malayan Labour party. These accessions brought the number of parties in the Socialist International to 36, with a total membership of 10 million and electoral support of 62 million The Israeli Labour party, Mapai, decided to take an active part in the work of the Socialist International and was elected to the bureau. One seat on the bureau, which was enlarged to 12 members, was left vacant with a view to increasing the Asian representation.

Relations with the Asian socialist parties were a major concern of the Socialist International. With the increase in membership and participation the International became less preponderantly European. Of the four major Asian socialist parties—those of Japan, India, Burma and Indonesia—only the Japanese and Indian parties were members of the International, but all were represented at the Milan congress.

The split in the Japanese Social Democratic party did not heal, each wing independently contested the general election in October and each made substantial gains. The right wing increased their number of seats from 30 to 57, while the left wing increased from 16 to 54. In the hope of effecting a reconciliation the Socialist International continued to accept representatives of both wings

The Indian Socialist party polled more than 11 million votes in the general election in January but won only 12 seats in the House of the People. Its parliamentary and electoral strength was increased in August by a merger with the Kisan Mazdoor Praja party (ten seats) led by J. B. Kripalani, which resulted in a change of name to Praja-Socialist Party of India.

Of the two major Asian parties not attached to the Socialist International, the Burma Socialist party maintained its position as the core of the Anti-Fascist People's Freedom league which was the government coalition, and the Indonesian Socialist party had yet to be tested at the polls

Representatives of these four parties met at Rangoon in March to prepare for a plenary conference of Asian Socialist parties The possibility that this conference might proceed to establish an Asian Socialist International receded, but the Indian, Indonesian and Burma parties maintained a reserved attitude to the Socialist International, partly because of its predominantly European composition and partly because of their leanings towards a neutralist or "third force" policy To develop relations with the Asian parties the Milan congress of the Socialist International decided to send a fraternal mission to attend the Asian conference The members appointed to the mission were C R Attlee (Great Britain), Guy Mollet (France) and Kaj Bjork (Sweden). Mollet was subsequently unable to take part and was replaced by André Bidet.

The other three main subjects considered at the Milan congress concerned the problems of under-developed countries, the United Nations, and Europe. On each of these the congress adopted a declaration of policy based largely on the preparatory work of experts' conferences, which continued to be an established feature of the work of the Socialist International. From one of these experts' conferences developed the Socialist International press centre which was established in Paris; its first *Bulletin* was issued in December 1952.

All parties were agreed on the high priority that should be given to aid to under-developed countries. They declared: "The economic, social and political development of under-developed countries is one of the most important, if not the most important, problem in the world today", and to meet the problem outlined a world plan for mutual aid

Concerning the United Nations, the Socialist International affirmed that "U N is the most important organization for the solution of international conflicts, the maintenance of peace and the development of international co-operation", expressed the desire that it would become still more effective and indicated ways of achieving that object—if the nations were willing

Even on European problems there was a large measure of agreement, although the differences between federalism and functionalism persisted. The British and Scandinavian parties still declined participation by their countries in supra-national organizations. In this argument the Finnish Social Democratic party, which remained in the coalition government, was not involved: the situation of Finland

SOCIALIST PARLIAMENTARY REPRESENTATION IN EUROPE*
(Figures in brackets are those of the preceding election)

Country	*Party's official name*	*Date of last election*	*Votes obtained*	*% of total votes*	*Socialists' seats*	*Total no. of seats*
AUSTRIA	Sozialdemokratische Partei Österreichs	Oct 9, 1949	1,621,275 (1,434,898)	38 6 (45 1)	67 (76)	165
BELGIUM	Parti Ouvrier Belge	June 4, 1950	1,704,360 (1,529,720)	34 5 (29 7)	77 (66)	212
DENMARK	Socialdemokratiet	Sept 5, 1950	813,590 (834,089)	39 7 (40 3)	59 (57)	151
FINLAND	Sosiaalidemokraattinen Puolue	July 2-3, 1951	479,998 —	26 4 (26 3)	53 (54)	200
FRANCE	Parti Socialiste (S F I O †)	June 17, 1951	2,764,210 (3,431,954)	14 5 (17 9)	107 (101)	627
GERMAN FED REP	Sozialdemokratische Partei Deutschlands	Aug 14, 1949	6,932,272 —	28 5 —	131 —	402
GREAT BRITAIN	Labour party	Oct 25, 1951	13,911,582 (13,295,736)	48 7 (46 4)	294 (315)	625
ICELAND	Althyduflokkur	Oct 23, 1949	11,938 —	16 5 —	7 (9)	52
IRELAND	Labour party	May 30, 1951	151,831 (144,089)	11 4 (11 2)	16 (19)	147
ITALY	Partito Socialista dei Lavoratori Italiani‡	April 18-19, 1948	1,860,528 —	7 1 —	35 —	574
LUXEMBOURG	Parti Socialiste Luxembourgeois	June 3, 1951	— —	—	18 (14)	52
NETHERLANDS	Partij van de Arbeid	June 25, 1952	1,545,414 (1,263,058)	28 9 (25 0)	30 (27)	100
NORWAY	Arbeiderpartiet	Oct 10, 1949	800,792 (609,255)	45 8 (41 2)	85 (76)	150
SWEDEN	Social-Demokratiske Arbetarpartiet	Sept 21, 1952	1,742,684 (1,789,440)	46 1 (46 2)	110 (112)	230
SWITZERLAND	Sozial-Demokratische Partei	Oct 27-28, 1951	— —	— —	49 (48)	196

* Only European countries having a parliamentary system and free elections are included † S F I O stands for Section Française de l'Internationale Ouvrière
‡ Later renamed Partito Socialista (Sezione Italiana del' Internazionale Socialista)

precluded either form of participation in European developments.

Although unable to accept participation in supra-national communities, the policy of the British Labour party was to place no obstacle in the way of those countries that wished to join, and to seek the closest possible association with such communities. With this policy the Scandinavian parties (except the Finnish) concurred The project for a European Defence community, however, posed the question of German rearmament. Representatives of the British, French and German parties met at Bonn in April for an exchange of views, after which the British party issued a statement of reservations on this project.

The German Social Democratic party reluctantly accepted the European Coal and Steel community as a *fait accompli*, but maintained its opposition to the European Defence community. On the death of Kurt Schumacher in August Erich Ollenhauer was elected leader of the party, but there was no substantial change of policy At its Dortmund conference in September the party declared in favour of a German contribution to collective defence under certain conditions, but adhered to the view that the European Defence community would not fulfil those conditions

The Socialist parties of the other signatory countries continued to support ratification of the E D C treaty, but not unconditionally. The chief condition, on which all the European parties were unanimous, was that they rejected "any attempt to separate the six continental countries in process of integration from Great Britain and the Scandinavian countries." The French Socialist party, in particular, tended to place less emphasis on its support and more on the conditions laid down at its annual conference in May. To some extent, therefore, the gap between the French, German and British parties was narrowed, since the meeting of representatives of those parties at Bonn, but between the French and German parties the question of the Saar threatened to create a renewed ground for dispute.

All parties recognized the need for rearmament, but agreed on the necessity for continuing, at the same time, a policy of conciliation and appealed for an intensification of efforts to arrange a four-power conference with the object of uniting Germany under a single government on the basis of free elections under international supervision.

The parliamentary strengths of the European parties remained substantially unchanged. The Netherlands Labour party made a few gains and re-entered a coalition government as the senior partner. This advance appeared to be a dividend on the "break-through" policy, which was an attempt to surmount religious denominationalism in Dutch politics The Swedish Social Democratic party suffered a few losses which did not affect its position as the largest party in parliament and in the government coalition. The Italian Social Democratic party succeeded in maintaining its formal unity, and agreed to enter into an electoral alliance with the other democratic parties, but remained divided into factions. In the British Labour party the differences which centred round Aneurin Bevan also developed into a factional dispute

In Canada and New Zealand there was no major change. The Australian Labour party, which had already made some gains in the June elections for the legislative assembly of Victoria, won 38 out of 65 seats in the December elections and so obtained control of the state for the first time. Four out of the six states now had Labour governments Gains were also made in by-elections, notably at Flinders, which was recaptured with a large majority The Co-operative Commonwealth federation increased its majority in Saskatchewan in the June provincial elections and made considerable gains in the July British Columbia elections (*See* also ELECTIONS) (S RE)

SOCIAL SERVICES. The main alteration in the national insurance and ancillary schemes in Great Britain during 1952 was the increasing of benefits and allowances necessitated by the increase in the cost of living Family allowance was still only being paid for each child in a family after the first but was increased from 5*s.* to 8*s.* a week. The basic weekly rates of unemployment and sickness benefits and retirement pensions were increased from 26*s.* for a single person and 42*s.* for a married couple to 32*s.* 6*d* and 54*s.* respectively. A widow's pension was also increased from 26*s* to 32*s.* 6*d* The weekly contribution of an employed man was increased to 5*s.* 9*d*, and of an employed woman to 4*s.* 6*d.*, and the employer's contribution was increased to 5*s.* and 3*s.* 11*d.* respectively. A self-employed man was required to contribute 7*s.* 5*d.* and a self-employed woman 6*s.* 2*d.* The rate for a non-employed person was increased to 5*s.* 7*d.* for a man and 4*s.* 5*d.* for a woman The Exchequer contributions were also increased. National assistance scales were increased to 35*s.* for a single householder and 59*s* for a married couple, and the rates for dependent children were increased according to age The personal allowance which a pensioner or person in receipt of national assistance in a local authority home was allowed to retain as pocket money was increased from 5*s.* to 6*s.* 6*d.* a week.

It was not only in Great Britain that various rates of benefits were increased In Belgium supplementary and temporary allowances were made to the recipients of incapacity, invalidity and unemployment allowances of 4 francs a day for beneficiaries over 18 years. In France, the allowances

to aged workers were increased from Fr. 49,000 to Fr. 56,400 a year in districts with less than 5,000 people; from Fr. 52,000 to Fr. 59,800 in towns with more than 5,000 inhabitants; and from Fr. 55,000 to Fr. 63,200 in the Paris district. The maximum income above which the allowances to aged workers are no longer granted was raised. As a provisional measure the family allowances of wage earners and assimilated persons were increased by 43·75%. In Switzerland new legislation was enacted which increased minimum benefits, and prolonged the benefit period. In Hungary legislation was passed under which a pension was granted to each wage-earning worker who reached the prescribed age limit. The amount of the pension was in proportion to the wage of the person concerned. Workers who showed a production index corresponding to the higher wage rates would obtain the highest pension. Increased pensions were granted to workers doing heavy and dangerous work. The International Labour conference adopted a convention to assure a certain minimum standard of social security protection to those living in different countries which was referred for ratification to the countries concerned. A model convention on social security was also drawn up under the Brussels treaty permanent commission.



Stamp used for prescriptions at hospitals.

The report of the Ministry of National Insurance in Great Britain for 1951 was published and showed that at the end of 1951 207,000 persons were in receipt of unemployed benefit and about 33,000 in receipt of national assistance only, as compared with 209,000 and 27,000 respectively at the end of 1950. There were about 400,000 men and women who had reached pensionable age and had not yet retired, so qualifying for increments to the pensions which would be payable on their ultimate retirement. These figures are interesting as showing that many men and women did not wish to claim their pensions at the ages at which they were entitled to do so. About 3,100,000 families containing nearly 8 million children were receiving family allowances. Some 64% of those receiving allowances were families with two children. A comparison of this percentage with that in previous years showed that the average size of families was contracting. The annual report of the National Assistance board showed that 1,461,626 persons were receiving assistance at the end of 1951.

Reciprocal Arrangements. Most insured persons in Great Britain can continue contributing to the general national insurance scheme when they go abroad and thus maintain their benefit rights. In 1952 some 17,000 persons overseas were paying contributions direct to the Ministry of National Insurance and many others arranged for their friends to stamp cards for them while they were away. Some 18,000 retired pensioners were receiving their pensions overseas and some 5,000 persons abroad were receiving sickness and injury benefit for limited periods. The policy of negotiating reciprocal arrangements with other countries continued and new agreements were made with Guernsey and Italy, and a further agreement with France. Negotiations with other European and Commonwealth countries continued. An agreement previously negotiated between France and the Federal Republic of Germany came into operation. A new convention between Denmark and France provided for the rights of aged persons. By it, if an aged person left Denmark for France he lost his right to a Danish pension but became entitled under French legislation to a pension which was calculated by counting periods of residence in Denmark as if they had been in France. The amount of the pension was to be refunded by the Danish government. Conversely, if an aged person left France for Denmark he became entitled to a pension under Danish legislation either immediately (if he was a Danish national) or after five years uninterrupted residence (if he was a French national). He would not forfeit any rights that he had already acquired to a pension under French legislation; this would be paid to the Danish government which would pass on to the pensioner any amount by which it exceeded the Danish pension.

National Health Service. The only important alteration in the administration of the British national health service was the imposition of a charge of 1*s.* for each prescription dispensed by a chemist. To prevent hardship it was arranged



Children playing in the day nursery of the Woodberry Down health centre Stoke Newington, London, which was opened on Oct. 14. This was the first fully comprehensive health centre built under the National Health Service act at a cost of more than £100,000.

that a retirement pensioner or an old age pensioner or a person receiving national assistance could claim a refund. This brought into operation a scheme for which legislative sanction had been obtained by the former Labour government. The average cost of each prescription was estimated at nearly 4*s*.

The decision of the government, as a matter of general policy, to discontinue the national registration system whereby each person had an identity card necessitated arrangements being made to identify persons making use of medical, dental and ophthalmic services. Each person's former registration number was retained for this purpose and numbers were provided for babies and other persons who did not possess former registration numbers.

Voluntary Social Services. The National Council of Social Service in Great Britain continued, in association with its various affiliated bodies, to assist with voluntary efforts in the administration of the social services but experienced increasing difficulty in raising enough funds to meet its administrative expenses. It was the experience of voluntary organizations in Great Britain, as in some countries overseas, that the effect of high taxation and the feeling in some quarters that everything was being done by the state caused many former subscribers to discontinue their subscriptions or to reduce them very considerably. Some government grants made to the organizations were reduced or discontinued, notably the grant made previously to the National Council of Social Service towards the central oversight of the citizens' advice service Owing to financial stringency the activities of the National Council were curtailed in several directions but it was hoped that this would not reduce the voluntary work which was undertaken by many people, such as that in connection with old people's welfare. The National Old People's Welfare committee, in co-operation with local authorities, was instrumental in the formation of more local people's welfare committees, the total number reaching over 900. There were also 51 county committees. The number of old people's clubs, many sponsored by the Women's Voluntary service, increased to over 3,000. The International Conference of Social Work held a conference in Madras which was attended by representatives from some 30 countries

(Jo. Ms.)

United States. The social security programme was made more liberal by congressional action in July 1952. Old-age and survivors insurance benefits were increased and eligibility conditions liberalized, and additional federal funds were made available to the states to help to provide care for needy persons. The railroad retirement programme liberalized by amendments made late in 1951, provided some co-ordination with the old-age and survivors insurance

At the end of July 1952, monthly benefits totalling $162·3 million were being paid under the federal old-age and survivors insurance programme to 4·6 million persons. As from Dec. 31, 1951, the average monthly benefit for a family consisting of a widowed mother and one child beneficiary was $77·30; for an aged widow $36; for a retired man $43·20; and for a man and his aged wife $70·20.

After Sept. 1952, under the Social Security act amendments of 1952, retired persons already on the rolls received, in general, increases in their benefit payments of $5 or 12½%, whichever was larger; other beneficiaries received proportionate increases. An increase was also made in the amount which a beneficiary under 75 might earn while receiving benefits

Payments were also being made under other public programmes. In July 1952 monthly retirement, disability and survivor benefits were being paid to beneficiaries under the railroad retirement programme (507,200), veterans' programmes (3,468,600) and the federal civil service (217,100). Programmes for state and local government employees were paying retirement, disability and survivor benefits to a large group of beneficiaries.

In July 1952 a weekly average of 870,900 unemployed workers drew benefits; total benefits in the month were $88,612,000. Workers in all states had their weekly benefits supplemented by small allowances for their dependants. Under the Railroad Unemployment Insurance act about $6,128,000 was paid in July 1952 to an average (in a 14-day period) of 68,600 railroad workers.

The four special types of public assistance—old-age assistance, aid to dependent children, aid to the blind and aid to the permanently and totally disabled—were administered by the states or the local communities or both; the federal government shared in the costs within certain maximum amounts. Federal grants to the states for these programmes in the fiscal year 1951-52 amounted to $1,177,687,600; expenditures—federal, state and local—for assistance and administration of the four programmes totalled about $2,300 million. In July 1952, 2,648,641 needy persons aged 65 or over were receiving old-age assistance; the average payment was $45 51, 2,004,154 persons (including 1,499,325 children in 577,780 families) were receiving aid to dependent children (average payment per family, $76 44), 97,635 were receiving aid to the blind (average payment, $50 62), and 147,206 persons in 39 reporting states were receiving aid to the permanently and totally disabled (average payment, $46 44) About 303,000 cases were receiving general assistance, financed by states and localities without federal funds, the average payment was $48 35.

A change in the grant formula for the public assistance programmes under the 1952 amendments made it possible for the states to pass on to assistance recipients additional federal funds amounting to $5 a month for each aged, blind and disabled person and to $3 a month for each recipient of aid to dependent children. The provision, which became effective in Oct. 1952, was scheduled to terminate in Sept. 1954.

The Social Security act also authorized federal grants to the states, administered by the children's bureau, to extend and improve their maternity services for mothers and their health and welfare services for children, including services for crippled children. During the year ended June 30, 1952, $12,676,790 was paid to the states for maternal and child health services. Typical services, most of them designed to help mothers and children to keep well, were pre-natal clinics, visits to homes by public health nurses, clinics for healthy children of pre-school age and health services for school children. Federal payments to the states for services for crippled children totalled about $11,111,240; the programmes provided diagnostic, medical and surgical services and hospital and convalescent care. Federal payments of about $7,245,417 were made for child welfare services.

(A. J. A.)

Canada. The national health and welfare minister estimated that in 1952 Canadian governments and voluntary agencies would spend $1,330 million on social security. Federal social security payments made during 1951 for health and hospital care, labour and unemployment insurance, unemployment relief, old-age and blind pensions, family allowances, veterans' pensions and benefits totalled $670,503,000, as compared with $127,918,000 in 1944; provincial social security payments for health and hospital care, labour and unemployment relief, old-age and blind pensions totalled $255,456,000, as compared with $75,462,000 in 1944. In 1952 federal family allowances were distributed to the heads of 1,990,000 families and amounted to $332·15 million; pensions, allowances and other payments went to 194,000 veterans and amounted to $166·2 million.

Improvements made in workmen's compensation legislation were the most important social security measures directly

attached to the labour field: all ten provinces amended their compensation laws by increasing benefits, shortening waiting periods and broadening the scope of the measures.

The 1952 session of the federal parliament made extensive overhaul of the unemployment insurance act; amendments included an increase in rates of benefits, a reduction in the number of waiting days, an increase in the penalties for misrepresentation and provision for non-discrimination by the employment service in referring workers for employment

Ontario led the way in legislation to pay pensions to completely and permanently disabled persons The federal government conducted examination of health insurance schemes in four European countries and in New Zealand and financed health surveys in each of the provinces, but only Alberta and Saskatchewan recommended immediate adoption of a national health insurance programme (C. Cy.)

See *Annual Reports* of the Ministry of National Insurance and the National Assistance Board, *Bulletin of the International Social Security Association*, nos 4, 5, 6 (Geneva, April, May, June, 1952)

SOCIETIES, LEARNED AND PROFESSIONAL. Throughout 1952 the learned societies and professional institutions conformed to a well-established pattern of activity, the most apparent part of which was the holding of meetings and the publication of journals. Most meetings took place, naturally, in the autumn and winter months: in science and engineering alone each week-day saw, on average, five different societies holding a meeting. The 20 societies affiliated to the Biological council had tried to prevent clashes between meetings of different societies likely to appeal to a considerable common audience by establishing a diary of meetings of societies in 1952 and this policy achieved considerable success during the year. The promotion of the common interests of biological societies was furthered in 1952 by the Biological council's becoming an advisory body to the Institute of Biology. The latter body, in its third year of existence, achieved a membership of 1,000 and enlarged its activities on lines similar to those of its sister institutes of physics and chemistry.

The concern of members of the Royal Institute of Chemistry, the Institute of Physics and the Institute of Biology with the existing arrangements for the utilization of scientists in civil defence led to the holding of a joint meeting in October at which Home Office representatives and scientific advisers on civil defence were the speakers. A critical discussion did much to clarify the position and to show the Home Office that the institutes were willing to advise on better methods for recruiting scientists for specialized duties.

An announcement of interest to learned societies housed in Burlington house and other more inadequate and unsuitable premises was made on June 12 by the lord president of the council, Lord Woolton. He stated that a site on the south bank of the Thames immediately down-river from Waterloo bridge had been reserved for the British Science centre by the London County council, the planning authority. No assurance as to the date of commencement of work on the centre was given.

The Royal Horticultural society acted as host for an International Horticultural congress in September, the first since that held in Berlin in 1938. Botanists and horticulturalists from 27 countries were present and, in various sections, heard and discussed some 150 papers. Problems of economic importance, such as the swollen-shoot disease of cocoa and the blister blight of tea were considered, and it was reported that control matters for the latter had been devised. A paper on the new soil conditioner, krilium, and its possibilities aroused considerable interest. The possible productivity of desert regions was one of the topics considered at an international symposium on the biology of deserts arranged by the Institute of Biology.

The majority of societies have quite large overseas memberships with whom contact is usually by journal and occasional letter and thus the conference on "Civil Engineering Problems in the Colonies", arranged in June by the Institution of Civil Engineers for the benefit of those working in the colonies, was a welcome event. The Colonial Office gave its support by encouraging engineers in the colonial service to attend, and the conference was opened by Oliver Lyttelton, secretary of state for the colonies.

On March 25, 1952, the result of three years' negotiations by the British Medical association on the payment of general practitioners under the national health service was announced. The actual level of remuneration awarded by the Danckwerts committee was substantially greater than the interim scale. Members of the B M A. had, therefore, good reason to be pleased with their organization when they attended its annual meeting in Dublin. This function was held jointly with the Irish Medical association and a novel feature was a medical exhibition of research methods and new techniques in treatment displayed by groups of physicians and surgeons from various hospitals. The British Dental association was the host for the 11th International Dental congress held in the Royal Festival hall in July This was the first occasion that the congress had been held in Britain, two previous attempts having been frustrated by the two world wars Nearly 2,000 overseas visitors, three-quarters of them qualified dentists, attended the week's scientific sessions, demonstrations and film shows

In May 1952 Professor E N da C. Andrade resigned from his post as director of the Royal Institution Pending the appointment of a successor the work in the research laboratories and the programme of lectures and discourses was continued. The catholic interests of the membership were apparent from the titles of autumn discourses—"Chaucer's astronomy", "The Comet aircraft", "Habitat, vegetation and man", "Chemistry of an egg". The Christmas lectures for children were given by Dr. F. Sherwood Taylor, director of the Science Museum, on "How science has grown".

At a meeting of the Society of Antiquaries on Dec 4, Professor Jocelyn M. C Toynbee and C. D. P. Nicholson described the reconstruction, from over 6,000 fragments, of wall paintings from the Roman villa excavated in Lullingstone park. The paintings, considered to be unparalleled among works of art executed during the Roman occupation of Britain, indicated that the villa had contained a domestic Christian chapel—perhaps the earliest certainly Christian place of worship known in Britain.

The British Association for the Advancement of Science held its 1952 meeting in Belfast under the presidency of Professor A V Hill (*q v.*), whose address on "The ethical dilemma of science" aroused much discussion. It raised the problem of a rate of increase of world population (the result of the greater health conferred by science), which would outstrip the available food supplies, thus might the good of the benefits of medical science result in the evil of more suffering caused by famine. The high proportion of young people among those present at the meetings throughout the week was a sign of the good health enjoyed by the British Association in its 122nd year.

The interest of the Duke of Edinburgh in scientific matters, which had become apparent with his presidential address to the British Association in 1951, was emphasized by his being elected in Jan. 1952 as the first honorary fellow of the Royal Institute of Chemistry. Later in the year it was announced that he had succeeded the queen as president of the Royal Society of Arts on her majesty's becoming patron of the society. The Cantor lectures of the society were delivered in November by Dr. P. W. Brian on "Microbiology". The lectures drew attention to the importance of this rapidly

developing subject and enabled those other than professional microbiologists to appreciate the significance of work discussed and furthered by societies such as the Society for General Microbiology and the Society for Applied Bacteriology. To mark the centenary of the first Pharmacy act the Pharmaceutical society arranged an exhibition of drugs, appliances and prescriptions used in 1852. Pharmacists had occasion to benefit from three lectures on broad topics by Professor J. W. Cook, Dr. C. D. Darlington and Sir Eric Rideal which were arranged by the School of Pharmacy to celebrate its receipt of a charter.

Two new journals were established during the year, *Annals of Physical Medicine* and *Applied Statistics*, the former as the journal of the British Association of Physical Medicine and the latter as a third periodical of the Royal Statistical society intended for those in science and industry who while not being full-time statisticians were finding an increasing use for statistical methods. The Museums association adopted new articles of association during the year which allowed for seven grades of membership. Two of these, associateship and fellowship, were intended as professional qualifications entitling the use of the letters, A.M.A and F.M.A

The royal medals of the Royal Society were awarded as follows: to Sir Frederic Bartlett for his creation of an experimental school of psychology, in Cambridge university, of an outstanding position recognized internationally as without superior, to Professor C. K. Ingold for his studies on the mechanism of organic chemical reactions and for his analysis of the structure of benzene. The Royal Geographical society awarded its founder's medal to H. W. Tilman for his exploratory work among the mountains of east Africa and central Asia and its patron's medal to Paul-Emile Victor for his contributions to polar exploration including geophysical explorations of the Greenland ice-cap. G. Grey Wornum received the gold medal of the Royal Institute of British Architects for 1952 for his contributions to architecture, particularly for his work in replanning Parliament square. Professor J. F. Baker, head of the department of Engineering at Cambridge university, received the Ewing gold medal of the Institution of Civil Engineers for his contributions to engineering research: these included work on designing steel framed structures using plastic models, a method resulting in an economy in the use of steel in the final structure.

Members of learned societies had good reason to mourn the death of Sir Richard Gregory (*see* OBITUARIES) whose catholic interests had enabled him to play an active part in the affairs of many educational and scientific bodies. He had been president of four societies, the Science Masters association, the Royal Meteorological society, the Conference of Educational Organizations and the British Association, and his tenure of the editorship of *Nature* had enabled him to further the work of a variety of societies. (D. J. B. C.)

SOCIETY ISLANDS: *see* PACIFIC ISLANDS, FRENCH.

SOCIOLOGY. Two major American works in the field of theoretical sociology which attracted much attention when they were published in London during 1952 were Talcott Parsons' *The Social System* and the Harvard symposium *Toward a General Theory of Action*, edited by Talcott Parsons and Edward A. Shils. These two books were the subject of an important elucidatory article, "Principia Sociologica", by W. J. H. Sprott (*Brit. J. Sociol.*, vol. iii, no. 3, London, Sept. 1952). Together they represented an ambitious search for a comprehensive conceptual framework into which sociological enquiry might be fitted. At the University of Illinois also, Florian Znaniecki produced another major theoretical study in his *Cultural Sciences, Their Origin and Development* (New York), though this had a somewhat clearer empirical reference than either of the Harvard studies. In Great Britain the philosophical approach to sociology was represented by a posthumous volume of Karl Mannheim's *Essays on the Sociology of Knowledge* (London), a collection of papers mostly drawn from the author's earlier work and not previously published in English.

Notable progress was made in the treatment of sociological topics by the use of field studies and statistical techniques which contrasted strongly with the theoretical analyses already mentioned. The degree of refinement to which these methods can be carried was illustrated by Bernard Berelson's *Content Analysis in Communication Research* (New York), which was concerned only with technical devices for measuring printed matter in terms of such factors as readability, psychiatric indications or military intelligence. On a popular level, Horace C. Levinson's *The Science of Chance* (London) presented in lively terms the relevance of the laws of probability, and of statistical methods ultimately based on these, to problems ranging from betting to military strategy. The importance of this work lay in its demonstration of the essential unity of quantitative methods in every sphere of enquiry.

A number of concrete studies of particular topics dealt with aspects of delinquent or anti-social behaviour. An outstanding work in this field was Joseph Trenaman's *Out of Step* (London), a study of the treatment of young delinquent soldiers in Special Training units in wartime. This investigation clearly owed much to the imaginative insight as well as to the technical skill of its author, and was a model of how to combine the statistical analysis of group characteristics with the intensive study of case-histories. T. Ferguson's Glasgow study *The Young Delinquent in his Social Setting* (London), complemented his survey of Glasgow school-leavers published in 1951 in conjunction with J. Cunnison. This second volume presented careful measurements of the physical, mental and social qualities of the delinquents amongst three distinct groups: the 1,349 "ordinary" boys who left the city's schools at 15 in 1947 and were the subjects of *The Young Wage-Earner*, a group of physically handicapped boys, and a group of those who left schools for the mentally handicapped at the age of 16. The Cambridge School of Criminal Science in a study of *Detention in Remand Homes* (London) carried out a most valuable analysis of the background and subsequent experience of children and young persons committed for short periods of punitive detention in remand homes in four big cities during 1945-48. From all these works certain common conclusions emerged, particularly as to the syndrome of signs and symptoms which we can begin to treat confidently as indications of more than average liability to fall into anti-social behaviour. The Cambridge study was of considerable interest also for the light which it threw on the effectiveness of the particular type of treatment studied.

The application of statistical methods to social problems is still in its infancy. A pioneering work which gave some idea of what may eventually be achieved in this field was L. S. Penrose's monograph on *The Objective Study of Crowd Behaviour* (London). In this work, which dealt with crazes, panics, voting behaviour, war, religious enthusiasms and the transmission of ideas, the method used was strictly parallel to that of statistical epidemiology. Some important analogies between the spread of infectious diseases and the dissemination of ideas in modern communities were revealed. In this context should be mentioned also a short but remarkable note by L. F. Richardson (*Brit. J. Sociol.*, vol. iii, no. 1, London, March 1952) in which he discussed, from a statistician's angle, whether it is possible to prove any general statements about historical fact. Such pioneering studies as these marked the beginning of entirely new criteria for assessing the value of historical generalizations.

The attempt to analyse industrial happenings in sociological, rather than exclusively economic, terms gained further momentum. K. G. J. C. Knowles produced a masterly study of industrial conflict (*Strikes*, London). W H. Scott's intensive study of the working of joint industrial consultation in three Merseyside firms (*Industrial Leadership and Joint Consultation*, London) threw much light on the conditions which make such consultation effective or ineffective, and a remarkable enquiry by J. F. Scott and R P Lynton on behalf of the British Institute of Management (*Three Studies in Management*, London) called attention to neglected (though simple) psychological factors affecting productivity. (B. W.)

SOIL CONSERVATION. During 1952 steady if unspectacular progress in soil conservation was made in many countries, mainly using methods worked out in the United States and Canada. More soil conservation districts were established, but no new procedure was devised; operations during the year were on standard lines but in most countries were impeded by lack of trained staff, appliances and capital. Great conservation and reclamation schemes started in the late 1940s in India, Australia, Africa and elsewhere had to be slowed down Soil conservation surveys, however, were greatly accelerated in several countries. Noteworthy reports of such surveys were issued during the year on the Murray river valley, Australia, the South Island high country and the southern half of the North Island of New Zealand; and the Andean regions of Colombia, Venezuela and Ecuador

The training of agricultural specialists from many parts of the world in conservation methods, etc , was continued in the United States. There were between 300 and 400 trainees during 1952 most came from European countries and from Canada, where soil conservation programmes were in their early stages. A six-week special short course in soil and water conservation at the University of Georgia was attended by 29 European specialists. eight were from Germany and the rest from Austria, France, Greece, Italy and the Netherlands The course was sponsored by the college of agriculture of the University of Georgia, the Mutual Security agency, the United Nations Food and Agriculture organization, and the office of foreign agricultural relations and the soil conservation service of the U S Department of Agriculture. During the summer 56 agriculturalists from 11 European countries took part in a grassland conservation study course conducted by the Department of Agriculture and the land-grant colleges of the United States.

Commonwealth. Canada's considerable progress in soil conservation was described in the 1952 report of activities under the Prairie Farm Rehabilitation act, 1935. Land found unsuitable for wheat production because of its liability to erosion and to drought was withdrawn from cultivation and put down to grass, which, by proper management and provision of water supply, was made into useful pasture for community grazing on specified terms and conditions. The procedure included the resettlement of the displaced farmers on better land and the undertaking of many irrigation projects and water storage works - dugouts, stock watering dams, etc.—to ensure maximum utilization of the available water. By 1952 some 4,000 farms had been rehabilitated; thousands of miles of coulees, creeks and streams that had hitherto run dry in late summer now had a continuous flow of water, and over large grazing areas farmers no longer had to sell " unfinished " animals at a loss because of water shortage, but could keep them until they were " ripe " for disposal. Water had been made available for the irrigation of nearly 330,000 ac. in the southern part of the prairies. In addition to these activities there was much pasture improvement, fostered by the Department of Agriculture, which greatly contributed to the conservation of the soil.

In Australia anti-erosion and conservation activities were continued but, following modern policy, efforts were directed more to the development of regions of reliable rainfall where these problems are less important than in the semi-arid tracts.

New Zealand, although too intensively cultivated to suffer much from erosion and deterioration, had its bad areas. Remedial measures continued to be applied, including better control of stock and of rabbits, less burning of the native grass, and aerial sowing of better grasses and clovers, top-dressed where practicable with phosphatic fertilizer, the technique of aerial sowing had been well developed in the dominion. Poplars, willows and other trees were planted in suitable places to hold back the soil, and areas needing full tree cover were afforested. No great achievements were recorded, however, the necessary detailed surveys for comprehensive action not having yet been made

In South Africa anti-erosion measures continued to be taken under the Soil Conservation act, 1946. Some good work financed by the British Colonial Office was carried out in the High Commission territories, Basutoland, Swaziland and Bechuanaland· many miles of protective banks were made for the protection of vulnerable lands, graded drains were constructed to divert storm water from arable lands, running it safely along grass-protected water-ways to existing streams An outstanding conservation programme was being carried out in Basutoland, with a total area of 7 5 million ac More than half the sloping cultivated land had been protected by contour grass strips and heavy diversion terraces above fields. Vegetation on 3,000 sq mi of denuded mountain grazing land, placed under controlled grazing in 1940-45, was recovering rapidly. In the lowlands, 280,000 ac had been stabilized by graded furrows, and 300 earth dams with a total capacity of 400 million gal of water had been built. Tree planting and measures to promote soil fertility were stressed during 1951-52 The work in Basutoland began in 1936 on the property of the paramount chief, who later delegated responsibility for maintenance to the ten local chiefs. The terms of this responsibility were written into the Laws of Lerotholi, Basutoland's code of tribal laws and customs. Veldt burning was prohibited Critically eroded areas were closed for cultivation Ploughing up and down slopes was made illegal, and grazing areas could not be ploughed without the permission of the chief. The programme had already brought remarkable benefits in doubled and trebled yields per acre of maize and other food crops.

The problem in Southern Rhodesia was complicated by the fact that much of the erosion was geological and unconnected with human activity During the period 1948-51 some 17,850 mi of contour ridges were set up and 357,000 ac. of arable land protected; in 1952 the work was continued as new land was brought into use There were about 80 farmers' intensive conservation areas, and most of the work of applying conservation to the land had been done by farmers, with assistance from the Department of Conservation and Extension.

In the other African countries within the Commonwealth the main efforts were directed at making the peasant systems of agriculture more productive and better adapted for the conservation of the soil. Social difficulties arose when, as often happens, the new methods necessitated the abandonment of ancient rights and customs.

Europe. The urgent need for re-making both permanent and temporary pastures, and for the incorporation of grass-legume crops into rotations, had been stressed by postwar surveys in Italy, Portugal and Yugoslavia. It was also emphasized that many mountain watersheds should be treated without further delay to prevent floods, decrease erosion and improve soil and plant-cover conditions to provide forage for livestock.

The Belgian Ministry of Agriculture adopted a programme to assist farmers, through subsidies, demonstrations and educational schemes, with grassland re-seeding and soil fertility improvement. In Denmark plans were made to test new legumes and grasses, including ladino clover and brome grass from the United States, for use in soil fertility improvement programmes. In western Germany, conservation treatment of grasslands and supplemental irrigation on crop land were considered to be of primary importance in building up the agricultural economy Both wind and water erosion were serious problems in some areas of Germany It was proposed to appoint one grassland conservation expert in each *Land* and one at the federal Ministry of Agriculture.

The land improvement section established in the French Ministry of Agriculture in 1951 started soil-conservation and water-utilization research. Control of wind erosion, cropping and rotations to improve soil structure, and methods of loosening sub-soil were under consideration in Austria

Asia. Under the direction of the Soil Conservation department established in Burma in 1950, eight soil-conservation demonstration areas were set up in the Shan state during 1951-52, and plans had been completed for three more demonstration areas. In the Philippines, additional trained personnel, equipment and facilities for extending both conservation research and operations on farms were made available to the Bureau of Soil Conservation Soil and water conservation surveys were being made, by provinces, for use in farm planning, and a broad programme was being drafted to cover the whole country, under the provisions of the National Soil Conservation act, 1951

Land surveys in Pakistan showed that more than one-third of the 10 million ac of irrigated land in the West Punjab was in danger of going out of production because of waterlogging and salinization A project was started to reclaim 12,000 ac that had been so seriously affected as to kill crops Irrigated date palm groves in Saudi Arabia were also found to be heavily impregnated with salts. Deep ploughing to break up the impervious layer of soil, followed by flooding to leach out excessive salts, was necessary before conservation practices could be applied. A study of Saudi Arabia's ancient water sources was in progress to determine whether they could be restored to provide irrigation water. A conservation and land use programme for Israel was completed early in 1952.

United States. By the end of the fiscal year July 1, 1951, to June 30, 1952—a year of record activity—farmers had organized 2,467 conservation districts in the 48 states, Alaska, Hawaii, Puerto Rico and the Virgin Islands. These districts contained 1,358,913,000 ac. of land. In continental United States, more than 4,926,000 farms and ranches, containing 895,451,000 ac , were now within conservation districts. The 36 districts of the Caribbean area, Hawaii and Alaska included an additional 59,926 farms composed of 2,689,000 ac. of land. During the fiscal year an additional 37,632,344 ac of farm and ranch land was covered and mapped by conservation surveys (7% more than in 1950-51), bringing the total so surveyed to 410,103,909 ac Cover cropping, applied during the year to 3,296,085 ac., increased by 17%. The seeding of nearly 3 million ac. of range and pasture in the districts represented an increase of 26% over the preceding year. Woodland management and tree planting, however, decreased by 7%.

Flood control operations in connection with the soil conservation programme were continued in 11 watersheds where 28 sub-watershed work plans were prepared for nearly 1·4 million ac. Emergency farm land restoration and stream channel improvement work in the lower Missouri river basin and along other flooded streams was carried on and largely completed, mainly by contracts prepared under supervision of the soil conservation service.

Much attention was given to cropping systems including legumes and grasses (especially Suiter's tall fescue, crested wheat grass, etc.), much heavier use of fertilizers, lime and manures, cover crops, stubble mulching and other methods of supplying organic matter to the soil, as a protection against erosion and deterioration. The production of the necessary grass seed was in itself a major operation Suiter's grass had been found on the land of an east Kentucky farmer of that name only in about 1940, but by 1952 enough seed had been grown for sowing well over a million acres Progress was also made with the rehabilitation of a considerable area in the southern states eroded by the growth of groundnuts during World War II; blue lupins were sown to restore fertility and, as a necessary preliminary, seed for more than 2 million ac. was produced. On the basis of many scientific experiments and field trials, it was estimated that per acre yields of most crops, including pasture, could be raised 60% to 75% if the best-known combinations of erosion control and soil fertility methods were used on a farmland in the United States. (*See* also FLOODS AND FLOOD CONTROL) (JN. RL , R. M. S.)

SOLOMON ISLANDS: *see* TRUST TERRITORIES.

SOLOMON ISLANDS PROTECTORATE: *see* PACIFIC ISLANDS, BRITISH.

SOMALILAND: *see* BRITISH SOMALILAND; FRENCH SOMALILAND, ITALIAN SOMALILAND.

SOUTH AFRICA, THE UNION OF. A self-governing member of the Commonwealth of Nations, extending from the southernmost point of the African continent northward to the Limpopo, Molopo and western Orange rivers. The mandated territory of South-West Africa is administered by South Africa.

Provinces	*Area* (sq mi)	*Population* (1951 census*)	*Capital* (total and European pop , 1951 census*)
Cape of Good Hope	277,113†	4,417,330	Capetown (*q v*) (571,638, 242,493
Natal	35,284	2,408,433	Pietermaritzburg (74,399, 31,512)
Orange Free State .	49,647	1,018,207	Bloemfontein (109,130, 47,856
Transvaal .	110,450	4,802,405	Pretoria (283,148, 149,614
Total, Union of South Africa	472,494	12,646,375	
South-West Africa	317,725	430,354	Windhoek (1946 census, 14,933, 6,985)

* Revised preliminary figures † Incl Walvis Bay (430 sq mi , pop , 194 census, 2,270), Union territory administered with South-West Africa

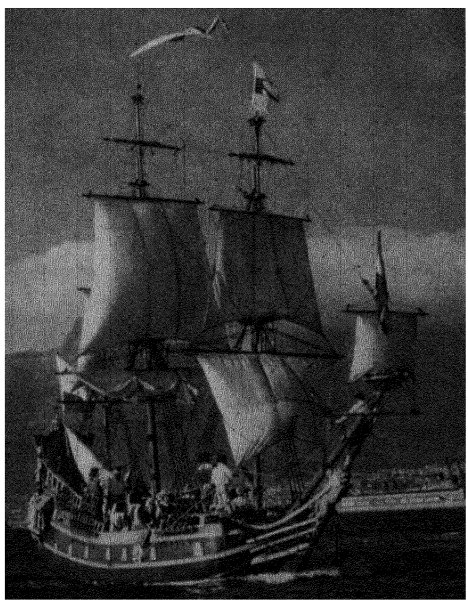
The population of the Union included: European 2,643,187 Bantu 8,535,341; Coloured (mixed) 1,038,766 (923,914 in Cape Province), Asian 365,524 (299,068 in Natal); Cape Malay 63,557 (56,543 in Cape Province). Pop., South-West Africa· European 49,641; African 380,686; Malay 16; Asiat 11. Language: official languages (1946 census, European only), 69% spoke Afrikaans and English, 17% English only 14% Afrikaans only; Africans, generally Bantu. Religion (Europeans, 1946 census) Dutch Reformed Church 55% Anglican 19%; Methodist 6%; Presbyterian 5%; Roman Catholic 5%; Jewish 4%; other 6%; (non-Europeans 51% Christian. Capetown is the seat of the legislature Pretoria that of the government and Bloemfontein that of the Supreme court. Other principal towns (total pop. and European pop., 1951 census) are: Johannesburg (880,014 359,539); Durban (475,026; 148,980); Port Elizabeth (187,071

78,315); Germiston (149,982; 65,854); East London (90,695; 43,668); Springs (115,880; 31,389). Governor-general, Ernest George Jansen; prime minister and minister of external affairs, Daniel François Malan (*q.v.*).

History. A prolonged constitutional crisis dominated the South African political scene throughout 1952. On March 20, in the case of *Harris* v. *Minister of the Interior* in the appellate division of the Supreme court, five judges unanimously held invalid the act passed by parliament in 1951 altering the franchise of Cape Coloured voters. The judgment was based on the fact that the act had not been passed by a two-thirds majority of both houses of parliament at a joint sitting, as required by the entrenched clauses of the constitution. These clauses, the court held, had not been affected by constitutional developments since union.

This decision came as a blow to the government, which promptly rejected its legal implications. After bitter debates parliament passed a new act designed to avoid the legal consequences of the court's ruling. This act established a " High Court of Parliament " to review any judgment of the appellate division of the Supreme court that declared invalid any part of any act passed since Dec. 11, 1931, when the statute of Westminster took effect. Every member of parliament was made a member of the court. Two months after the parliamentary session, the High court met in secret session at Pretoria, but no member of the opposition parties took part in its proceedings. On the recommendation of its judicial committee, the High court, presided over by the speaker of the House of Assembly, set aside the appeal court's decision. In a considered judgment, published later, the High court reviewed and rejected the legal grounds on which the appeal court had based its decision.

Meanwhile, steps had been taken by the same litigant, a Coloured voter, G. Harris, to contest the validity of the High Court of Parliament act itself. Two days after the High court had announced its decision, a full bench of three judges of the Cape provincial division of the Supreme court held that the High Court of Parliament act was itself invalid because it disregarded the entrenched clauses of the constitution and sought to circumvent them. In this piquant situation the government then appealed against this decision to the appellate division of the Supreme court, which rejected the appeal late in 1952. The government continued to defend its view that parliament must be supreme, while the opposition maintained that the rule of law as interpreted by the ordinary courts must be upheld. Both the principal political parties, preparing for the general election in 1953, regarded this issue as an outstanding one. The United party, the Labour party and the Torch Commando (war veterans' political organization) formed a " united democratic front " against the government. In the only by-election during the year, in the rural Transvaal constituency of Wakkerstroom, the government retained the seat with a substantially increased majority. The delimitation commission, at work revising constituency boundaries, announced that the Transvaal would be entitled to two new seats.



A reconstruction of " Dromedaris " sailing into Capetown, April 6, 1952 300 years after Jan Van Riebeeck had sailed in the vessel from the Netherlands.

In Natal the government's attitude to the constitution evoked heated opposition, part of which even contemplated secession of the province from the Union under certain circumstances.

Race Relations. The African National Congress, under James Moroka, and the South African Indian Congress, under Y. M. Dadoo, had resolved in Dec. 1951 to embark jointly on " a campaign to defy unjust laws " unless the government repealed laws involving racial discrimination. The prime minister, D. F. Malan, explained his policies and warned the congresses that any disturbances would be quelled. On April 6 protest demonstrations were held in several centres, coinciding with the van Riebeeck celebrations marking the tercentenary of white settlement at the Cape. The second phase of the campaign began on June 26, when volunteers invited arrest by breaking various *apartheid* and pass laws. Within the first three months of the campaign over 4,000 non-Europeans were arrested and most of them imprisoned. The government took a serious view of this movement of passive resistance and threatened heavier penalties for the resisters. Twenty African and Indian leaders were put on trial in Johannesburg under the act to suppress all forms of Communism.

Anti-Communist Measures. A member of the House of Assembly, Sam Kahn, elected in 1948 by Africans in the Cape western area, was expelled after a select committee had decided that he was promoting Communism. A member of the Cape provincial council, Fred Carneson, lost his seat for the same reason. Applying the act to suppress Communism, the minister of justice, Charles Swart, compelled several leading trade unionists to resign their offices, including the well-known Emil Sachs, general secretary of the big Garment Workers' union in the Transvaal. Disturbances occurred in Johannesburg, and people were injured through police action, when Sachs was arrested at a public meeting. Sachs was later convicted under the act and sentenced to six months' imprisonment. The government was criticized by trade unions and by the parliamentary opposition for its policies, which were held to restrict the freedom of the unions.

The Industrial Legislation commission issued a comprehensive report on labour laws. It recommended, *inter alia*, a national labour board to co-ordinate wages and conditions of employment and other amendments to existing legislation. It also recommended the strict separation of white and non-white workmen in different trade unions. It advised the legal recognition of African unions provided that important safeguards to control their activities were observed. New



" You Too ! ", a cartoon by Low in the " Daily Herald " (London) on March 27.

legislation based on this report was contemplated but not proceeded with. The South African Trades and Labour council sponsored publication of a new bilingual weekly, *Saamtrek*, to defend the interests of organized labour.

A weekly newspaper, the *Guardian*, published in Capetown since 1937, was declared to be Communist and banned. However, a new weekly, called *Advance*, was promptly produced under the same auspices. The suppression of the *Guardian* was condemned by the English-language dailies (which all opposed the government), but defended by the Afrikaans-language dailies (which all supported it).

Economic Position. The annual budget was presented to parliament in March by N. C. Havenga, minister of finance (see *Finance and Banking* below). In 1952-53 additional revenue was anticipated from increased customs and excise duties on cigarettes, tobacco, beer and mineral waters, leaving a surplus of £1·4 million. A special defence equipment account was opened to provide, over the following two years or so, about £40 million for payment for armaments purchased mainly from U.S. sources.

In his annual review of the Union's finances, presented in July, M. H. de Kock, governor of the South African Reserve bank, reported a deterioration in the balance of payments and a decline in gold reserves. The Union agreed to assist the sterling area in its financial crisis; if necessary by sacrificing imports from non-sterling areas. It continued to press for a higher world price for gold. An unprecedented level of economic activity was maintained and the net national income continued to rise.

The production of uranium was begun, thanks partly to loans to the gold mines from the British government. There was continued expansion in the production of other base minerals, due mainly to U.S. interest. Large rock-phosphate deposits in the northeastern Transvaal were acquired by the government, which took steps to exploit and develop them.

Early in April the country celebrated the third centenary of the landing at Capetown (*q.v.*) of the first white colonists. Revising the dates of annual public holidays, parliament added a new one, van Riebeeck day, to commemorate the day on which the settlement was originally established, April 6, 1652.

At the United Nations general assembly in Dec. 1951 South Africa had again been under attack for its policy towards South-West Africa. As a result, T. E. Dönges, minister of the interior, its chief representative at that session, was temporarily withdrawn in protest. Further negotiations, proposed by the assembly between South Africa, India and Pakistan on the treatment of Indians in the Union did not take place because of failure to reac preliminary agreement on the basis of discussion.

(J. Ln.)

Education. State schools (1947): primary 1,190 (European 1,110 pupils 115,368, (European 92,291), teachers 3,927; secondary and hig schools 241, pupils 75,339 (Europeans 65,232), teachers 3,122; missio schools 3,031; training institutions (European 9), pupils 3,790 (Eur pean 874), teachers 218. Private schools (1948): kindergarten 8 primary 672; secondary 112; commercial and business 19; others pupils at all private schools 65,089 (European 35,887). Technic colleges (1948) 11, students 46,000, teachers 2,150. Universities (1951) total enrolment of students (1949) 23,977.

Agriculture. Main crops ('000 metric tons, 1950; 1951 in brackets maize 2,490 (1,635), wheat 709 (652), oats 115; potatoes 239 (240), d beans 32 (32), sugar, raw value 622 (482), groundnuts 80 (113), sunflow seed 51, tobacco (1949-50; 1950-51 in brackets), 18·9 (19·7), grap (1949-50) 430, oranges and tangerines 204 (213), grapefruit 15 (17 lemons 4 (5), raisins (1948) 8·7. Wine production ('000 hectolitre 1949-50; 1950-51 in brackets): 2,609 (2,670). Livestock ('000 hea Aug. 1949): cattle 12,242, sheep (Sept. 1950) 31,361, goats 5,529, pig 761. Meat production ('000 metric tons, 1950; 1951 in brackets): tot 421 (401), of which beef and veal 299 (272), pork 52 (51). Dairy produ tion ('000 metric tons, 1951; 1952, six months in brackets): butte factory production 29·9 (15·0), cheese, factory production 9·6 (4·9 Wool, clean basis, ('000 metric tons, 1950; 1951 in brackets): 49 (50 Fisheries: total catch ('000 metric tons, 1949) 125. Fish oil productio ('000 metric tons, 1950; 1951 in brackets): 536·4 (644·4).

Industry. Industrial establishments (1948-49): 14,361; person employed 670,000 (Europeans 228,000). Index of employment i manufacturing and building (1948 = 100, 1951; 1952, four months, i brackets): 109 (112). Fuel and power (1951; 1952, six months, i brackets): coal ('000 metric tons, sales) 26,112 (13,375), electricit (million kwh., sales) 11,664 (6,113). Raw materials ('000 metric ton 1951; 1952, six months, in brackets): iron ore, metal content 1,41 (795); pig iron 804 (543); steel ingots and castings 1,008 (610); copper smelter 33·1 (17·3); (short tons) chrome ore 600 (315); manganese or 836 (476); asbestos 107 (67); gold ('000 fine oz.) 11,516 (5,831); diamond ('000 metric carats) 2,228; silver ('000 fine oz.) 1,164 (584); osmiridiun (oz.) 6,359 (2,831). Cement ('000 metric tons, 1951; 1952, six months in brackets) 1,953 (1,000). Leather footwear ('000 pairs, 1951; 1952 six months, in brackets): 13,276 (5,868). New dwellings complete (1950; 1951, six months, in brackets): 5,016 (2,369).

Finance and Banking (million £SA). Budget: (1951-52 actual) revenu 226·3, expenditure 270·2; (1952-53 est.) revenue 207·4, expenditur 205·9. National debt (June 1951; June 1952 in brackets) 784·5 (818·6) Currency circulation (July 1951; July 1952 in brackets) 76·1 (83·7) Bank deposits (July 1951; July 1952 in brackets) 325·8 (314·7). Gol and foreign exchange (million U.S. dollars, Aug. 1951; Aug. 1952 i brackets): 411 (333). Monetary unit: South African pound at par wit the pound sterling and with an exchange rate (Nov. 1952) of £SA 0·37 to the U.S. dollar.

Foreign Trade. (Million £SA, 1951; 1952, six months, in brackets. Imports 469·1 (230·3), exports 343·1 (168·4). Main sources of import (1951): U.K. 35%; U.S. 19%; Canada 4%; Germany 3%. Mai destinations of domestic exports: U.K. 24%; France 15%; U.S. 11% Southern Rhodesia 8%. Main imports: metals, metal manufactures machinery and vehicles 35%; textiles and clothing 26%; petroleum and products 6%. Main exports: (excl. gold and bullion) wool 24%; semi processed gold 15%; diamonds 8%; non-ferrous metals 5%.

Transport and Communications. Roads (1950): national 6,000 mi. provincial main roads 80,715 mi. Licensed motor vehicles (Dec. 1950): cars 466,000, commercial 134,000. Road services (1949-50): passengers conveyed 13·8 million; goods carried 1,754,500 metric tons. Railways (1950): 13,942 mi.; goods ton-mi. 11,570 million; goods carried ('000 metric tons) 39,600. Shipping: merchant vessels, 100 gross tons and over, July 1951: 158; total tonnage 160,862. Air transport (150): passenger-mi. 125 million, cargo net ton-mi. 4·2 million. Telephones (1951): 458,851. Wireless licences (Dec. 1949): 531,300.

BIBLIOGRAPHY. (All 1952.) E. S. Sachs, *The Choice before South Africa* (London); B. Davidson, *Report on Southern Africa* (London); J. H. Hofmeyr (rev. by J. P. Cope), *South Africa* (London); L. Marquard, *The Peoples and Policies of South Africa* (London); J. van der Poel, *The Jameson Raid* (Capetown); J. C. Smuts, *Jan Christiaan Smuts* (London).

SOUTH AFRICAN LITERATURE. English.

During 1952 publications were numerous and varied, books of history and travel predominating.

The official translation of the *Journal of Jan van Riebeeck 1651-1662*, edited by H. B. Thom (Capetown) commemorated the tercentenary of the landing of the founder. *The Bechuanaland Protectorate* by A. Sillery (Oxford University press) described the territory and outlined its history. *Shaka's*

Country by T. V. Bulpin (Capetown) presented Zululand, its people, history and traditions.

The first volume to be published of the official South African history of World War II, *Crisis in the Desert*, by J. A. I. Agar-Hamilton and L. C. F. Turner (O.U.P.) described the most critical phase of the western desert campaign of 1942. In *The Peoples and Policies of South Africa* (O.U.P.) L. Marquard surveyed the South African scene historically, racially, politically. *Jan Christiaan Smuts* by J. C. Smuts (London) was a noteworthy biography of the great soldier-statesman.

Past history was reflected in Nan K. Lock's *Three Ships Came Sailing* (Capetown), a fictional narrative of van Riebeeck's life, *The Burning Man* by S. G. Millin (London), the story of Johannes van der Kemp, missionary to the Hottentots, and *The Gentle Amazon—The Life and Times of Lady Smith* by Jane-Eliza Hasted (London).

Travel literature yielded *Venture to the Interior* by L. van der Post (London) describing his journey of exploration into Nyasaland, *My Way Leads me Seaward* by F. Wightman (Capetown), the account of the author's voyage by yacht through the Bahamas to America, and H. Klein's *Land of the Silver Mist* (Capetown) telling of travel and experiences in Natal, Swaziland, the Zoutspansberg and other parts of the Transvaal. *In South Africa* (London) by F. Brett Young offered an attractive picture of the country.

Miscellaneous publications included *Overberg Outspan* by E. H. Burrows (Capetown), an interesting account of people and places in the southwest Cape, L. G. Green's *Lords of the Last Frontier* (Capetown), the story of South-West Africa, and V. M. Fitzroy's *Down to Earth* (Capetown), a book on gardening with an entertaining human interest.

The South African Novel in English (Potchefstroom), in which J. P. L. Snyman surveyed South African novels and novelists between 1880 and 1930, was a valuable addition to the history of South African literature. (M. E. WR.)

Afrikaans. The Afrikaans literary stage was dominated by the third centenary festivals in commemoration of the founding of the European settlement at the Cape in 1652. Very opportune was the publication of a volume of letters by the wife of the founder of the colony, *Briewe van Johanna Maria Van Riebeeck*, edited and annotated by D. B. Bosman. Van Riebeeck's diary had been unobtainable for a considerable number of years and the Van Riebeeck society appropriately now published volume I, covering the period 1652-55. Other publications bearing on South African events in review are: *Ons Drie Eeue* ("Our Three Centuries") by Victor de Kock and *Drie Eeue, die Verhaal van ons Vaderland*, by A. J. Boëseken, D. W. Kruger and A. Kieser, vols. i-iii.

In a year of national festivals the publication of other books on historical topics and biographies would naturally be expected. In this category were Paul Kruger's manifestos and occasional speeches, *President S. J. P. Kruger se Verkiesingsmanifeste, Intreeredes En Toesprake*, annotated and translated into English by J. S. du Plessis; the Convention diary of F. S. Malan, *Die Konvensiedagboek van sy Edelagbare Francois Stephanus Malan 1908-9*, with introduction and notes by J. F. Preller and an English translation by A. J. de Villiers (Van Riebeeck society).

The festival prize for drama was awarded to W. A. de Klerk, a young playwright with promise, for *Die Jaar van die Vuur-os*, which was selected by the National theatre for one of its annual circuits; the Suid-Afrikaanse Akademie also awarded it the Hertzog prize for drama. These honours were equally shared by a farcical play: *As Ons Eers Getroud Is*, by G. J. Beukes. De Klerk also received laudatory comment for his novel *Nelia Bell*. Attention must besides be drawn to the following novels: C. M. van den Heever, *Vannag Kom die Ryp*; Anna de Villiers, *Purper Daeraad*; Meg Ross, *Uit die Stilte*; E. Vermeulen, *Land Van Die Suide*; Oswald Pirow, *Sikororo*; H. S. van Blerk, *Reën van Erbarming*.

Welcome additions to the rather meagre list of Afrikaans essays were I. D. du Plessis' *Die Mag van die Woord*, and Willem van der Berg's (died 1952) *Die Asvaal ou Karoo*, and a volume of letters, *Van Man Tot Man*.

Only three volumes of poetry were published in 1952: I. D. du Plessis, *Verhalende Ballades*; Ernst van Heerden, *Die Bevryding*; and N. P. van Wyk Louws, *Dias*.

In conclusion mention must be made of P. V. Pistorius's rendering of Homer's *Odyssey* in Afrikaans; volume vii of the Afrikaans *Children's Encyclopaedia*; a review of Afrikaans letters by G. J. Beukes and F. V. Lategan, *Skrywers En Rigtings*; and the first combined Afrikaans-English bilingual and pronunciation dictionary by Abel Coetzee.

(A. J. COE.)

SOUTHERN RHODESIA. Self-governing British colony in central Africa separated from Northern Rhodesia by the Zambesi river and bounded N.E. and E. by Portuguese East Africa, S. by Transvaal and S.W. and W. by Bechuanaland Protectorate. Area: 150,333 sq.mi. Pop. (1951 census): 2,146,324 incl. 136,017 Europeans (as compared with 75,000 at the 1946 census), 4,343 Asians and 5,964 mixed. Chief towns (1951; European pop. only): Salisbury (cap., 40,510), Bulawayo (32,269), Umtali (5,762), Gwelo (5,115). Languages: English (official), Afrikaans and tribal dialects. Religion: Africans mainly pagan, Christian minority. Administration: governor; executive council (cabinet); legislative assembly, 30 elected members. Governor, Major-General Sir John Kennedy; prime minister, Sir Godfrey Huggins.

History. A loan of $28 million for the Southern Rhodesian



The regimental sergeant-major of the Rhodesian African Rifles acting as interpreter to the governor of Southern Rhodesia, Sir John Kennedy, who inspected the troops before they left for Suez.

four-year plan, from the International Bank for Reconstruction and Development, emphasized the importance of industrial development during 1952. The Hunyani Poort dam, impounding 55,000 million gallons of water, was completed. Work started on the £4 5 million southeast rail link to Lourenço Marques. The railway from Sinoia to Kafue (Northern Rhodesia), the next priority, was due to be started in 1956. Both lines would carry heavy mineral export traffic. A 30-mi. pipeline from the Zambesi to the Wankie coalfields, opened by the prime minister, Sir Godfrey Huggins, on Aug 2, was the first tapping of the Zambesi for domestic and industrial water.

Coal output for the period Jan.-Sept., 1952 was a record of 2,095,498 tons The Virginia tobacco crop sold for the record total of £17¼ million. Monthly production of asbestos sometimes exceeded gold in value. Import controls on goods from non-sterling sources were rigidly imposed. In the budget of April 18 income tax was raised by 6*d.* in the £, but purchase tax proposals were dropped because of strong public opposition. In July it was announced that the net national income for 1951—£99 2 million—was more than double the 1946 figure.

Immigration quotas to ease the strain on accommodation and on the rail transport " bottleneck " cut the inflow (Jan.-Oct 1952) to 12,576 (1951: 17,561). The cost-of-living index rose to 127 in Oct. 1952, as compared with 100 in Oct. 1949. A £5 million housing project for Africans near Salisbury and the creation of a commission on African higher education (chairman, Sir Alexander Carr-Saunders) were two important features in African development.

A contingent of the Rhodesian African Rifles served in the Suez canal zone; in Malaya, the Far East Volunteer unit continued jungle operations. A new register of voters was closed in August when 46,682 names were on the common rolls as compared with 54,401 in Nov. 1951 (*See* also CENTRAL AFRICAN FEDERATION.) (C. BK.)

Education. *European* (1951) government primary schools 85, teachers 567, pupils 16,242, high schools 17, teachers 354, pupils 5,822, aided and recognized European schools 20, teachers 214, pupils 3,927, aided farm schools 9, teachers 9, pupils 143 *Asian and mixed* government schools 12, teachers 69, pupils 1,974, other schools 6, teachers 36, pupils 984 *African* government primary schools 11, teachers 8 European and 184 African, pupils 6,226, aided primary schools 2,142, teachers 274 European and 6,110 African, pupils 225,325, government post-primary schools 12, teachers 32 European and 157 African, pupils 5,351, aided post-primary schools 15, teachers 23 European and 16 African, pupils 686, aided teacher training schools 22, teachers 68 European and 14 African, students 961 There are also 3 aided schools for deaf and dumb and blind with 4 European and 9 African teachers, 151 pupils

Agriculture. Tobacco (Virginia 1951-52) 97,205,254 lb (farm weight)

Industry. Fuel and power coal (1951) 2,299,000 metric tons, (Jan.-June 1952) 1,220,000 metric tons, electricity (year ended March 31, 1952) 354,799,124 units sold Raw materials (1951, Jan.-June 1952 in brackets) gold 486,907 oz (245,460), asbestos 77,663 tons (39,756), chrome 330,989 tons (673,269, incl 500,000 tons stockpiles declared in June)

Finance and Banking. Monetary unit Southern Rhodesian pound (£SR = £1 sterling), circulation incl Northern Rhodesia and Nyasaland less bank holdings (Aug 1952) £12,945,000 Budget (1951-52) revenue £21,246,022, expenditure £23,219,025, (1952-53 est.) revenue £28,789,000, expenditure £28,125,685 National debt (March 1951) £105,810,235 National income (1951 est.) £98,900,000

Transport and Communications. Main roads (1951) 2,500 mi plus 13,100 mi hard-surfaced Railways (incl Northern Rhodesia) 2,496¾ mi., (1951) passenger traffic 2,964,082, goods 6,689,264 tons.

SOUTH PACIFIC COMMISSION.

An advisory body founded in 1947 to advance the economic and social welfare of the territories administered by its members, Australia, France, the Netherlands, New Zealand, the United Kingdom and the United States. The permanent headquarters were established at Noumea, New Caledonia, and two auxiliary bodies, the research council and the South Pacific conference, were set up. In Nov. 1951 the scope of the commission was extended by agreement of all the member countries to include the United States trust territory of the Pacific Islands and Guam.

Developments in 1952. The ninth and tenth sessions of the commission were held at Noumea in April and October respectively and the fourth session of the research council in June. By April 1952 the work programme of the commission comprised 43 projects, 13 of which were economic, 9 sanatory and 21 social. Economic projects included cocoa, coffee and tea industry surveys, a fisheries conference (May), and a study of the problems of the economic development of atolls. The health programme included the maintenance of an epidemiological information service, the study of nutritional problems, and investigations into filariasis elephantiasis, leprosy and other endemic diseases. Educational work included pilot community development and mass literacy schemes. A centre for vocational training was being established at Suva. A literature bureau was established to produce good, cheap reading matter for new literates and for the islanders generally. The estimated total expenditure of the commission on its works programme for 1952 was £57,700, on a total budget of £216,380. (K. G B.)

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 Dec. 31, 1952:

Country	*Name and Office*	*Accession*
AFGHANISTAN	Mohammad Zahir Shah, king	1933
	Shah Mahmud Khan, prime minister	1946
ALBANIA	Omer Nishani, chairman of the presidium of the People's Assembly	1946
	General Enver Hoxha, prime minister	1944
ARABIA, SAUDI	Abdulaziz ibn Abdurrahman ibn Faisal ibn Sa'ud, king	1927
ARGENTINA	General Juan Domingo Perón, president	1946
AUSTRALIA	Sir William John McKell, governor-general	1947
	*Robert Gordon Menzies, prime minister	1949
AUSTRIA	Theodore Körner, president	1951
	Leopold Figl, chancellor	1945
BAHREIN	Sulman bin Hamad al-Khalifah, sheikh	1942
BELGIUM	Baudouin I, king	1951
	*Jean Van Houtte, prime minister	1952
BHUTAN	Jigme Dorji Wangchuk, ruler	1952
BOLIVIA	*Victor Paz Estenssoro, president	1952
BRAZIL	Getulio Dornellas Vargas, president	1951
BULGARIA	Gheorghi Damianov, chairman of the presidium of the National Assembly	1950
	Vlko Chervenkov, premier	1950
BURMA	*Ba U, president	1952
	Nu, prime minister	1948
CANADA	*Vincent Massey, governor-general	1952
	*Louis Stephen St. Laurent, prime minister	1948
CEYLON	Lord Soulbury, governor-general	1949
	*Dudley S. Senanayake, prime minister	1952
CHILE	*Carlos Ibañez del Campo, president	1952
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
CHINA (Republic (Nationalist))	Chiang Kai-shek, president	1943
	General Chen Cheng, premier	1950
COLOMBIA	Laureano Gomez Castro, president	1950
COSTA RICA	Alberto Flores Oreamuno, president	1952
CUBA	*Fulgencio Batista, president	1952
CZECHOSLOVAKIA	Klement Gottwald, president	1948
	Antonin Zápotocky, premier	1948
DENMARK	Frederik IX, king	1947
	Erik Eriksen, prime minister	1950
DOMINICAN REPUBLIC	*General Hector Trujillo y Molina, president	1952
ECUADOR	*José Maria Velasco Ibarra, president	1952
EGYPT	Prince Mohammed Abd el-Moneim, regent	1952
	*Major-General Mohammed Neguib, prime minister	1952
ETHIOPIA	Haile Selassie I, emperor	1930
	Bitwadded Makonnen Endalkachaw, prime minister	1944
FINLAND	Juho Kusti Paasikivi, president	1946
	Urho Kaleva Kekkonen, prime minister	1950
FRANCE	Vincent Auriol, president	1947
	*Antoine Pinay, premier	1952
GERMANY (Western) Federal Republic	Theodor Heuss, federal president	1949
	*Konrad Adenauer, federal chancellor	1949
GERMANY (Eastern) Democratic Republic	Wilhelm Pieck, president	1949
	Otto Grotewohl, minister-president (premier)	1949
GREAT BRITAIN	*Elizabeth II, queen	1952
	*Winston Churchill, prime minister	1951
GREECE	Paul I, king	1947
	Marshal Alexandros Papagos, prime minister	1952
GUATEMALA	Jacopo Arbenz Guzmán, president	1951
HAITI	Paul E. Magloire, president	1950

Country	Name and Office	Accession
HONDURAS	Juan Manuel Gálvez, president	1949
HUNGARY	István Dobi, chairman of the presidium of the National Assembly	1952
	Mátyás Rákosi, prime minister	1952
ICELAND	*Asgeir Asgeirsson, president	1952
	Steingrimur Steinthórsson, prime minister	1950
INDIA	Rajendra Prasad, president	1950
	*Jawaharlal Nehru, prime minister	1947
INDO-CHINA — Vietnam	Bao Dai, chief of state	1949
Cambodia	Norodom Sihanouk, king	1941
Laos	Sisavang Vong, king	1945
INDONESIA	Ahmed Sukarno, president	1949
	*Wilopo, prime minister	1952
IRAQ	Faysal II, king	1939
	General Nureddin Mahmud, prime minister	1952
IRELAND	Seán T O'Kelly, president	1945
	Eamon de Valera, prime minister	1951
ISRAEL	*Isaac Ben-Zvi, president	1952
	David Ben-Gurion, prime minister	1948
ITALY	Luigi Einaudi, president	1948
	*Alcide De Gasperi, prime minister	1946
JAPAN	Hirohito, emperor	1926
	Shigeru Yoshida, premier	1948
JORDAN	Hussein I, king	1952
	Tewfik Abulhuda, prime minister	1951
KOREA — (South) Republic of Korea	*Syngman Rhee, president	1948
	Chang Taik Sang, prime minister	1952
(North) Democratic People's Republic	Kim Du Bon, chairman of the presidium of the Supreme People's Assembly	1948
	Kim Ir Sung, premier and commander-in-chief	1948
KUWAIT	Abdullah bin Salim as-Subah, sheikh	1950
LEBANON	*Camille Shamun, president	1952
	General Fuad Shehab, prime minister	1952
LIBERIA	William V S Tubman, president	1944
LIBYA	Idris I, king	1951
	Mahmud Bey Muntasser, prime minister	1951
LIECHTENSTEIN	Franz-Josef II, sovereign prince	1938
	Alexander Frick, prime minister	1945
LUXEMBOURG	Charlotte, grand duchess	1919
	Pierre Dupong, premier	1937
MEXICO	*Adolfo Ruiz Cortines, president	1952
MONACO	Rainier III, sovereign prince	1949
MONGOLIA	G Bumtsende, chairman of the presidium of the Great Khural	1940
	Yumzhaghiyin Tsedenbal, chairman of the council of ministers	1952
MOROCCO	Mohammed ben Yussef, sultan	1927
	Gen Augustin Guillaume, French resident-general	1951
NEPAL	Tribhuvan Bir Bikram Shah Deva, king	1951
NETHERLANDS	Juliana, queen	1948
	Willem Drees, prime minister	1948
NEW ZEALAND	Lieut -General Sir Willoughby Norrie, governor-general	1952
	*Sidney George Holland, prime minister	1949
NICARAGUA	Anastasio Somoza, president	1950
NORWAY	Haakon VII, king	1905
	Oscar Torp, prime minister	1951
OMAN and MUSCAT	Said bin Taimur, sultan	1932
PAKISTAN	Ghulam Mohammad, governor-general	1951
	*Khwaja Nazimuddin, prime minister	1951
PANAMA	*José Antonio Remón, president	1952
PARAGUAY	Federico Chaves, president	1949
PERSIA	Mohammad Riza Shah Pahlavi, shahanshah	1941
	*Mohammad Mossadegh, prime minister	1951
PERU	General Manuel A Odría, president	1950
PHILIPPINES	Elpidio Quirino, president	1948
POLAND	Aleksander Zawadzki, chairman of the council of state	1952
	Boleslaw Bierut, chairman of the council of ministers	1952
PORTUGAL	General Francisco Higino Craveiro Lopes, president	1951
	Antonio de Oliveira Salazar, prime minister	1932
RUMANIA	Petre Groza, chairman of the presidium of the National Assembly	1952
	Gheorghe Gheorghiu-Dej, prime minister	1952
SALVADOR, EL	Lieut -Colonel Oscar Osorio, president	1950
SIKKIM	Tashi Namgyal, ruler	1914
SOUTH AFRICA	Ernest George Jansen, governor-general	1951
	*Daniel François Malan, prime minister	1948
SOUTHERN RHODESIA	Maj -General Sir John Kennedy, governor	1946
	Sir Godfrey Huggins, prime minister	1933
SPAIN	*General Francisco Franco-Bahamonde, chief of state and prime minister	1939
SWEDEN	Gustaf VI Adolf, king	1950
	Tage Fritiof Erlander, prime minister	1946
SWITZERLAND	Karl Kobelt, president of the confederation	1952
	*Philipp Etter, vice-president of the federal council	1952
SYRIA	Colonel Fawzi Silo, chief of state and prime minister	1951
THAILAND	Phumiphon Adundet, king	1946
	Marshal Luang Pibul Songgram, prime minister	1948
TUNISIA	Mohammed el-Amin, bey	1943
	Jean-Marie-François de Hauteclocque, French resident-general	1952
TURKEY	Celâl Bayar, president	1950
	Adnan Menderes, prime minister	1950
UNION OF SOVIET SOCIALIST REPUBLICS	Nikolay Mikhailovich Shvernik, chairman of the presidium of the Supreme Soviet	1946
	*Iosif V. Stalin, chairman of the council of ministers	1941
UNITED STATES	*Harry S Truman, president	1945
URUGUAY	Andres Martinez Trueba, chairman of the governing council	1952
VATICAN CITY	*Pius XII, pope	1939
VENEZUELA	Colonel Marcos Pérez Jimenez, president	1952
YEMEN	Admad ibn Yahya, king	1948
YUGOSLAVIA	Ivan Ribar, president of the presidium of the People's Assembly	1945
	*Marshal Tito (Josip Broz), prime minister	1944
ZANZIBAR	Khalifa bin Harub, sultan	1911
	J. D Rankine, British resident	1951

* *See* separate article

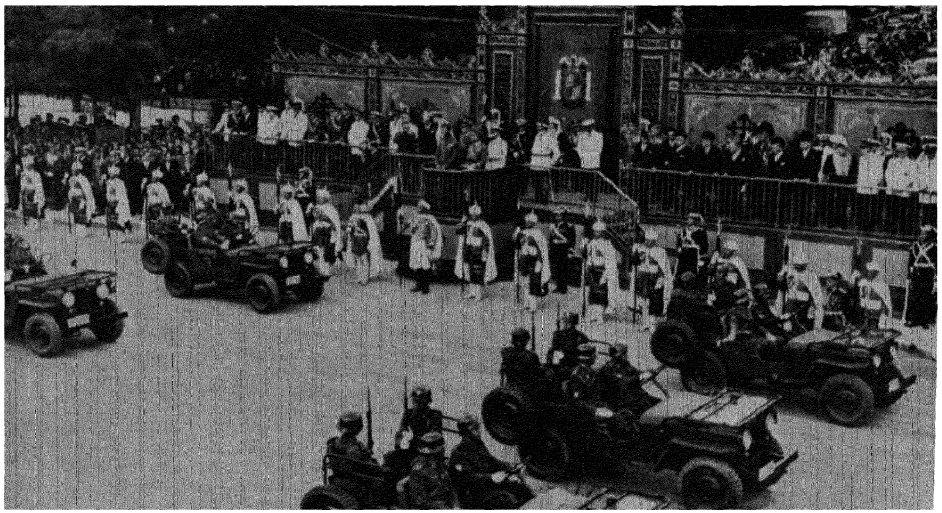
SOVIET UNION: *see* UNION OF SOVIET SOCIALIST REPUBLICS.

SPAIN. Country of southwestern Europe, bounded N. by the Bay of Biscay and France, W. by the Atlantic and Portugal, and 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; (1950 census, prel.) 28,002,152, including Balearic (422,089) and Canary (778,027) islands. Language: mainly Spanish (Castilian) but Catalan, Galician and Basque are also spoken. Religion: Roman Catholic. Chief towns (pop., 1950): Madrid (cap., 1,609,524); Barcelona (1,280,179); Valencia (509,075), Seville (376,627); Málaga (276,222); Zaragoza (264,256), Bilbao (229,091); Murcia (218,375), Córdoba (165,403) Leader (*Caudillo*), chief of state and prime minister, General Francisco Franco-Bahamonde (*q.v.*)

History. The salient feature of the year 1952 in Spain was the continuation of a general improvement in economic conditions due to the weather. In 1951, after a sequence of disastrous droughts, a period of beneficial rain had brought relief to a predominantly agricultural country and helped its rulers to combat inflation. With staple foods in adequate supply, as prices dropped to a relatively normal level, the main black markets quickly became extinct. A shift in administrative policy lightened the burden of controls restricting trade. Money was scarce at home, business was slow, Spain was still virtually unbefriended abroad, but there were signs at last of an increased prosperity that augured well for the future, and the most sceptical Spaniard began to hope that a further U S loan of $125 million would soon materialize for the common good

General Franco's New Year message for 1952 was broadcast directly after the announcement by the acting chief of the Mutual Security agency in Europe that a U S special mission would shortly be sent to Madrid with the object of drafting the terms of a military and economic agreement between Spain and the United States along the lines previously explored by Admiral Forrest P Sherman Two teams of experts from Washington, under Major-General James W Spry and Dr. Sidney Sufrin, had already spent some months in Spain surveying the primary requirements of a potential ally whose value to the cause of western defence was warmly advocated by Stanton Griffis, the U S ambassador, until his resignation in January, for reasons of health, from a post which he had not occupied a year. At the end of March his successor, Lincoln MacVeagh, presented his credentials to the *Caudillo*, and a fortnight later George Train arrived in Madrid from M S.A. headquarters to join Major-General August W. Kissner and their respective assistants in discussing the long-delayed bilateral pact with the Spaniards.

By then, however, impatience with the State Department's "dilly-dallying attitude" had been vented in the Spanish press and Alberto Martín Artajo, the foreign minister, had left for the middle east as General Franco's personal envoy at the head of a goodwill mission to half a dozen Moslem courts. The talks were put off until the diplomats' triumphant return from a protracted tour that was evidently intended to raise Spain's prestige by a display of fraternal relations with Islam which would certainly arouse the envy of Great Britain and France Little importance attached to the signing of sundry commercial or cultural agreements except in so far as they might strengthen the bonds of union between the ill-used Arab peoples and their Hispanic brethren, akin in their fear of God and their will to resist Communism The idea of a coalition of Cross and Crescent, under Spain's guidance, suited the universal outlook of those Spanish nationalists who wished to see the revival of their country's influence as an independent force in the world without accepting the risks of



General Franco and Prince Abdullah, regent of Iraq, watching a military parade in Madrid. Abdulilah arrived in Spain on May 8, accompanied by the prime minister Nuri es-Said.

subservience entailed by any alliance with the great powers. In January, when the U.S.-Spanish accord seemed imminent, 35 warships of the U.S. Sixth fleet had paid a courtesy visit to eight Spanish Mediterranean ports; yet ten months went by before the minister of commerce, Manuel Arburúa, could announce that the negotiators had reached agreement on all but "a few technical matters". He was speaking at a luncheon for Charles Sawyer, the U.S. secretary of commerce and head of a trade mission to Europe, whose brief trip to Spain, unlike those of two U.S. chiefs of staff, General Hoyt S. Vandenberg and General J. Lawton Collins, was not directly connected with the proposed pact.

Spain was still excluded from the North Atlantic Treaty organization—and would refuse to beg admission to it, General Franco declared, because ultimately the common fate must depend on the strategic strength of the Iberian bloc as the vital middle link between east and west. In April, with the U.S. callers in his waiting-room, the *Generalisimo* hastened to confer with António de Oliveira Salazar, the Portuguese premier, at Ciudad Rodrigo. The Spaniards were losing interest in the panacea of U.S. aid, since the remainder of the $62·5 million credit that had been granted to Spain two years before was not forthcoming. Their attention was more closely engaged by such domestic realities as the benignant meteorological aspect of another mild cycle and the gradual removal of restrictions, which culminated on June 1 in the end of rationing throughout the country, when olive oil and sugar followed liquid fuels and bread on to the free market. In September Spain paid off the balance of a $50 million debt to holders of International Telephone and Telegraph company bonds that were not due for redemption until 1960, whereas an adverse legal decision had been given in June against the Barcelona Traction, Light and Power company when its assets were delivered by receivers in bankruptcy to a newly created Spanish firm. Later nine absent members of the company were condemned to pay over £6 million in fines for currency smuggling. The postal, telephone and telegraphic rates leapt up twice during the year, the age-limit for senior officers of the fighting services was lowered by two years, and a theft of P.17 million was made from army funds. The employees of almost every branch of industry and commerce were entitled by decree to receive a bonus of three weeks' or one month's extra wage in November.

The Cortes passed a Local Government law, but certain clauses of the Secondary Education bill, which embodied reforms of the examination system, were disapproved by the church. In a number of pastoral letters Cardinal Pedro Segura, the archbishop of Seville, rebuked the lay authorities for their alleged leniency in tolerating proselytism by the tiny Protestant minority in Spain; the Spanish press did not, however, report the sequel of rowdy incidents in which a couple of Evangelical chapels were ransacked.

In April, after rioting had caused six deaths among the native population of Tangier (*q.v.*) on the anniversary of the Franco-Moroccan treaty, Spain lodged a protest with the seven other member states on the control committee and called for revision of the 1945 agreement, which curtailed its share in the administration of the international zone. This claim was allowed in November, when Spain was also elected to join U.N.E.S.C.O. by 44 votes to 3.

Miram Mohammed Shah was appointed the first Pakistani ambassador to Madrid in May, and the German and Japanese embassies were re-established in November under Prince Adalbert of Bavaria and Shinichi Shibusawa. During the year the *Caudillo's* official guests included the sultan's representative in Spanish Morocco, Khalif Muley Hassan el-Mehdi, Emir Abdulilah, regent of Iraq, and the president of the Republic of Liberia, William V. S. Tubman. British naval vessels followed the U.S. example by putting into El Ferrol and Barcelona for the first time since the civil war. Hjalmar Schacht and Franz von Papen were among nearly two million tourists, including many Germans, who visited Spain privately. The first of a proposed annual series of Spanish musical and dance festivals, which was held at Granada in June, achieved a notable success, largely due to the return from voluntary exile of the guitarist,

Andrés Segovia. In July the international gliding contests ended in Madrid with a British victory.

No famous person whose death occurred in 1952, either in Spain or abroad, was more sincerely mourned by Spaniards in all walks of life than King George VI. On Spanish soil the outstanding event of the year was the celebration at Barcelona in May of the 35th World Eucharistic congress, which drew hundreds of thousands of Roman Catholic pilgrims from all corners of the globe. Cardinal Federico Tedeschini attended the congress as papal legate, and General Franco chose the occasion to visit the city, with his mounted Moorish escort, for the first time since 1949. During his stay in Catalonia he presided at the solemn reburial of the remains of Jaime I and other mediaeval kings of Aragon in the restored monastery at Poblet. On Oct. 12, in Granada, the *Generalísimo* closed a year's quincentenary celebrations in honour of King Ferdinand and Queen Isabella, and after 15 years he revisited Navarre to commemorate the 400th anniversary of the death of St. Francis Xavier on Dec. 3.

Among the principal engineering works and public buildings which the *Caudillo* opened in the course of the year were a synthetic oil plant at Puertollano, the Cofrentes hydro-electrical power station, dams on the rivers Júcar, Turia, Ebro and Castro, a sanatorium at Santander, a work and health centre in Madrid, the Reus-Tarragona railway, Orense junction, and part of the new line to Galicia.

About one-third of the penal population was affected in various degrees by the pardon granted by General Franco to commemorate the Eucharistic congress. Out of two groups of 27 political prisoners and 21 terrorists, 9 of the latter were sentenced to death at Barcelona, whereas 4 of the former were aquitted and the rest were condemned to serve terms ranging from six months to four years in gaol. A naval court at Cartagena found a Frenchman, Raymond Viadieu, guilty of spying, and sentenced him to eight years' imprisonment. (X)

Education. Schools primary (1947-48) 55,111, pupils 2,425,762 (1,212,921 girls), teachers 55,833 (30,030 women), secondary (1948-49) 119, pupils 212,210 (74,319 girls), training colleges for elementary teachers (1948-49), students 24,171 (17,575 women) Universities (1948-49) 12, students 49,980 (6,866 women), professors and lecturers 3,300 Illiteracy (1947) 20 8%

Agriculture. Main crops ('000 metric tons, 1950, 1951 in brackets) wheat 3,380 (4,150), barley 1,500 (1,800), oats 500 (580), rye 560 (618), maize 610 (650), rice, paddy 300 (325), sugar, raw value 198 (357), potatoes 2,800 (4,000), cotton, ginned 2, tobacco 15 0, groundnuts 12, linseed 1, olives 860, olive oil 171 (600), oranges and tangerines 940 (1,071), lemons 44 (60) Wine production ('000 hl, 1949, 1950 in brackets) 14,300 (15,680) Livestock ('000 head) cattle (Dec 1948) 4,000, horses (Dec 1949) 600, asses (April 1948) 747, mules (April 1948) 1,079, pigs (April 1948) 2,668, sheep (Sept 1950) 25,954, goats (April 1948) 4,222, chickens (Sept 1950) 20,338 Meat production ('000 metric tons, 1950) total 432, of which beef and veal 135 and pork 188 Wool production, clean basis ('000 metric tons, 1950, 1951 in brackets) 27 (27) Fisheries total catch (1951) 569,500 metric tons

Industry. Fuel and power (1951, 1952, six months, in brackets) coal ('000 metric tons) 11,328 (5,973), lignite 1,488 (718), manufactured gas (million cu m) 276 0 (149); electricity (million kwh) 7,200 (4,270) Raw materials ('000 metric tons, 1951, 1952, six months, in brackets) iron ore, metal content 50%, 2,328 (1,451), pig iron 668 4 (371 6), steel ingots and castings 811 2 (434 4); copper, blister 6·4; lead, smelter 41 0 (20 9), zinc, smelter 21 1 (10 9) Manufactured goods ('000 metric tons, 1951, 1952, six months, in brackets) cement 2,328 (1,158), cotton yarn 52 3 (31 4), wool yarn 10 2 (6 0), rayon filament yarn 10 0 (5·8), rayon staple fibre 10 1 (10 8) New dwelling units completed (1951, 1952, six months, in brackets) 15,828 (8,468) Index of industrial production (1948=100, 1951) 115

Finance and Banking. (Million pesetas) Budget (1952-53 est.) revenue 22,208, expenditure 22,477 National debt (Jan 1950, Sept 1951 in brackets) 57,459 (58,195) Currency circulation (June 1951, June 1952, in brackets) 31,000 (35,100) Bank deposits (million pesetas, March 1951, March 1952 in brackets) 38,100 (43,600) Gold reserve (million U S dollars, June 1951, June 1952 in brackets) 60 (51) Monetary unit *peseta* with an official exchange rate (Nov 1952) of P 30 66 to the pound and P 10 95 to the U S dollar

Foreign Trade. (Million gold pesetas, 1951, 1952, six months, in brackets) Imports 1,306 5 (780 3), exports 1,523 5 (741 8) Main sources of imports (1950) Spanish colonies 24%, U S 13%, France 8%; western Germany 7% Main destinations of exports Spanish colonies 24%; U S 15%, U K 14%, France 6% Main imports (Jan.-June 1951) machinery, apparatus and vehicles 16 6%, food and drink 15 5%, chemicals and derivatives 10 6%, textiles 12 7% Main exports food and drink 54 7%, textiles 11 2%, minerals, earths and stones 8 4%, metals and metal goods, including gold and silver, 5 2%.

Transport and Communications. Roads (1949) 68,651 mi., of which 51,202 mi were macadamized. Licensed motor vehicles (Dec 1950): cars c 100,000, commercial 65,000 Railways (1950) 11,068 mi., of which 925 mi were electrified passenger-mi 4,422 million, goods, ton-mi 4,004 million, goods carried, 25 million metric tons Shipping (merchant vessels of 100 gross tons and over, July 1951) 1,173, total tonnage 1,219,541 Air transport (1949) aircraft entered Spain 19,426, passengers 234,790, freight 3,576 tons, passengers leaving Spain 249,460, freight 4,070 tons Telephones (1951) 667,639 Wireless receiving sets (1949) 375,635

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SPANISH-AMERICAN LITERATURE: *see* LATIN-AMERICAN LITERATURE

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.) 1,553,700. Areas, populations, capital towns, status and governors of the territories are given in the table.

History. In marked contrast to the deep political unrest and frequent public disturbances which agitated not only neighbouring colonial territories but the entire Moslem world from Tangier to Tehran, life remained normal in the various Spanish dependencies, where order was preserved without difficulty throughout 1952. Franco had contrived to maintain excellent relations with the inhabitants of the Moroccan protectorate since the days when his Moorish troops helped to bring about the Nationalist victory in the civil war. The

SPANISH COLONIAL EMPIRE

Country	*Area* (sq mi)	*Population* (1947 est)	*Capital*	*Status*	*Governor*
SPANISH MOROCCO:					
Northern zone	7,592	1,120,000	Tetuan (pop., 1945, 93,658)	Protectorate	High commissioner Lieut.-General Rafael Garcia Valiño y Marcen
Southern zone	10,039	12,000	Cabo Juby	Protectorate	Khalif (viceroy) Muley Hassan Ismael el-Mehdi
Ifni territory	741	42,000	Sidi Ifni	Colony	
Ceuta, Melilla, Alhucemas, Chafarinas and Peñón de Velez	82	167,700	—	Administered as part of Spain	
SPANISH SAHARA:					
Rio de Oro	73,362	40,000	Villa Cisneros	Colony	
Saguia el Hamra	32,047				
SPANISH GUINEA, including Fernando Pó and four small islands	10,852	172,000	Santa Isabel, on Fernando Po (pop., 1945, 17,000)	Colony	

25th anniversary of the pacification of Spanish Morocco by General Primo de Rivera occurred on Oct. 12.

A Spanish Arabic scholar, Emilio García Gómez, and a Moorish general, Mohammed ben Mizzian ben Kassen, were members of the diplomatic mission which in April Franco dispatched on its travels through the middle east with a broadcast speech, in Arabic and Spanish, that conveyed his most cordial greetings to the peoples of Islam, whose national resurgence, parallel to that of the Hispanic countries, he praised by contrast with "the decrepitude of other races". In answer to inquiries about Spanish policy in Morocco, Alberto Martín Artajo, the foreign minister, who led the mission, was able to imply that Spain desired nothing better than to grant her Moorish subjects their independence but that it was prevented from doing so as yet by its obligation to act in strict accordance with the French.

Already in January, the Khalif Muley Hassan Ismael el-Mehdi had issued in Tetuan, on his return from a visit to the *Caudillo* in Madrid, a manifesto couched in terms of such frank enthusiasm for the cause of Moroccan independence that the local censor felt obliged to forbid its publication in Spanish. The Spaniards' overt encouragement of Moorish aspirations was galling to the French authorities, who were displeased to learn of an interview in Tangier between the chief of the khalif's civil household, Ahmed ben Bacher, and Abd el-Kader Torrès, the exiled Nationalist leader. Their suspicions were similarly aroused by the fact that rioting on the anniversary of the sultan's treaty with France was limited exclusively to the international and French zones. The same marked contrast was observed during the troubles in December, which the Spaniards attributed to their neighbours' toleration of Communist activities, while commiserating with the French on the consequences of a policy they openly deplored. (X.)

Finance. Spanish Morocco, budget (1947), balanced at P 211 million Spanish Guinea, budget (1943), revenue P 23 3 million, expenditure P 23 6 million

Foreign Trade. (Million gold pesetas) All territories (1947, 1948 in brackets) imports 526 3 (578 4), exports 168 2 (206 4) Ceuta and Melilla only (1949, 1950, six months, in brackets) imports 123 0 (59 5), exports 55 0 (21 2)

Transport and Communications. Spanish Morocco (1947) roads, 1,430 mi , railways 140 mi Shipping (1949) vessels entered, 120,000 net registered tons

SPANISH LITERATURE. To the annual prizes, official and other, which figured so largely on the literary scene of 1952 there was added the stimulus of a poetry festival with resuscitated "Floral Games", initiated in Madrid in March and intended as an annual event thereafter, it was copied in the provinces. Native poetic production, *e.g.*, Eloy Muñoz Martí, *Poesía a campo abierto*, and Alfonso Albalá, *Umbral de armonía*, was overshadowed by the many editions of Spanish-American poets, and *Texto sobre el tiempo* by the Venezuelan José Ramón Medina and *Salvación del recuerdo* by the Colombian Eduardo Cote alike received awards. Paulina Crusat edited in Castilian translation an *Antología de poetas catalanes contemporáneos*. Arcadio de Larrea Palacín's *Cancionero judío del norte de Marruecos*, vol. i., gave musical score as well as transcription of 50 new texts from the inexhaustible mine of traditional balladry.

The novel was represented by Luis Romero's *La Noria*, Juan José Mira's *En la noche no hay caminos*, José Antonio Giménez-Arnau's *De pantalón largo* (a study of the psychology of adolescence), Carmen Laforet's *La Isla y los demonios* (her first since the memorable *Nada*, 1944) and, notably, Pedro de Lorenzo's *Una Conciencia de alquiler* (planned as the first of a series, *Los Descontentos*); and the short story by Julián Ayesta's *Helena o el mar de verano*.

In the drama Jacinto Benavente continued, at 86, to furnish new plays of serious social purpose, notably *El Lebrel del cielo*, after Francis Thompson's *Hound of Heaven*, and *Ha llegado don Juan*; José Suárez Carreño's *Condenados*, a rural tragedy in the vein of García Lorca, was this poet's first play; and Horacio Ruiz de la Fuente's *La Novia* was notable for its single character. In *Teatro español, 1950-51*, Federico Carlos Sáinz de Robles prefaced the text of six successful plays with a "criticism of the critics" and of the system of dramatic awards; an appendix listed plays produced in Madrid and the provinces.

Outstanding volumes in the essay—a field in which the national prize for 1951 was not awarded—were Angel Zúñiga's *Palabras del tiempo*, on the contemporary scene, and Guillermo Díaz-Plaja's *Poesía y realidad*. Three new reviews were launched in Madrid: *Poesía española*, *Alcalá* (university) and *Ateneo*. Vol. iii of the continuing *Homenaje* to Ramón Menéndez Pidal contained a further 30 studies, while to the vast *Historia de España*, under Menéndez Pidal's general editorship, was added *España protohistórica*, by Martín Almagro and Antonio García y Bellido. Germán Bleiberg edited the encyclopaedic and authoritative two-volume *Diccionario de historia de España*. With vol. ix of *El Arte tipográfico en España durante el siglo xv* Francisco Vindel y Angulo completed his study of 964 incunabula. The poet Pedro Salinas and Amado Alonso, philologist and literary critic, both died in the United States, where they held university posts. Three comedies by Salinas, *La Cabeza de Medusa*, *La Estratosfera* and *La Isla del tesoro*, were published posthumously in Madrid (W. C. An.)

SPEEDWAY RACING. The Australian Jack Young (West Ham), was again the outstanding rider of the year. He successfully defended his world title and won the British match race championship, being the only man to hold both honours. However, the standard of entertainment provided by first division racing was below that of recent years. For this reason the sport did not benefit from the entertainment tax reduction Most provincial teams could not match the more powerful London clubs: Wembley again won the national league championship and Harringay won the London cup and national trophy.

English riders were overshadowed by the Australians Young and Ronnie Moore (Wimbledon) and the visitors easily won the test series (4-1). No English team visited Australia during the winter of 1952-53. The fatal injuries sustained by the only American riding in Britain, Ernie Roccio (Wimbledon), while racing at West Ham, also marred the scene. Sweden showed signs of her potential strength with Dan Forsberg (Birmingham) and Sune Karlsson (New Cross). Poole marked their début in the second division by winning league honours and Rayleigh were southern league champions. (L. Hs.)

SPELEOLOGY. Austria. Members of the Salzburg Cave club completed the exploration of Tantal hole in the Hagen Range. This cavern was first located in 1947 by one of their members and during the succeeding years preliminary explorations were made. In 1951 a seven days' underground visit was undertaken by G. Abel, N. Asowsky, R. Gimzinger, Fred and Franz Koppenwaller, A. Morekutti, F. Odel, F. Odel, Jr., G. and N. Reiter and N. Zernig. They traversed some ten miles of passages, passing through some very extensive chambers, and at one point were about 1,000 ft. below the entrance, having descended numerous ladder pitches, two of which were each about 300 ft. in depth.

France. *Gouffre Lepineux*, the world's deepest known abyss, situated near Pierre St. Martin (Basses-Pyrénées) at an elevation of 5,420 ft. in the commune of Arette, close to the Spanish border. It was first located by G. Lepineux in 1950 who with M. Cosyns and B. Occhialini descended to

a depth of 235 ft. In Aug. 1951 J. Ertaud, J. Janssens, J. Labeyrie, G. Lepineux, Lévi, M. Loubens, E. Occhialini, Péret, Pétrifjean and H. Tazieff led by Cosyns made a vertical descent of 1,000 ft., by means of a winch. Situated at the bottom of the shaft was a large cavern (Lepineux hall) 425 ft. long and 230 ft. wide, the height varying from 100 to 250 ft. A steep descent over a talus slope together with a vertical ladder descent of 60 ft. led into a still more extensive chamber (Elizabeth Casteret hall). At a depth of 1,650 ft. from the surface a considerable stream, with a flow estimated at 6,600 gal. per min., was discovered but not followed. This chasm is at the intersection of two faults in the canyon limestone (Senonian and Turonian of the Upper Cretaceous) which dips N. and N.W. about 20°. In Aug. 1952 Professor Max Cosyns led a new expedition into the Gouffre Lepineux to explore the underground stream. About 100 lb. of colouring matter was put into the river to test the theory that it emerged in the Gorges de Kakoueta, about nine miles away on the Spanish side of the frontier. On Aug. 25 it was reported from Paris that the theory had been proved true. Unfortunately Marcel Loubens, who was being lowered down a vertical shaft by a telephone cable, fell 100 ft. and broke his back. Efforts to bring him to the surface alive failed and he was buried at the foot of the shaft. Four members of the expedition who had attempted to rescue Loubens refused to be hoisted by a single wire; in three days they were all rescued, by two wires, by Aug. 18. Before coming to the surface Tazieff and A. Mairey explored the cave which was beyond the Elizabeth Casteret and which turned out to be larger. The Elizabeth Casteret was found to be 1,600 ft. long, 1,000 ft. wide and 650 ft. high.

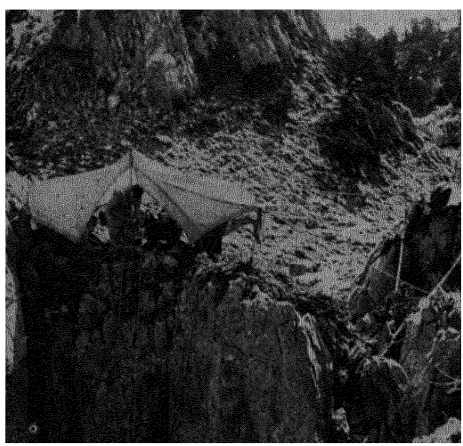
Taune au Diable (Haute-Savoie), situated at an elevation of 5,330 ft. in the Col de la Glacière valley, Rochers de Laschaux (commune of Brison), four miles south of Bournville. Several entrance pitches were noted in 1947 and further explorations took place in 1949 and 1950. In July 1951 members of the Spéléo-Club Languedocien—(A. Bathe, G. Peyrodeau and M. Teulade led by André Bennet) reached the bottom at 883 ft.

Grotte du Pas de Julie (Gard). Charles Frayssigns, member of the Alpina, a society affiliated to the Spéléo-Club des Grandes Vausses, entered, by swimming, a hitherto unexplored cavern on the left bank of the Trevezel gorge, on the edge of the Causse Noir in the Grand Causse region. Frayssigns found the cavern to be a simple passage 600 yd. in length, but the most surprising feature was that it contained some 300 human skeletons. This unique discovery presented a problem which only long and careful investigation (which soon proceeded) could probe. A casual investigation revealed it to be a tomb of the Neolithic era; mixed amongst the human remains were bones of bear lying in their correct anatomical relationships.

Grotte-Gouffre de la Luire (Drôme), three miles from St. Agnan-en-Vercors in commune of same name; 26 mi. east of Valence at an elevation of 2,940 ft. The *grotte* is an intermittent spring which bursts suddenly into spate after heavy rain, abruptly ceasing to flow after a short period of dry weather. After heavy rain as much as 1 million gallons of water a minute issues for 24 hr. or even more. It was explored to a depth of 850 ft. in 1945 as far as two sumps which barred further progress. In Nov. 1951 Pierre Ageron, in exceptionally dry weather, was able to pass one of these sumps and discover that the water enters by a high *aven* beyond, therefore the total height the stream rises to the entrance is at least 850 ft.

Italy. *Bus de Remeron*, five miles N.W. of Varese, at an elevation of 2,450 ft. This was partly explored by the late L. V. Bertarelli in 1900; he reached a depth of 650 ft. In 1951, under the leadership of A. Binda, a party descended to what appeared to be the final sump at 740 ft. below the surface.

Switzerland. *Grotte-Gouffre du Chevrier* (Vaud), situated on the west side of the Bryon valley, 2·25 mi. from Leysin in commune of same name; height above sea-level about 5,560 ft. The chasm is at the junction of the Malm limestone and the Middle Lias marls (Pliensbachien and Sinemurian). In about 1920 J. Scherrer penetrated to the head of the first pitch 100 yd. from the entrance. In 1945 a 12-yr.-old boy, P. Schuler, with a friend, reached the same point. Schuler with a friend named Troyanoff in Feb. 1950 descended the first pitch and part of the second, reaching a depth of 310 ft. Larger parties were organized, always including Schuler and J. P. Graf, who surveyed the cavern in Oct. 1950 to a depth of 575 ft. In 1951 several explorations took place by members of the Société Suisse de Spéléologie accompanied by Schuler, and on their last visit in August a depth of 1,048 ft. was reached. (E. St.)



The mouth of the caves in the Pyrenees where an expedition was made in August and the speleologist Marcel Loubens lost his life.

SPICES. The output of pepper in India in the 1951-52 season, at 558,000 cwt. was some 9% below that of the previous season, although the area under the crop, 192,000 ac. had decreased by less than 3%. In Indonesia production, at some 90,000 cwt. in 1952, was below the high level of the previous year, although in Sarawak the prewar level of some 25,000 cwt. reached in the previous season was maintained; in Indochina unsettled political conditions and a long-standing blight led to continued low production. In the world pepper market there was a slight fall in the volume of seaborne exports from India during the 1951-52 season when some 297,000 cwt. were shipped; these exports were valued at Rs.232 million of which Rs.130 million was derived from sales to hard currency areas, mainly the United States. Exports from Indonesia, however, showed in the first eight months of the year an increase of some 27% over the figure for the same period of 1951; the Netherlands and the United States were the principal markets although Malaya took substantial quantities largely for re-export. Shipments from Sarawak in 1952 showed a small increase over the 24,000 cwt. exported in 1951, but those from Indochina were below the 13,000 cwt. exported in that year. The average import value per pound of black pepper into the United States, the principal world market, fell from $1·55 in 1951 to $1·33 in the first eight months of the following year.

Clove production in Zanzibar in 1951-52 was estimated at 105,000 cwt., a quarter of the output of the previous season; production in Madagascar in 1952 was, however, more than four times as great as the previous year's out-turn of some 24,000 cwt. In the first eight months of the year shipments from Zanzibar were less than half the total of 175,000 cwt. exported in the period Jan.-Aug. 1951. In the Zanzibar market there was a sharp advance in prices during the year, from an average of 500*s.* per 100 lb. in January to over 800*s.* towards the end of the year.

The estimate for ginger production in India during the 1951-52 season, at some 440,000 cwt., showed little change over those of the previous two seasons; in Jamaica the output was reported to be somewhat below that of 1951. Exports from India in 1951-52 were 52,000 cwt., some 20% greater than in 1950-51, and were valued at Rs. 8 5 million. Returns from Jamaica, on the other hand, showed a considerable drop in exports in the early months of 1952 while shipments from Nigeria in the first ten months of 1952 were 25% less than the 11,000 cwt. recorded in the same period of 1951. Prices were low throughout the year; in Jamaica, because of slackness of export sales, the government undertook to buy growers' stocks at 8*d.* per lb.

Nutmeg and mace exports from Grenada were well above the low level of 1951 while shipments from Indonesia in the first eight months of 1952 were about 3% below the comparable figure for the previous year. (W. J. G. C.)

SPIRITS. In France during 1952 1 35 million hectolitres of wine were distilled for Cognac production, equivalent to about 110,000 hectolitres of pure alcohol. The harvest in the Cognac regions was good, the yield of wine being 85% of the 1950 record season.

Production, export and consumption figures of potable spirits in Great Britain, taken from Board of Trade statistics and compared with those for the previous year, are shown in Table I.

TABLE I. PRODUCTION, EXPORT AND CONSUMPTION OF SPIRITS IN GREAT BRITAIN (million proof gal.)

Year*	Production	Export	Consumption
1950-51	29 33	12 20	10 88
1951-52	31 29	13 29	9 83

* Ending Aug 31

The export of whisky to many countries increased further, the amount taken by the United States being slightly greater while there was a considerable increase in the amount sent to New Zealand. Stocks of whisky held in bond on March 31 were 139 1 million proof gal., as compared with 128·4 million at the end of Sept. 1951 and 144 0 million in Sept. 1939. Owing to the improved stock position the Board of Trade agreed to increase the home allocation for 1953 from 2·6 to 2 75 million proof gal., while the export target was raised from 10 35 million for 1952 to 11 million.

Brandy imports by Great Britain dropped to about two-thirds of the amount for 1951 while rum imports decreased slightly, more being imported from South Africa, approximately the same amount from Mauritius and Jamaica, and considerably less from British Guiana.

In the republic of Ireland an increase in spirit duties imposed in April caused a considerable drop in consumption.

According to the French press Spain exported Spanish "Cognac" at the rate of 3 million proof gal. a year. The output of German brandy in 1952 was expected to reach 1·75 million proof gal.

Industrial alcohol production and consumption in Great Britain is shown in Table II (calculated from Board of Trade figures).

The 1952 figures included alcohol derived from other sources in addition to molasses. Although no output figures were published for synthetic alcohol from the petroleum refinery at Grangemouth it was estimated that nearly 30% of the 1952 production came from this source. The price of alcohol was reduced by about 1*s.* per proof gallon in September, anticipating a fall in the price of Cuban molasses which

TABLE II PRODUCTION AND CONSUMPTION OF INDUSTRIAL ALCOHOL IN GREAT BRITAIN (million proof gal.)

Year*	Production (including methylated spirits)	Consumption
1950-51	62·18	61 67
1951-52	45 11	40 03

* Ending Aug 31

came later in the year. This drop in price was about half the increase which occurred the previous year and reflected the accumulated stocks of molasses in Cuba and of alcohol in several countries.

The French government decided on compulsory distillation of part of the 1951 wine crop surplus and 550,000 hectolitres of alcohol were expected to be distilled from the surplus apple and pear crop. In Denmark an alcohol-from-oil plant was planned to produce 50% of the Danish industrial alcohol. The Scandinavian countries increased their production of by-product alcohol from sulphite residue which in Sweden was expected to reach 30 million litres compared with 20 million the previous year. Plans were made in both Norway and Sweden for conversion of alcohol to other chemicals

In Argentina one of the world's largest distilleries was planned. In India production of power alcohol in the first half of the year was over twice the 1951 total. (D. I. C.)

United States. Federal excise taxes on distilled spirits were increased from $9 00 to $10 50 per proof gallon from Nov. 1, 1951. After that date, gallonage sales declined sharply and as a result the new tax rate failed to meet revenue expectations. It appeared that the full year's revenue might fall below 1950-51 collections at the $9 00 tax.

Consumption, withdrawals and production of distilled spirits fell off sharply in the fiscal year 1952 from levels established in the preceding year. To develop inventories large enough to ensure adequate whisky supplies in the event of another full-scale war, spirits production was stepped up in the fiscal year 1951 by 68%. By the end of the year, distilled spirits in government-bonded warehouses amounted to 901 million gal., as compared with 708 million original entry gallons at the close of the fiscal year 1950. Production of distilled spirits was accordingly curtailed during the fiscal year 1952. Total output amounted to 221,875,432 gal., a reduction of 44 7% from the 401,452,796 gal. turned out in fiscal 1951, and of 7 4% from the average of 239,634,964 gal. produced in the fiscal years 1948-50. Despite cutbacks in production, however stocks of distilled spirits remaining in internal revenue bonded warehouses at June 30, 1952, amounted to 937,155,887 original entry gallons—4% more than the record inventory of fiscal year 1951.

Tax-paid withdrawals of all distilled spirits in fiscal year 1952 were 141,792,350 gal., 18·8% less than the 174,625,188 gal. withdrawn in fiscal year 1951, and 1·8% less than the average of more than 144·0 million gal. in the fiscal year 1948-50.

In fiscal year 1952, bonds and straights accounted for 30 2% of total whiskies bottled, while spirit blends accounted for 69·8% of the total. Whiskies of all types amounted to 85% of total distilled spirits bottled in fiscal year 1952. Gins accounted for 8 3% of bottled output, brandy for 1·7%, cordials and liqueurs for 3·3%, vodka for 1·7%, and other items, including rum, for 7%. (A. J. Li.)

SQUASH RACKETS. In the 1951-52 season Hashim Khan (Pakistan) again won the professional, British Isles open and Scottish open championships, his superiority over all

opponents seeming more marked than before. L. W. R. Keeble was runner-up in the first and M. A. Karim (Egypt) in the last two.

N. F. Borrett, holder for five years, scratched from the British amateur championship through illness and the winner was G. Hildick-Smith (South Africa), runner-up in 1951, B. C. Phillips was the 1952 runner-up. The new veterans' championship was won by G. O. M. Jameson. Miss J. R. M. Morgan won the women's championship for the third time.

England played Wales for the first time and won, also beating Scotland and Ireland. Scotland beat Ireland; Ireland, Wales; Wales, Scotland. Sussex and Surrey retained the men's and women's inter-county championships respectively and Cambridge beat Oxford. The Royal Navy, Army and Royal Air Force championships were won by Commander Seymour-Haydon, 2nd Lieut. de Sales la Terrière and Gp. Capt. Burnett respectively: the Scottish, Irish and Welsh championships by D. W. D. Shaw, J. P. MacHale and Commander Seymour-Haydon.

The championships of Belgium, Denmark, Greece, the Netherlands and Sweden were won by Commander Seymour-Haydon, O. Rasmussen, A. Vatimbella, A. G. Maris and B. Jacobsen respectively. Rasmussen won for the fourth time and Maris for the sixth. Sweden beat Denmark.

E. Metcalf, R. J. E. Mayers, J. A. Gillies, J. A. Faruqi and B. H. Callaghan won the amateur championships of Australia, Kenya, New Zealand, Pakistan and South Africa respectively: the professional championships of Australia and Pakistan were won by J. Garrett and Roshan Khan. Metcalf beat Garrett for the open championship of Australia. M. Fakhry and Dardeery won the amateur and professional championships of Egypt.

The United States amateur and professional championships were won by H. Conlon and E. Reid: the Canadian championship by H. Salaun (U.S.). Canada beat the United States by nine ties to six in the Lapham trophy match. (H. E. Hn.)

See S G S Pawle, *Squash Rackets* (London, 1951)

STALIN (DZHUGASHVILI), IOSIF VISSARIONOVICH, Soviet statesman (b. Gori, Georgia, Dec. 21, 1879), the son of a peasant, studied for the priesthood and entered the Tbilisi (Tiflis) Orthodox seminary in 1894, but was expelled in May 1899 for reading socialist literature. He became active in the revolutionary underground movement in Georgia and, between 1902 and 1912, was arrested six times and deported five times, but each time escaped. In Dec. 1905 he took part at the Tammerfors conference of the Russian Social Democratic Revolutionary party (R.S.D.R.P.) and there met Lenin for the first time; he was also present at the 4th (Stockholm, April 1906) and the 5th (London, April-May 1907) party congresses. On Feb. 13, 1913, he was arrested again and deported to the Turukhansk district, north of the Arctic circle, where he remained until the democratic revolution of March 1917. Returning to Petrograd he became in May one of the seven members of the Politburo of the party. After the Communist *coup d'état* of Nov. 7, 1917, he was appointed people's commissar of nationalities and kept this post until 1923; during the Civil and Soviet-Polish wars he was political adviser with the Red army.

On April 3, 1922, Stalin became secretary-general of the All-Union Communist party. At that time he was still unknown outside a small circle of militants, but soon after Lenin's death (Jan. 21, 1924), Stalin's rise to pre-eminence in the party machine and state administration began. His position of dictator of the U.S.S.R. was unquestionable, although he did not hold state office until May 6, 1941, when he assumed the post of premier. On July 19, 1941, after the German attack, he appointed himself also c.-in-c. and minister of the armed forces; in March 1943 he assumed the rank of marshal of the Soviet Union. During World War II he met the leaders of Russia's wartime allies at Tehran (Nov. 1943), Yalta (Feb. 1945) and Potsdam (July 1945). On March 3, 1947, he resigned as minister of the armed forces, retaining the post of premier. From Feb. 9, 1946, when he reviewed Soviet war achievements, Stalin made no public speeches and kept himself in the background. On Feb. 13, 1950, he attended at the Hotel Metropole, Moscow, a banquet given by Mao Tse-tung and this was understood to be the first time Stalin had dined out at a public place since 1923. On Feb. 16, 1951, he prophesied in *Pravda* that if Great Britain and the United States rejected Chinese peace proposals " the war in Korea can end only in the defeat of the interventionists."

On April 1, 1952, replying by cable to 50 U S. newspapermen, he expressed the opinion that the possibility of another world war was no nearer than it had been two or three years before. On Oct. 14, at the 19th congress of the Communist Party of the Soviet Union, in his only public speech since 1946, Stalin thanked the representatives of 44 Communist parties for trusting the U.S S.R. and said that they could rely on Soviet help in their struggle to become the " guiding forces " of their respective nations

STEEL: *see* Iron and Steel.

STEVENSON, ADLAI EWING, U.S. statesman (b. Los Angeles, California, Feb. 5, 1900), was educated at Princeton university, where he graduated in 1922. He earned his law degree at Harvard and North-western universities, interrupting his education to spend a year as assistant managing editor of the Bloomington (Illinois) *Daily Pantagraph*, which was owned by his family. After a brief experience as a newspaper correspondent in Europe, he practised law in Chicago from 1927 to 1933, and again from 1935 to 1941. In 1933-34 he served as special counsel in the Department of Agriculture. From 1941 to 1944 he was special assistant to Frank Knox, secretary of the navy, handling racial and labour management relations. Transferring to the State Department, he served from 1945 to 1947 in various capacities with the U.S. delegation to the United Nations. He began his political career as a Democrat in 1948, when he was elected governor of Illinois. His administration was regarded as honest, efficient and economical. When speculation of him as a presidential prospect began in 1952, he issued a formal statement at Springfield on Jan 7, saying that he could run for no office except governor. Although he persisted in this negative attitude, personal and political friends began a pre-convention movement on his behalf. He gave them no co-operation, but at the Democratic convention in Chicago, on July 7, Stevenson was nominated on the third ballot. During the campaign, Stevenson sensed a general discontent with the administration of President H. Truman, and he made a determined but only partially successful effort to dissociate himself from it. Nevertheless, Stevenson generally upheld the Roosevelt-Truman record on foreign and domestic policy, insisting that it had protected the peace and produced prosperity. His speeches had a wit, a literary quality and an intellectual content rarely present in U.S. political oratory. But his unique strategy could not combat the voters' demand for a " change " in Washington. On Nov. 4, he carried only 9 states as against 39 for Eisenhower.

STOCKS AND SHARES. For the stock exchange the year 1952 fell neatly into two halves: the first half was a period of gathering depression and falling prices; the second

TABLE I MOVEMENT OF THE LONDON STOCK MARKET INDICES IN 1952

	Price indices: Government securities		Price indices: Industrial ordinary		Price indices: Gold mines		Yields per cent.: 2½% Consols		Yields per cent.: Industrial ordinary		Daily bargains	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
Jan	96 34	95 52	121 5	113 2	100 93	97 48	4 12	4 06	5 87	5 46	9,694	4,699
Feb	96 14	94 62	114 8	110 3	105 64	97 50	4 16	4 07	6 04	5·79	11,431	2,908
March	95 15	92 73	113 9	105 5	104 23	96 21	4 31	4 13	6 36	5 87	8,751	5,475
April	94 89	93 76	114 1	108 1	96 58	87 54	4 19	4 13	6 20	5 90	8,656	5,978
May	94 91	91 35	113 4	104 7	93 02	87 74	4 43	4 14	·6 44	5·94	7,817	5,201
June	92 05	90 22	105 5	103 1	93 65	87 74	4 52	4 37	6 39	6 54	6,801	5,166
July	92 28	90 39	111 0	105 6	97 95	93 58	4 48	4 35	6 37	5 95	7,819	5,164
Aug	95 19	91 60	117 5	110 6	99 49	96 98	4 40	4 11	6 01	5 65	8,188	5,541
Sept	95 32	92 90	117 6	113 2	96 54	91 71	4 33	4 14	5 87	5 65	7,437	5,426
Oct	95 04	93 76	115 2	112 9	93 20	89 02	4 29	4 17	5 89	5 78	7,753	5,722
Nov	95 26	94 86	117 3	112 9	90 84	86 48	4 17	4 12	5 93	5 72	8,941	5,876
Dec	95 32	94 38	117 8	115 2	94 56	89 83	4·27	4 16	5 87	5 69	8,440	2,987

Constituents and bases of indices are government securities, 11 British short-dated, medium-dated and long-dated, base date Oct 15, 1926, industrial ordinary, 30 leading British equities, base date July 1, 1935, gold mines, 30 South African, West African and Australian, base date, Oct. 15, 1926.
SOURCE (for indices) *Financial Times*, London

half was a period of reviving hope and gradual price recovery. The two main groups of investments—British government stocks and industrial ordinary shares—were both lower in price at the end of the year than at the beginning but they finished significantly above the depressed levels reached at the end of June.

The stock exchange was dominated throughout 1952 by a decision which had been taken in Nov. 1951. The newly elected Conservative government then introduced a new monetary policy which made it more difficult and more expensive for companies and individuals to borrow money from the banks. The basic purpose of this policy of making bank credit scarcer and dearer was to discourage unnecessary spending in Great Britain in order that manpower, materials and productive capacity engaged in meeting home demands could be diverted in part to the satisfaction of export and defence demands. This general monetary policy was also reinforced by a programme of extensive and severe import cuts. It was hoped that this policy would convert the enormous deficit in the country's balance of payments in the last few months of 1951 into a moderate surplus by the end of 1952. In the event this hope was fulfilled. It was not until after the middle of the year, however, that it became evident that the policies of the new government were achieving the desired results. During the first half of the year there was little or no indication of any real improvement in the balance of payments, and the atmosphere in the stock exchange was one of increasing gloom and depression. New investment dwindled to very small proportions and a moderate amount of selling of government securities and industrial ordinary shares by holders who were apprehensive about the general economic outlook led to a widespread decline in prices. An important contributory factor to the general price decline was the budget, presented in March. The chancellor then announced, first, that the bank rate would be raised steeply from 2½% to 4% and, secondly, that a severe form of excess profits levy would be applied to company profits with effect from the beginning of the year. Prices of government securities and industrial equities continued to fall away and by the latter part of June had reached their lowest levels for several years.

After mid-summer, however, a significant change for the better developed in the stock market. It was becoming apparent that import cuts were at last biting deeply and bringing considerable relief to the country's balance of payments. It was also evident that the improvement in Great Britain's terms of trade—the fall in import prices in relation to export prices—was considerably greater than had been expected. Finally, there were indications of a useful expansion in British invisible overseas earnings from banking, shipping, insurance and other sources. By the end of the summer it was becoming increasingly clear that Great Britain's external accounts had been brought roughly into balance and that there was no longer any immediate danger of a major financial and economic crisis.

As the earlier fall in the prices of government stocks and industrial shares had resulted in the yields on these securities rising to their highest levels for a long period, there was a considerable revival of investment demand, both from institutional investors and from public investors. At the end of June irredeemable government stocks were yielding upwards of 4½% and high-grade industrial ordinary shares were returning 6¼%-6½%. Consequently throughout July, August and the early part of September there was a strong recovery in both groups of securities. This was checked during the autumn but was resumed again towards the end of the year under the stimulus of the continuing improvement in the country's balance of payments and the substantial additions to the gold and dollar reserves. The market recovery was also helped by signs that some of the depressed consumer goods industries, which had experienced a big reduction in demand late in 1951 and early in 1952, were beginning to enjoy a revival of trade. Admittedly, at the end of the year, the market was still cautious and was very conscious of the problems which might develop in 1953 if Great Britain were unable to maintain its exports at a high level, but at least it was able to look back over a period of 12 months in which the country's general position had been greatly strengthened.

Two events of importance to the stock exchange during the year were the debt settlements achieved with the German Federal Republic and with Japan. The conferences which preceded the settlements were long and difficult in each case, but the final results were considered tolerably satisfactory by British bondholders, though rather more so in the case of Japan than in that of western Germany. The settlements were accompanied by a substantial appreciation in the market values of both German and Japanese bonds.

For the important groups of shares of primary commodity producing companies, 1952 was a difficult and generally unpleasant year. All but a few commodities fell heavily in price from the peak points reached after the outbreak of the Korean war and producers of many of these materials found themselves faced with a serious decline in sales revenue and a rigid and intractable cost structure. Nor was 1952 a very brilliant year for holders of gold shares. The big increase in the gold price which followed the devaluation of sterling in Sept. 1949 had been very largely swallowed up by rising production costs. Any revival of demand for gold shares depended either on a decisive reduction in costs or on a rise in the official gold price. Neither of these developments ever seemed a likelihood in 1952 and thus gold shares drifted lower with only an occasional spasmodic rally. (W. W. RR.)

United States. Measured by Standard and Poor's composite index of 90 stocks, U.S. common stock prices for the first three-quarters of 1952 reached new high levels in the bull market which began about the middle of 1949. The index showed a sharp increase in January, as compared with the previous year-end prices. In February a reaction occurred, which wiped out almost 75% of this increase. In June, however, another rise started, which continued through August, at which time stock prices were the highest for the preceding period extending back to 1930. In September the prices were somewhat lower. A broader average of common stock prices, the combined index of Standard and Poor's 480 stocks, showed much the same trend for the first seven months of 1952.

The number of shares traded on the various exchanges in the United States, as reported by the Securities and Exchange commission for the first six months of 1952, was about 22% less than for the same period in 1951. Expressed in terms of money value, the trading on all exchanges during the first half of 1952 was about 21% less than for the comparable 1951 period. This lower volume of trading continued during the third quarter of 1952, according to available figures showing trading on the New York Stock exchange.

On July 31, 1952, according to a compilation of the New York Stock exchange, there were 2,728 million shares listed on the exchange, with a total market value of $115,824 million and a flat average price per share of $48 65.

Cash dividends, publicly reported, paid to all stockholders during the first seven months of 1952 totalled $4,374 million. This figure compares with $4,141 million paid out to all stockholders over the same period in 1951.

As at the end of the third quarter of 1952 the following were considered to be favourable factors of fundamental importance in their effect on equity prices: (1) profits of the railways and utilities for the full year 1952 were expected to be higher than for 1951, and profits for the full year on 50 industrial stocks were expected to be not less than 5% under those in 1951; (2) cash dividend payments on stocks in 1952 were expected to be about the same as those in 1951; (3) the Federal Reserve board's index of production during the fourth quarter of 1952 was expected to exceed the post-World War II high level of 223, established in April 1951; and (4) the possibility that the excess profits tax would lapse on its expiration date of June 30, 1953. On the unfavourable side, the following factors should be mentioned: (1) the possibility that defence spending had reached or soon would reach its peak; (2) the possibility of a decrease in expenditures for plant and equipment by business concerns; and (3) the possibility of a further tightening in the money market, thereby curtailing borrowing for business and stock market purposes.

TABLE II U S STOCK MARKET PRICE INDICES

	Industrials (50 stocks)		Railways (20 stocks)		Public Utilities (20 stocks)	
	1952	1951	1952	1951	1952	1951
January	245 2	213 0	64 0	62 3	92 1	80 3
February	239 5	221 4	63 5	65 3	92 9	84 3
March	239 5	217 6	66 3	61 1	92 6	85 0
April	238 7	221 6	67 4	60 9	92 8	83 6
May	238·5	222 0	67 6	60 1	92 8	83 3
June	245 6	218 0	70 5	57 6	93·3	83 2
July	253 9	222 2	71 2	57 2	93 7	84 5
August	254 3	232 6	71 4	59 8	95 6	86 3
September	249 7	238 8	69 4	62 4	96 0	87 2
October	—	237 0	—	62 9	—	87 5
November	—	230 0	—	59 1	—	87·4
December	—	237 4	—	61 6	—	89 0

SOURCE Standard and Poor's *Trade and Securities, Current Statistics* Figures are an average for the month, based upon closing prices with 1926 used as a base period.

United States government long-term bond prices started to rise in Jan 1952. The rise, which was moderate, continued until May, when prices began to ease. By the end of September most of the rise had been cancelled and government long-term bonds were selling at prices only slightly higher than those which prevailed in January. Corporate bond prices with A1 ratings changed very little during the first seven months of 1952.

Sales of bonds expressed in terms of market value (excluding United States government bonds) on all registered exchanges in the United States for the first seven months of 1952 amounted to $390,340,000, as compared with $445,904,000 of sales for the same period in 1951.

According to a compilation by the New York Stock exchange the total par value of bonds listed on the exchange on July 31, 1952, amounted to $101,871,449,000, with a market value of $100,273,061,000.

The spread between the yields of bonds and stocks narrowed in the first seven months of 1952, principally because the yield on stocks went down. The difference was still wide, however, as compared with the years before World War II. In Jan. 1952 the average yield on A1 corporate bonds was 2 86% and the average yield on 90 composite common stocks was 5 82%, a difference of 2 96 basis points. In September this difference had decreased to 2 86 basis points.

TABLE III U S CORPORATE BOND PRICES AND YIELDS, 1952
(Composite Bonds A1, average price in dollars per $100 bond)

Month	Average	Yield	Month	Average	Yield
January	115 5	2 86	July	116 0	2 85
February	116 5	2 78	August	115 8	2 88
March	115 9	2 85	September	115 1	2 89
April	116 2	2 83	October	—	—
May	116 3	2 85	November	—	—
June	116 1	2 86	December	—	—

SOURCE Standard and Poor's *Weekly Corporate Bond Price Index*

At the end of the third quarter of 1952 the following were considered to be unfavourable factors of fundamental importance in their effect on bond prices: (1) the recent issuance of large amounts of bonds for expansion purposes and the resulting congestion in the bond market; (2) the possibility of the issuance of huge amounts of government long-term bonds for refunding purposes; (3) the higher interest rates in most foreign countries; (4) the belief of many that the period of low interest rates ended in 1946 and that the rise in interest rates since then should be considered a part of a longer period of decreasing bond prices and rising interest rates, and (5) a probable decline in business profits over the next few years. On the favourable side should be mentioned: (1) the expansion of industry and the resulting need for large amounts of credit appeared to be past the peak; (2) consumer demand seemed to be easing, with less credit needed by manufacturers of consumer goods; and (3) high savings should continue to furnish high demand for bonds. (*See* also BUSINESS REVIEW.) (C. A. K.)

STOMACH AND INTESTINES, DISEASES OF. Measurement of the acid produced by the stomach is an important procedure in the study of gastric diseases. Histamine, the substance used for this purpose, may cause disagreeable reactions. A substitute for histamine, chemically identified as 3-beta amino-ethyl pyrazole, proved to be equally powerful in stimulating the output of acid and yet was tolerated exceedingly well. The search for more effective drugs inhibiting stomach acidity in the treatment of peptic ulcer gained momentum. Prantal, like Banthine, did not appear to be very effective for this purpose when taken by mouth, although it decreased the output of acid when given by injection. More potent compounds were synthesized, but none proved suitable for general clinical use. Additional reports emphasized the unfavourable influence of corticotropin (ACTH, adrenocarticotrophic hormone) and cortisone

in ulcer patients, stimulating acid secretion and precipitating the complications of haemorrhage or perforation.

The treatment of severe bleeding remained a serious problem. X-ray examination during the period of active haemorrhage improved the accuracy of diagnosis.

Surgery in peptic ulcer is reserved usually for obstruction, haemorrhage, perforation and for ulcers developing after previous operation. Many surgeons preferred the procedure of gastric resection, removing approximately three-fourths of the stomach. Several modifications in the technique of the operation were described. With improved surgery, the risk was quite low

Improved surgical skill and excellent pre- and post-operative care permitted the removal of more tumours of the stomach, with a decreasing immediate mortality rate. Replacement of the excised stomach by a " new stomach " fashioned from the large intestine was possible in some patients. Nevertheless, the early recognition of cancer of the stomach and of tumours elsewhere in the digestive tract remained a difficult problem, seriously limiting the possibility of surgical cure. In the search for gastric cancer, routine photofluorographic gastro-intestinal examinations of 10,000 patients yielded only 1 tumour for every 476 examinations. The comparative infrequency of cancer diagnosis in this survey and the high cost of the study indicated the magnitude of the problem. The development of a reliable blood test for cancer obviously would be of incalculable value in early diagnosis. By 1952, such a procedure did not seem to have been devised. Careful study demonstrated the inaccuracy of four tests currently employed for this purpose. The search for cancer cells in the stomach contents attracted more attention. Improved techniques and painstaking care in obtaining proper specimens for study increased the accuracy of diagnosis not only for tumours in the stomach, but also for growths elsewhere in the digestive tract, especially the oesophagus and the colon.

Intestines. A sulphonamide compound, salazopyrin, was reportedly effective in some patients with chronic ulcerative colitis Corticotropin (ACTH) and cortisone remained useful adjuncts in the treatment of the disease, the fundamental cause was not eliminated, however, and recurrences were frequent. These hormones appeared less helpful in chronic inflammation of the small intestine (regional enteritis). On the other hand, cortisone was effective in the management of non-tropical sprue, a disorder characterized by the passage of bulky, fatty stools, severe loss of weight and weakness. Bowel function improved remarkably; the appetite increased and the patients gained weight and strength. The beneficial action of cortisone appeared attributable to more efficient intestinal absorption of fats or to improvement in the general bodily metabolism.

The antibiotic aureomycin was effective in the treatment of diffuse peritonitis. Aureomycin calcium caseinate caused much fewer episodes of nausea and vomiting than ordinary aureomycin. A new antibiotic, neomycin, and the combination of polymixin with neomycin or bacitracin rapidly suppressed bacterial growth in the intestines.

Pancreas. Increased attention was directed to the pancreas and its diseases, especially chronic recurrent pancreatitis. Severe abdominal pain and jaundice were common symptoms of this inflammatory condition. The use of alcohol not infrequently precipitated the onset of the disease. Banthine appeared to be helpful in the treatment of some patients.

Liver and Gall Bladder. Infectious hepatitis, a viral infection of the liver, commonly produces symptoms of fatigue, poor appetite, distaste for smoking and abdominal pain. The physical findings usually include jaundice and an enlarged tender liver. Prompt recognition of infectious hepatitis requires constant awareness of its possible presence and appropriate tests of liver function.

Three separate epidemics re-emphasized the ease with which infectious hepatitis may be transmitted. One outbreak involved student nurses in an orphanage for infants and young children. The disease was spread by the faecal-oral route The infective agent was demonstrable in the faeces for periods of 5 to 15 mo. after the initial illness. Another epidemic apparently was transmitted by person-to-person contact and by contaminated drinking water obtained from a well The third outbreak occurred among a group of soldiers several weeks after the cook preparing their food had contracted the disease, circumstances strongly suggested contaminated food as the source of the infection. These observations indicated the importance of early diagnosis of the disease and strict isolation of patients. Adequate sanitation is necessary to avoid faecal contamination of water, milk and food by flies and by human contacts. Steam sterilization of syringes and needles is required to prevent transmission of the viral infection by this route.

Careful history, physical examination and laboratory tests may not disclose the cause of an enlarged liver or jaundice or both The correct diagnosis in such patients was facilitated by the microscopic study of a small piece of liver tissue removed by a special needle. In expert hands, the procedure was relatively simple. These observations confirmed earlier studies of the problem In the treatment of cirrhosis of the liver, emphasis again was directed to the importance of an adequate intake of protein and carbohydrate, fortified with intravenous injection of glucose. Choline or methionine is indicated in acutely ill patients unable to eat sufficient amounts of food. The use of alcohol must be discontinued.

A new radio-opaque material, telepaque, improved the visualization of the gall bladder by X-ray and caused fewer reactions than previous dyes. The use of telepaque consequently received extensive trial in the diagnosis of gall-bladder disease. (*See* also SURGERY)

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STRAUSS, JACOBUS GIDEON NEL, South African politician (b. Calvinia, Cape Province, Dec. 17, 1900), was educated at Calvinia high school, the University of Cape Town and the University of South Africa. He was private secretary to the prime minister, J. C. Smuts, 1923-24, and began to practise at the Johannesburg bar in 1926. He was elected to the Transvaal Provincial council for Langlaagte in 1929, and was elected member of the House of Assembly for Germiston district, Transvaal, in 1932. He was re-elected in the general elections of 1933, 1938, 1943 and 1948. On March 6, 1944, he was appointed minister of agriculture and forestry in the Smuts government and retained this post until the appointment of D. F. Malan (*q.v.*) as prime minister in June 1948. After the death of Smuts in Sept. 1950 Strauss succeeded him as leader of the United party. In a statement on Feb. 21, 1952, he promised that the United party, when returned to power, would amend the Group Areas act. After the Appeal court had declared invalid (March 20) the Separate Representation of Voters act he called on the government to resign. The court judgement was followed by the introduction of the High Court of Parliament bill and Strauss led the parliamentary

opposition. The bill was given a third reading on May 15, after debates lasting about 75 hours. Speaking at a United party meeting on Aug. 22 he condemned the passive resistance campaign to the segregation laws, declaring that these had been passed constitutionally and could only be repealed constitutionally.

STRIKES AND LOCK-OUTS. Great Britain. The number of stoppages beginning in the first nine months of 1952 was 1,327 involving 294,100 workers and a loss, for all stoppages in the period, of 1,445,000 days, as against 1,322 stoppages involving 308,900 workers and a loss of 1,448,000 days in the same period of 1951. In both years coal mining accounted for the largest loss of time: 931 stoppages and a loss of 388,000 days in the first nine months of 1952, as against 797 stoppages and a loss of 285,000 days in 1951. Vehicle builders followed with 39 stoppages and a loss of 459,000 days in 1952, as against 53 stoppages and a loss of 218,000 days in the same period of 1951. Engineering was the next substantial contributor with 50 stoppages and a loss of 173,000 days, as against 65 stoppages and 98,000 days.

Most coal strikes were local disputes, though a strike of 3,200 men from Aug. 30 in some Scottish districts was against rejection of a national wage claim for 30*s.* a week increase. In two cases strikes by overmen, deputies and shotfirers over wages caused a much larger number of men to be idle. These were in the Yorkshire, Nottinghamshire and Derbyshire mines, from June 17 to June 21, with 760 on strike and 17,450 idle; and in the Glamorganshire and Breconshire mines from Aug. 18 to 22, 920 on strike with 22,000 men idle.

Rejection of a demand for 9*d.* an hour increase led to an unofficial strike at Briggs Motor Bodies Ltd. at Dagenham with 7,790 men out (June 12 to July 15). Consequent idleness at the Ford factory at Dagenham, in part supplied by Briggs, led to an unofficial strike there of 12,800 from June 25 to July 9. The men in both cases accepted union advice and went back. The strikes were generally blamed on the Communists, of whom a number were strike leaders.

About 1,100 workers at Park Royal Vehicles, Ltd., Willesden, were on strike from June 24 to Oct. 7 over piecework rates and for reinstatement of men suspended after an earlier strike. The company resumed negotiations and reinstated the men. From March 10 to April 1, 13,600 shipbuilding apprentices were on strike in protest against delay in settlement of a wage claim. They went back on the conditions existing before the stoppage.

Europe. The general pattern showed (1) an absence of major industrial strikes; (2) poor response to political strike calls and (3) dissatisfaction among professional workers.

In the German Federal Republic a 48-hr. strike of printers, May 28-29, stopped newspaper production and the government issued an emergency news-sheet. The strike was ostensibly against working conditions but it was generally believed to be directed against completion of agreements with the western allies. In Schleswig-Holstein, 17,000 metal workers were on strike on Sept. 10. Their dispute had been settled the previous evening too late to prevent the stoppage.

French civil airline pilots who had called a strike from Dec. 20, 1951, to Jan. 9, 1952, went back on Dec. 31. They complained that a 1946 wage agreement had not been adhered to. About 2,000 Monte Carlo hotel workers left work on Feb. 1 claiming a 40% wage increase. They returned to work when the principality of Monaco abolished the right to strike and after guests had taken to making their own beds and serving themselves in the dining rooms.

A 7-hr. radio silence was caused on March 3 by Radio Diffusion Française employees who demanded a bonus. Bourse clerks in Paris stopped work on March 12 to support a wage claim and newsvendors were off the streets, April 21-22, for pay demands. A 24-hr. strike by Agence France Presse workers on May 18 was called off after seven hours when the government issued a requisition order to the workers. The mayors of 300 central and southern towns stopped work on July 31 in protest against the government's refusal to buy the wine surplus.

Weakening of Communist power among industrial workers was seen in an only partial response to a general strike call by the Confédération Générale du Travail for Feb. 12 as a protest against the banning of political demonstrations. A 24-hr. strike called for June 4 to protest against the arrest of Jacques Duclos, a Communist leader, had only a 2% response.

Riots and a general strike at Legnano, Italy, on Feb. 8 marked announcement of decisions by the Italian association football federation by which the Legnano team were to have no home matches before December. News agencies did not report any reversal of the decisions. Strikes, mostly one-day, by professional workers included: printers and journalists, April 23 and again on May 12, bank clerks in northern Italy, May 1; caretakers, asking for higher pay and social dignity, June 8; Italian broadcasting engineers in October, La Scala, Milan, orchestra for ten days in October over recordings made outside their engagement with the opera house.

Among the few industrial strikes in Italy were: gas workers, June 7-12, 60,000 sulphur and coal miners, Feb. 26; and a general strike called by Communist unions in the north with only a 65% response from the 200,000 workers concerned.

Australasia. New Zealand was almost free of strikes in 1952 but Australia continued to have a long series of dock stoppages. Among these were: Sydney dockers, against delay in hearing a case for marginal rates, February 29 to March 3; wharf clerks at Newcastle refused to act for the first Japanese ship to arrive after World War II, March 3-4; 5,000 out at Melbourne against dismissal of five dockers, March 7, 26,000 out at all ports over delay in hearing a wage claim, April 8; 6,500 over manning vessels in holidays, at Sydney, April 15; second general pay stoppage, May 5; over distribution of trade union newspaper, Sydney, May 6; all dock-workers over pay on no-work days, Sept. 29. It was estimated that from July 1951 to July 1952 Sydney dockers lost between £1 and £1 5*s.* a week from stoppages and Newcastle workers were £3 a week below the earnings of other ports, largely for the same reason. (R. Ja.)

United States. In 1951 there were 4,737 strikes in the United States, a decrease of 106 from the 1950 total of 4,843. Further, the number of workers involved (2,191,500) and the number of idle man-days (22,910,000) in 1951 were considerably fewer than in the previous year.

The number of strikes in the first six months of 1952 was greater than the number of strikes for the corresponding period in 1951. There was also a great increase in the number of workers involved in strikes in the first six months of 1952 as compared with the same period of 1951. In the same six-month period of 1952 the number of idle man-days rose to 30,720,000 which was about three times the corresponding figure for 1951. This increase in strikes, number of workers involved and idle man-days was the result of the steel strike, which began on June 2, 1952, and ended July 25, 1952.

These statistics published by the U.S. Bureau of Labour Statistics included all known work stoppages arising from labour-management disputes that continued for at least one full day or shift and involved six or more workers. The data on man-days idle and workers involved covered all workers made idle in establishments directly involved in a

stoppage and not those employees made idle through material or service shortages incurred by such stoppages.

STRIKES IN THE U.S., WORKERS INVOLVED AND MAN-DAYS LOST

	Strikes	Workers involved	Man-days lost	% of est. work time
1935-39 (average)	2,862	1,130,000	16,900,000	·27
1946	4,985	4,600,000	116,000,000	1·43
1947	3,693	2,170,000	34,600,000	·41
1948	3,419	1,960,000	34,100,000	·37
1949	3,606	3,030,000	50,500,000	·59
1950	4,843	2,410,000	38,800,000	·44
1951	4,737	2,191,500	22,910,000	·21
1952 (6 months)	2,525	2,085,000	30,720,000	·60

SOURCE. United States Bureau of Labour Statistics, *Monthly Labor Review*. 1952 figures are preliminary.

Canada. In Canada in the first six months of 1952 there were two fewer strikes and lock-outs than for the corresponding period of 1951. However, the number of workers involved in industrial disputes in the 1952 period was more than twice the number involved in the corresponding 1951 period. Further, the number of working days lost in the first six months of 1952 was more than five times the loss in the same period of 1951. (P. TA.)

SUDAN: *see* ANGLO-EGYPTIAN SUDAN; FRENCH WEST AFRICA.

SUEZ CANAL. Terrorist activities against the British forces in the canal zone continued without intermission during Jan. 1952 as a result of the entry of Egyptian " liberation units " into the area. During the early part of the month their activities centred around Suez and on the road from Ismailia to Zagazig where a serious engagement took place on Jan. 12 at Tel el-Kebir. But the tightening-up of British security measures, including the occupation of villages used as operational bases by the guerrillas, forced the latter to withdraw into Ismailia, where an attack was made on British forces on Jan. 19. British troops subsequently occupied part of the town, discovered a large terrorist arsenal in an Ismailia cemetery and, on Jan. 25, compelled the local auxiliary police force, which had taken part in attacks on British troops, to lay down their arms after heavy fighting. The last-named incident was most serious. As Lieut.-General Sir George Erskine, commanding the British troops in Egypt, had had abundant evidence of connivance between the *buluk nizam* (auxiliary police) and the " liberation units ", he had no alternative but to disarm them. (*See* EGYPT.)

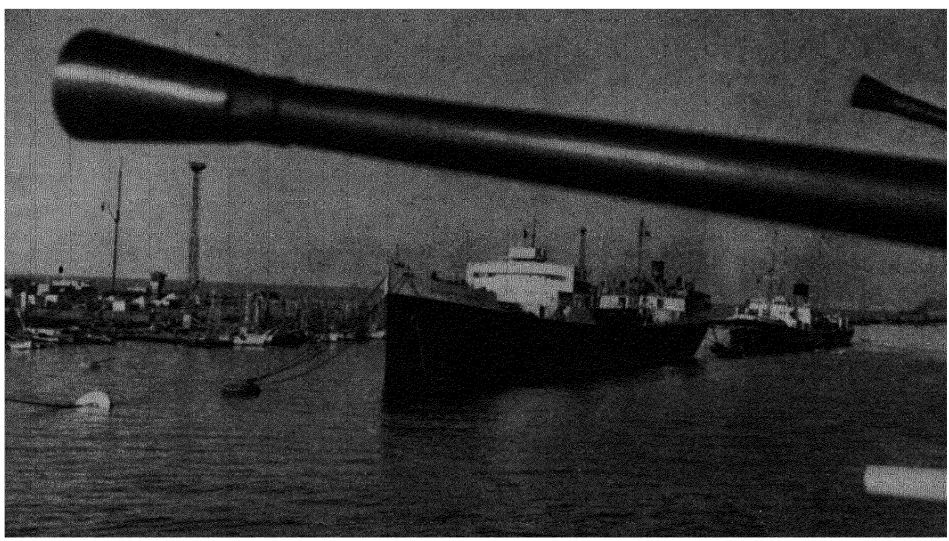
The next day an organized outbreak of mass violence and incendiarism started in Cairo, which resulted in the dismissal of the Nahas cabinet. By March terrorist activities in the canal zone virtually ceased. On April 24 General Erskine was succeeded by Lieut.-General F. W. Festing. The situation steadily improved after Major-General Mohammed Neguib's *coup d'état* on July 23. On Oct. 9 it was announced from Cairo that the British military guard on the El-Ferdan railway bridge, linking Egypt and Sinai, had handed over this important strategic point to Egyptian troops. By the end of the year, however, no agreement had been reached on the crucial issue between Great Britain and Egypt, *i.e.*, the future of the British base at Fayid, which not only was the headquarters of the British Middle East command under General Sir Brian Robertson but also contained enough war material and supplies to equip and maintain a force of some ten divisions.

Despite the opening in Jan. 1951 of the Trans-Arabian pipeline from Saudi Arabian oilfields to Sidon (Lebanon), which diverted about 14 million metric tons of crude oil from the canal, and the complete stoppage in July 1951 of the export of Persian oil and products, the traffic through the canal in 1951 was larger than ever: 76,753,000 metric tons of goods as

GOODS IN TRANSIT THROUGH THE SUEZ CANAL

('000 metric tons)

	1938	1946	1949	1950	1951	1952 (6 months)
Southward	7,767	6,000	13,032	12,144	17,420	12,145
Northward	21,012	15,936	48,024	60,468	59,333	33,503
Total	28,779	21,936	61,056	72,612	76,753	45,648



Because of unrest in the canal zone merchant shipping in Port Said harbour was berthed by the Royal Navy. In the period from Oct.-Dec. 1951, the Royal Navy handled some 1,500 merchant ships representing 15 million tons of shipping.

compared with 72,612,000 tons in 1950. The number of transits was only slightly less: 11,694 instead of 11,751 and 80,356,000 net registered tons instead of 81,796,000. This remarkable achievement was explained mainly by the considerable increase of oil production in Kuwait and other oilfields of the Persian gulf. The figures for the first six months of 1952 suggested that it would again be a record traffic.

At the annual general meeting of the Suez Canal company held in Paris on June 10, 1952, François Charles-Roux, its president, said that the receipts for 1951 amounted to Fr. 27,633·6 million, a reduction of Fr. 386·7 million over those of 1950, whereas expenses, at Fr. 12,821·2 million, showed an increase of Fr. 2,115·7 million. After deduction from the gross profit of Fr. 1,152 6 million for interest and amortization of the capital, the available profit stood at Fr. 13,659 8 million.

SUGAR. Production of beet sugar (raw value) in Europe (excluding the U.S.S.R.) in the 1951-52 season was 8 7 million tons, some 220,000 tons less than the record production of 1950-51 notwithstanding an increase in the total area under the crop. Weather conditions were not as good as in 1950-51 and the yield of beet per acre and sugar content were somewhat lower; there was also damage to the crop from disease. In the German Federal Republic the high level of production of the previous year was maintained, but in eastern Europe there was a fall. Output in western European countries also was less than in the previous season although that in the United Kingdom was second only to the record results of 1950-51. On the other hand, countries in the south of Europe reported heavy crops in 1951-52. In 1952 there was a further expansion of European beet acreage but sugar production in the 1952-53 season was not expected to reach the level of 1951-52.

World cane-sugar production in 1951-52 was at a record height, the estimated total output (raw value, including the equivalent of *gur* in India and Pakistan) reaching 24 2 million tons, 2·1 million tons more than in 1950-51. Output in Cuba rose by 1·4 million tons to a record level of 7 1 million tons, while other dollar producers also expanded production; in South American countries output also increased from the 1950-51 level. Production of sugar and *gur* in India and Pakistan each rose by about a quarter of a million tons to record heights of 1 7 and 2·5 million tons respectively. Mauritius produced its fifth record crop in succession. Output in Australia and South Africa was adversely affected by weather conditions and was, together, some 350,000 tons below the high level of 1950-51; results in the British West Indies and British Guiana were good and production in the area was above the previous record in 1950-51. In the far east, output in Indonesia and the Philippines continued to recover and in the latter was almost back to the prewar level. In Formosa output recovered to 500,000 tons in 1951-52, although this was less than the peak postwar production in 1948-49 and was still, as in Indonesia, far less than the prewar level.

The increased production in Cuba in 1951-52 could not all be disposed of in 1952, principally because of dollar difficulties in the chief importing countries; among these the United Kingdom had to continue restricting consumption by means of rationing, although its stocks at the end of 1951 were higher than before World War II and second only to the peak figure of 1947. A special stabilization reserve of 1·8 million tons was set aside in Cuba for release over the next five years. This reserve, together with the anticipated restrictions on the 1952-53 crop, was expected to bring Cuba's supplies to the free market into line with the requirements of that market.

Exports from Cuba to countries other than the United States in the quota year 1951-52 (September-August) were 2·4 million tons as compared with 3·1 million tons in 1950-51. United Kingdom imports fell from 2 3 million tons in 1951 to 2·1 million tons in 1952, of which 554,000 tons were provided by Cuba. Exports of refined sugar from the United Kingdom in 1952 were somewhat less than in 1951, but were still twice the prewar level and about one-third of the raw value equivalent of its gross imports. Total exports in 1952 from countries party to the Commonwealth Sugar agreement were over the negotiated price quota of 1,640,000 tons under that agreement but were all bought at the negotiated price (J. J. O'C.)

United States. The consumption of sugar *per capita* in the United States was estimated as 95 lb. in 1952, a little less than in 1951 and less than average. The 1952 domestic crop of sugar cane for sugar and seed was reduced by dry weather, but the two producing states had above average crops, and that of Louisiana was sharply above the small crop of 1951. Sugar beet production, much of it under irrigation in the western half of the United States, was 10,334,000 tons, as compared with 10,485,000 tons in 1951 and a 10,013,000-ton average for 1941-50. The average yield of 15·2 tons per acre was 2 tons above the average for 1941-50. Maple syrup production in 1952, mostly in Vermont and New York, was estimated at 1,603,000 gal. from 7,012,000 trees tapped; 189,000 lb. of sugar were also made. Both products were less abundant than in 1951 and much below the 1941-50 average. Honey in 1952 was an average crop, except in drought areas. Colonies of bees continued to decline. The support price was increased to 70% of parity, about 11½ cents per lb. for extracted honey.

Consumption of sugar in the United States in 1952 was initially estimated in late 1951 and the quota set under the law at 7·7 million tons. However, in Oct. 1952 100,000 tons was added to the quota. Deliveries for 1952 up to early October amounted to about 6,550,000 tons

Retail prices in the United States seemed firmly established at about 10 cents per lb. Export controls on sugar and inedible molasses produced in the United States or any of its possessions were ended in July 1952. (J. K. R.)

SUMATRA: *see* INDONESIA.

SURGERY. There were few dramatic changes in surgical methods during 1952. The last decade had on the whole been one of technical advance, exploration of new territory made accessible by advances in anaesthesia, chemotherapy and resuscitation, followed by an assessment of the results of the new procedures. The one branch of surgery that continued to extend its frontiers was that of the heart and great vessels

Cardiac surgery might be said to have had its origin in the ligature of the ductus arteriosus by R E. Gross in 1939 The operation devised in 1945 by A. Blalock for the congenital abnormality known as the tetralogy of Fallot gave a fresh stimulus to this branch of surgery The essential feature of the Fallot tetralogy was stenosis of the pulmonary arterial flow and the Blalock-Taussig procedure consisted in anastomosing the subclavian to the pulmonary artery, thereby bringing more blood to the lungs to be oxygenated. R. C Brock and T. Holmes Sellors in 1948 both reported the direct attack on the point of stenosis. The advantages of this were that it relieved the strain on the right ventricle and restored the situation more nearly to normal than the Blalock-Taussig by-pass, which was essentially the creation of an artificial ductus arteriosus. The obstruction might be above valve level, in which case the valve was cut and dilated by instruments introduced through the right ventricle, or below the level of the valve where it usually took the form of a diaphragm in the infundibulum that could be resected with a special punch introduced through the ventricle. Brock reported the

operative treatment of 240 cases of congenital heart disease, including 112 anastomoses and 111 direct operations; in the first 50 there were 6 direct operations and in the last 50, 41, with only 9 anastomoses. C P. Bailey, R. P. Glover and T. J. E. O'Neill reported 30 operations for Fallot's tetralogy, 15 valvotomies, 13 infundibular stenoses and 2 cases of hypoplasia of the pulmonary artery. All workers agreed that the direct attacks must be made in cases of pure pulmonary valvular stenosis.

In May 1952 C. Baker, Brock, M. Campbell and P. Wood reported the results of the first 100 cases of mitral stenosis treated by operation. The heart was opened through the left auricular appendage and the mitral valve explored with the index finger. The commissures between the two leaves of the valve were split with the finger or divided with a knife, thereby overcoming the stenosis. Despite the fact that the operation was often performed on people who were seriously ill with congestion of the lungs, the operative mortality was only 13%. In the last 80 cases the mortality was only 8%. The authors reported the results of post-operative observation on the first 50 cases. Five were not improved, 4 only slightly improved and 32 had good results. This was comparable with the results of Glover in America who reported 41% excellent results, 30% improved and 13% mortality in a series of 214 cases. Those with good results were able to return to a normal life. The change from being a cardiac cripple, with recurrent attacks of bronchitis and pulmonary oedema, to a normal existence was dramatic. The operation might be performed during pregnancy and was a more satisfactory alternative than sterilization which had sometimes been necessary in the past. The authors stated that the pre-operative assessment of the case could be made on clinical grounds, without the complicated apparatus for intracardiac catheterization. This meant that surgical centres throughout the country would be able to carry out this operation.

A small series of cases was reported in which a sling formed from pericardium was introduced to lessen the degree of mitral incompetence. The search for a satisfactory method of overcoming coronary insufficiency continued. It was shown experimentally that the internal mammary artery was capable of carrying the circulation of the left ventricle Four cases of coronary insufficiency were reported in which the internal mammary artery was implanted into the left ventricular myocardium. Three were improved, one died and at post-mortem the artery was found to be completely patent 62 hr. after operation.

After a segment of an artery has been excised it may not be possible to join the ends by anasomosis. Gross showed that arterial grafts preserved in vitro at low temperatures can be used to bridge such gaps and his work was followed by Brock, C. G. Rob and T. Holmes Sellors. Gross's experiments were conducted in animals, and successful grafting has been performed in man only since 1950. Hetero-grafts were used in animals, but homografts only in man. The cellular elements of the graft died, but the fibrous and elastic tissue survived to bridge the gap. A blood supply grew into the vessel wall from the surrounding tissue and an endothelial lining from the adjacent artery. A graft somewhat larger than the vessel to be reconstituted had to be used as the graft shrank in the process of replacement, and unless the final lumen was the same as that of the vessel on each side, eddies were set up in the blood stream. By this method traumatic injuries to the large vessels were repaired and deficiencies due to excision of the stenosed area in coarctation of the aorta were bridged.

Apart from operations on the heart and great blood vessels, thoracic surgery did not undergo any major changes during 1952. Operation played an increasing role in the treatment of pulmonary tuberculosis; cases were being treated at an earlier stage and consequently the various forms of thoracoplasty designed to put a grossly damaged lung out of action were being replaced by a direct attack on the tuberculous focus itself. For carcinoma of the bronchus near the bifurcation of the trachea partial resection of the trachea was performed, with restoration of the airway by means of a dermal graft supported on a tube of wire mesh. Dermal grafts were also being used to bridge gaps in the bronchus after the resection of non-malignant strictures, usually post-tuberculous in origin, thereby conserving the lung or the lobe served by the bronchus. In total laryngectomy dermal grafts were used for the immediate reconstruction of the pharynx.

Investigation of the casualties inflicted by the atomic explosions in Japan in 1945 showed that thermal burns due to heat flash were the most important cause of death. As a result the treatment of burns was studied intensively. A. B. Wallace re-introduced the exposure method shortly after World War II ended and it was used extensively in America and in the military hospitals in Korea. As yet there was no unanimity of opinion. For first- and second-degree burns it was an excellent method of treatment, obviating much of the nursing entailed by other methods For third-degree burns it had the disadvantage of delaying the deparation of sloughs and preventing early skin grafting. (W. H. Oe.)

SURINAM: *see* NETHERLANDS OVERSEAS TERRITORIES.

SWAZILAND: *see* BRITISH SOUTH AFRICAN TERRITORIES.

SWEDEN. Constitutional monarchy of northern Europe, lying on the eastern side of the Scandinavian peninsula, bounded N.E. by Finland, E. and S. by the Baltic sea, S.W. by the straits of Öresund and of Kattegat and W. and N.W. by Norway. Area (incl. inland water): 173,423 sq.mi. Pop. (Dec. 31, 1951): 7,099,204. Language: Swedish, with some Finnish (about 30,000) and Lappish (about 7,000) in the north. Religion: predominantly Lutheran; there were, however, about 303,000 Protestant dissenters of various denominations, 16,000 Roman Catholics and 6,700 Jews. Chief towns (pop., Dec. 31, 1951): Stockholm (cap., 752,193); Gothenburg or Goteborg (358,194); Malmö (196,490); Norrköping (87,141) Ruler, King Gustaf VI Adolf, prime minister, Tage Fritiof Erlander.

History. The king's speech from the throne on Jan. 11 contained the traditional phrase, "Sweden's relations with foreign powers remain friendly", but announced a new naval building programme and other steps for strengthening the national defences. The year proved to be the most eventful since World War II, the sensational trial of seven Communists for treason coinciding, in mid-June, with a Russian attack on Swedish aircraft over the Baltic.

At the end of January the Finnish prime minister's appeal for "established and guaranteed Scandinavian neutrality along the lines followed by Sweden for nearly a century and a half" was understood in Stockholm to have been echoed by Soviet diplomatic representations to the Danish and Norwegian capitals. No fresh Swedish initiative towards a neutral bloc, however, resulted. In March, at one of the periodic meetings of the Danish, Icelandic, Norwegian and Swedish foreign ministers, the form of a Nordic Parliamentary council was agreed upon and the Swedish Riksdag soon afterwards passed the relevant bill. The use of passports by Danish, Finnish, Norwegian and Swedish subjects travelling in one another's countries was abolished from July 12. Regarding the Eden plan for the Council of Europe (*q.v.*) the Norwegian foreign minister said in June that a solution should be found which would enable Sweden to continue participating in all council activities unconnected with defence.

A further Swedish note to Moscow (June 6) on the delimitation of territorial waters in the Baltic quoted a statement by the International Court of Justice at The Hague on the British-Norwegian fisheries dispute as supporting Sweden's contention that this type of problem was not the sole concern of a coastal state. Similar Swedish and Danish communications again made it clear that an arbitrary extension of the Soviet Baltic border to 12 nautical miles from land would constitute, in their view, an encroachment on the high seas.

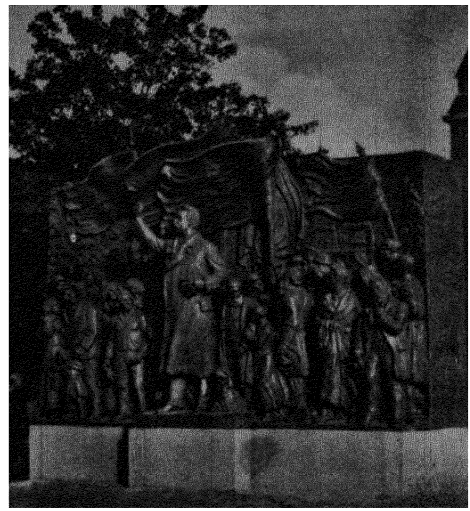
On June 13, three days before the espionage trial was due to begin, an unarmed Dakota of the Swedish air force engaged in radio-navigational exercises disappeared N.E. of Gotland with eight men on board. Two-and-a-half hours later a Catalina sea-rescue aircraft, also unarmed, which was searching for the Dakota passed over the western end of the Soviet island Dagö in thick fog, checked its position at low altitude and within a few minutes, according to the crew's records, regained international waters. The search continued, but at 4 A.M. on June 16 one of two unarmed Catalinas was shot down 30 mi. N.W. of Dagö by two Soviet jet fighters, the sister aircraft keeping in touch during the attack. The crew of seven, two of them wounded, took to their rubber life-boat and were picked up by a German freighter. Meanwhile the Swedish cabinet had met and the prime minister, acting as foreign minister, handed to Admiral Konstantin Rodionov, Soviet ambassador in Stockholm, a strongly worded protest, demanding an explanation of this act of violence, the punishment of those responsible and measures to prevent a repetition of such incidents.

On the same day Fritiof Enbom, alleged leader of the spy ring, had pleaded guilty to 10 years' work in the northern mining and fortified areas for the Soviet military intelligence service and to direct contact with five members of the military attaché's staff, from whom he received Kr. 10,000. Feeling rose in the normally phlegmatic capital and demonstrations took place at night outside the Soviet embassy in Stockholm. Home-made incendiary bombs were thrown and bundles of *Ny Dag*, the Communist daily, burned before police reinforcements cordoned off the street.

The cabinet, with service chiefs attending, decided on June 17 to intensify anti-aircraft defences; an apology was also sent to Moscow for the accidental frontier violation by a Catalina on June 13. Simultaneously the U.S.S.R. protested in Stockholm against the grant of asylum to five new Baltic refugees, and against the hostile demonstrations.

Further, in answer to the Swedish complaint, Andrey Vyshinsky gave to Rolf Sohlman, Swedish ambassador in Moscow, a counter-complaint that Swedish military aircraft had flown over Dagö on June 16, had refused to land when challenged and had opened fire first, disappearing out to sea when a Soviet fighter retaliated. These mutual accusations were reaffirmed (June 18, 19) and on June 21 the Swedish government informed the Soviet that the lost Dakota's rubber dinghy, since found, bore bullet-marks. To the question whether Soviet armed forces had fired on the plane Vyshinsky replied (June 24) that the Soviet border had been crossed near Ventspils (Latvia) by two foreign planes which, in the mist, could not be identified, but were driven off by Soviet aircraft.

On July 1 the Swedish cabinet, presided over by the king, drafted a more detailed account of events, based on the findings of a committee of inquiry. This showed that the crews of the two lost aircraft had never been nearer than 15 nautical miles to the Soviet border. If the Soviet government insisted on their version, the new note said, Sweden would be compelled to ask that an international procedure be employed to elucidate the facts and determine the legal consequences. The Hague court was suggested as arbiter.



A memorial by Carl Eldh to Hjalmar Branting (1860-1925), Swedish statesman and Nobel peace prize winner, erected in Stockholm in 1952.

The Soviet reply (July 17) rejected the Swedish account as "lacking any foundation", contradicted as it was by the Soviet airmen flying the fighters, and rejected also any reference to an international forum. A lieutenant-general of the Soviet air force wrote in a service journal that the lost Swedish Catalina had been 100 km. from the place where the Dakota disappeared and had clearly been spying out the Soviet coastline.

A Swedish rejoinder (Aug. 5) expressed "surprise and regret" at the U.S.S.R.'s refusal to resort to an international inquiry, and the government "reserved its full right to revert to the matter in the form and at the time it shall find suitable". A second note reiterated a demand made on June 16 that the Soviet government should instruct their diplomats in Sweden to stop spying on military establishments, with reference to revelations at the Enbom trial. Six of the accused had been sentenced on July 31 for espionage and some documents in the case were classified as secret for 60 years. The Polish military attaché had already been recalled, at the government's request, apparently on the ground of excessive curiosity about military airfields.

The government's firm tone had given much satisfaction in the country and there was corresponding dismay at the anti-climax which followed. Tage Erlander, the prime minister, and Östen Undén, foreign minister, declared on Aug. 10 that an appeal to the U.N. had been considered, but thought unwise. No effective settlement of the dispute could thus be obtained and it would mean "a legal matter being brought on to the political plane." Sweden's position in the eyes of the world was so strong that increased publicity would be unnecessary.

This reasoning aroused strong opposition protests. Jarl Hjalmarsson, conservative leader, exclaimed: "By approaching the U.N. we will not be dragged into a conflict between east and west. We are in a conflict now, between Communist violence and democratic legality" and should for that reason, he held, go to the U.N. Even *Svenska Dagbladet*, habitually guarded, asked editorially (Aug. 12) for Undén's resignation: instead of keeping all channels open he had, in advance,

greatly diminished Sweden's chances of getting satisfaction from the Soviet Union.

The general election was imminent, however, and as neither Liberals nor Conservatives relished the risk of being branded as deviationists from the all-party neutral line, the attack on Undén was not pressed home. No other international issue played any significant part in the election, Conservative gains and coalition losses (*see* ELECTIONS) being credited to internal, mainly economic factors such as unpopular anti-inflationary legislation. Government propaganda was epitomized in the poster legend: "Peace, Freedom, Progress: Full Employment: Wage-Earners, Stick Together! Vote for the Labour party, the Social Democrats." The Socialist and Communist losses, though slight, sufficed to give the three "bourgeois" parties an equal footing in the Lower House for the first time in a long period and strengthened the farmers' bargaining power within the uneasy Agrarian-Social Democratic coalition (*See* also PEASANT PARTIES)

On Oct 16, after a further exchange of notes with the Soviet Union, Undén told the U N general assembly that the Russians' refusal to submit the lost aircraft incident to international arbitration revealed the weakness of their case. He also reported the failure of Swedish and Danish efforts to prevent the arbitrary extension of Soviet Baltic territorial waters to 12 nautical miles, but explained that he was merely placing the facts before world opinion

Warnings addressed by the Federation of Swedish Industries and the General Export association to the government in 1951 about the dangers in any increase of export levies had gone unheeded, and the decision suddenly announced by Great Britain, France, Belgium and the German Federal Republic (Feb 1952) to fix a maximum price for imported wood pulp, some 20% below current exporters' prices, caused much bitterness in Scandinavia. Finnish, Norwegian and Swedish representatives met in Stockholm to discuss what a Danish paper called "the pulp conspiracy" and it was also brought before a British-Scandinavian meeting convened in London (March 26) for the purpose.

The Swedish shipowners' association informed the Swedish foreign ministry in March that the Suez canal should, in their opinion, be made a British mandate under the U.N., and Danish and Norwegian shipowners took parallel action. The largest Swedish air and naval manoeuvres since the end of World War II were held in the Baltic from Sept. 11 to 15 and a second phase, including army units, followed from Sept. 24 to 29. To Swedish Communist objections that they coincided suspiciously with N A.T.O.'s "Operation Mainbrace" the government replied that these long-planned Swedish manoeuvres were wholly independent and that the only "Mainbrace" exercise in the south Baltic would take place between the two phases of the Swedish operation.

On the first visit of Sweden's reigning monarch to Norway since 1917, King Gustaf Adolf and Queen Louise were given a cordial welcome (March 10) and were warmly thanked in Oslo, as in Copenhagen (March 24) and Helsinki (May 23), for Swedish sympathy and humanitarian help in World War II. In June the King's *Eriksgata*, or official progress, through his own far-flung country took him to the rich mines, power stations, scattered settlements and nomadic reindeer-owners of the northernmost province, Norrbotten. On a private visit to Malta (Oct. 13) the king pursued his well-known archaeological interests and their majesties were entertained by the queen's brother, Admiral Earl Mountbatten of Burma.

The prime minister accepted an invitation from the Swedish Historical society of Rockford, Illinois, U.S., to attend the centenary of this Swedish-American town (April 5). He called on President Harry S. Truman and Dean Acheson in Washington, and in a much-quoted phrase described the average American's standard of living as appearing "to be as high as ours". On June 5 Clement Attlee attended the Swedish Social Democratic party congress.

At the Swedish Red Cross hospital in South Korea a staff of 150-170 Swedes, 35 Americans and about 200 Koreans maintained 450 beds in 1952 and had already performed 10,000 operations. (E. J. L.)

Education. Schools (1951) elementary 28,850, pupils 650,200, teachers 29,700, secondary 390, pupils 143,179, teachers 9,632; technical secondary, pupils 3,790 Teachers' training colleges 29, students 6,184, professors and lecturers 1,051 Universities 4 and institutions of higher education 13, students 17,634, professors 448

Agriculture. Main crops (in '000 metric tons, 1951, 1952 est in brackets) wheat 485 (783), barley 250 (264), oats 820 (884), rye 176 (290), potatoes 1,751 (1,955) Livestock (Sept 1951, '000 head) cattle 2,633, sheep 261, pigs (April) 1,331; horses 415, chickens (April) 12,168. Fisheries (salt) total catch (1950) 185,200 metric tons; value Kr. 102 million

Industry. Industrial establishments (1949) 17,289, persons employed 806,800 Fuel and power, electricity (million kwh 1951) 19,440. Raw materials ('000 metric tons 1951, 1952, six months, in brackets) iron ore 16,116 (8,566), pig iron 852 (507 8), crude steel 1,500 (831) Manufactured goods ('000 metric tons) cement (1951) 2,012; wood pulp (1950) 3,146, timber (1950) 33,500,000 cu m

Finance and Banking (million kronor) Budget (1951-52 actual) revenue 7,507, expenditure 6,423; (1952-53 est) revenue 8,391, expenditure 7,220 National debt (June 30, 1952) 12,329 Currency circulation (Sept 1951, Sept. 1952 in brackets) 3,636 (4,158) Gold reserve (Sept 1951, Sept 1952 in brackets) 664 (1,043) Deposit money (June 1951, June 1952 in brackets) 17,406 (18,450) Monetary unit *Krona* (pl *kronor*) with an exchange rate (Dec 1952) of Kr 14 50 to the pound sterling and Kr 5 18 to the U S dollar

Foreign Trade. (Million kronor, 1951; 1952, six months, in brackets) Imports 9,189 (4,679), exports 9,170 (4,237). Main sources of imports (1951) U K 16%, Germany 14%, U S 9%, Belgium-Luxembourg 6% Main destinations of exports U K 19%; Germany 11%, Norway 6%, France 6% Principal imports coal, petroleum and products 20%, textile fibres and manufactures 17%, machinery and vehicles 16%, base metals and manufactures 12% Principal exports wood pulp 28%, machinery and vehicles 16%, paper and manufactures 14%, wood and manufactures 12%

Transport and Communications. Roads (1952) 56,200 mi. Motor vehicles licensed (Jan 1952) cars and buses 320,876, lorries 89,486 Railways (1952) 10,314 mi, passenger traffic, state railways (1951) 4,045 million pass-mi, goods traffic (1951) 5,800 million ton-mi. Shipping (July 1951) merchant vessels 1,251; total tonnage 2,115,526 gross Scheduled transport (1951) mi flown 7,388,000, pass-mi 160,670,000; cargo net ton-mi 3,583,000 Telephone subscribers (1951) 1,685,200 Wireless licences (1952) 2,205,000.

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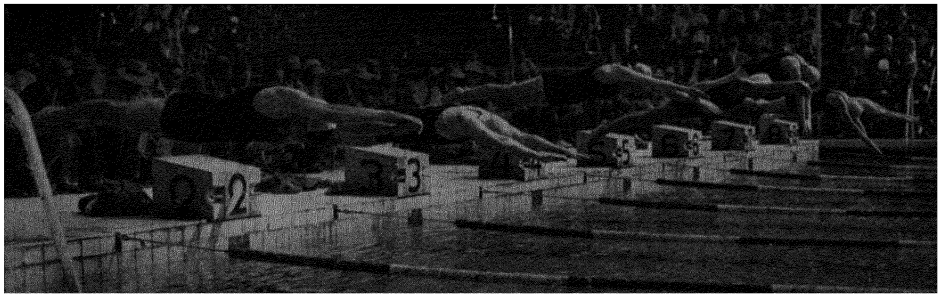
SWIMMING. Great Britain. Twenty-year-old J. C. Wardrop (Motherwell) made history in 1952 by winning the five Amateur Swimming association national freestyle championships and lowering the nine recognized British native freestyle records of 100 yd. to 1 mi. He captained the British Olympic swimming team, and at Helsinki reached the semi-final of the 100 m. in 58·9 sec., was fifth in the 400 m. in 4 min. 39·9 sec., and recorded the fourth fastest individual time for 200 m. in the 800-m. relay, in which Great Britain was sixth. His brother Robert was sixth in the 100-m. backstroke in 1 min. 7·8 sec. In October the twins left for the United States to enter the University of Michigan, where Matt Mann, U.S. Olympic coach, was in charge of swimming.

Other outstanding British Olympic performers were: Helen Gordon (Hamilton), third in the 200-m. breaststroke in 2 min. 57·6 sec., and winner of Great Britain's only Olympic swimming medal; Daphne Wilkinson (Leamington Spa), who broke by 1·2 sec. the existing Olympic 400-m. freestyle record of 5 min. 17·8 sec. (though she failed to reach the final her performance was the finest ever achieved by an English girl); Angela Barnwell (Worthing), who returned 1 min. 7·2 sec. for the 100-m. freestyle; and Margaret



The start of a semi-final heat of the women's 400 m. freestyle at the Olympic Games. E. T. Kawamoto (U.S.), fourth from left, was the heat winner. Eva Novák (Hungary), on her left, was second. The winner of the final was V. Gyenge (Hungary).

McDowall (Kilmarnock), who returned 1 min. 17·5 sec. for the 100-m. backstroke. The last two both qualified to swim in their respective finals and finished eighth and seventh respectively. Great Britain was fifth in the women's freestyle relay.

The British Olympic divers all gave splendid performances: 15-yr.-old Charmian Welsh (Sunderland) was fifth in the springboard, and 16-yr.-old Ann Long (Ilford) was fifth in the highboard and eighth in the springboard; Diana Spencer (Ruislip) was seventh in the highboard; and Tony Turner (Watford) seventh in the men's springboard. The water polo team won their first match against Austria (4-3); lost to Italy (3-4); lost to the U.S. (3-8); and drew with Austria (3-3); they were then eliminated. Although British swimmers only gained one "place" in the Olympic Games they surpassed all expectations and had every reason to be proud of their performances. Swimmers and divers were themselves largely instrumental in raising a fund exceeding £6,000 for Olympic training.

English, Scottish and Welsh centralized national championships were well supported, and facilities for the practice of swimming, diving and water polo showed some improvement over previous years. Mrs. Alice M. Austin (Beckenham) was the first woman in 83 years to be elected to the presidency of the A.S.A. The Royal Life Saving society adopted the Holger Nielson method of resuscitation in place of the Schafer method. (B. W. C.)

Channel Swimming. Seven persons—six men and one woman—swam the English Channel in 1952. The first across was Victor Birkett (26), of Eastbourne, who swam from France to England in 15 hr. 23 min. Others who swam in the same direction were: Kathleen Mayoh (20), of Bolton, in 16 hr. 55 min.; Bakr Soliman (26), of Egypt, in 18 hr. 15 min.; and Abdel Mohem Abdu (27), of Egypt, in 16 hr. 30 min. Three crossings were made from England to France: Saied el-Arabi (36), of Egypt, in 17 hr. 42 min.; Philip Rising (42), of Rotherham, in 18 hr. 38 min.; and Philip Mickman (21), of Ossett, Yorkshire, in 18 hr. 44 min. The last three had previously swum from France to England: Saied el-Arabi and Rising in 1951, and Mickman in 1949. (X.)

United States. U.S. Olympic representatives won six of nine first places in the men's events. The following performances reduced previous records: 100 m. free style, 57·4 sec., Clarke Scholes; 1,500 m. free style, 18 min. 30·0 sec., Ford Konno; 100 m. backstroke, 1 min. 5·4 sec., Yoshi Oyakawa; 800 m. free style relay, 8 min. 31·1 sec., Wayne Moore, William Woolsey, Konno and James McLane.

U.S. swimmers also set the pace in shattering world standards, creating these new records: 100 yd. free style, 49·2 sec., Richard Cleveland; 100 yd. backstroke, 56·5 sec., Jack Taylor; 800 yd. free style relay, 7 min. 40·5 sec., Moore, McLane, Donald Sheff and Frank Chamberlain; 800 m. relay, 8 min. 29·4 sec., Moore, McLane, Sheff and Richard Thoman; 300 yd. medley relay, 2 min. 47·1 sec., Taylor, Gerald Holan and Cleveland; 300 m. medley relay, 3 min. 7·0 sec., Thoman, Dennis O'Connor and Kerry Donovan.

Florence Chadwick, the only woman to have swum the English Channel from both shores, achieved another great feat in conquering the stretch of troubled ocean between Catalina Island and the California coast. She crossed from the island to Point Vincente, about 21 mi., in 13 hr. 47 min. 32·6 sec., coming close to the course record of 13 hr. 35 min. set by Byron Summers in 1927. (*See* also OLYMPIC GAMES.)

See D. A. Armbruster and L. E. Morehouse, *Swimming and Diving* (London, 1952); B. W. Cummins, *Swimming Times*, vol. 29 (London, 1952). (L. DE B. H.)

SWITZERLAND. Republican confederation of 22 cantons in west-central Europe, bounded W. by France, N. by Germany, E. by Austria and Liechtenstein and S. by Italy. Area: 15,944 sq.mi. Pop. (1950 census): 4,714,992. Language: German 72·6%; French 20·8%; Italian 5·2%; Romansk 1·1%. Religion: Protestant 57·6%; Roman Catholic 41·1%; Jewish 0·5%. Chief towns (pop., 1950): Berne (cap., 146,499); Zürich (390,020); Basle (183,543); Geneva (145,473); Lausanne (106,807). President of the confederation for 1952, Karl Kobelt; vice-president of the federal council (government), Philipp Etter (*q.v.*).

History. The year 1952 inherited from its predecessor the unsolved problem of how to pay for rearmament. The Social Democratic party continued to press for the imposition of a capital levy. Its leaders worked out a plan in accordance with which only about 80,000 persons would be affected and a referendum was held on this proposal on May 18. This was not unexpectedly rejected by 421,459 votes to 328,032 and by all the cantons as such except Zürich, Basle, Schaffhausen and the Ticino, the first three being highly industrialized and the last a poor, mainly peasant, canton.

It was decided to put the government's project for the payment of the rearmament bill to the Swiss people seven weeks later, on July 6. This proposal again asked for the bitterly opposed tax on drinks, for an increase of the *Wehrsteuer*, or—roughly—income tax, and, thirdly, for the severe taxation of luxury foods. It was officially backed by all the principal political parties and by the responsible bankers and industrialists represented by the *Neue Zürcher Zeitung*. And yet it soon became obvious that the propaganda against the government project was much more energetic and more liberally financed than that in its favour; it was indeed systematically organized by groups of big business people with a paid personnel for the purpose. This opposition, as frequently before, was supported by Pierre Béguin, editor of the influential *Gazette de Lausanne*, and justified itself

with the argument that it was unnecessary to increase taxation in a period of prosperity when the revenue was buoyant In reply government supporters pointed out that the cost of rearmament had increased since the estimates were made, that the wave of prosperity was ebbing, and that, if fresh taxation were not voted, fresh government borrowing would become necessary; the latter was likely to intensify the inflationary pressure of which the country was already disagreeably aware.

When the votes registered on July 6 were counted it was found that, while only 43% of the electorate had voted, the new financial bill had been rejected by 352,205 votes to 256,035 and by all the cantons except Zurich, Berne and Solothurn. The largest hostile majorities were recorded in the French-speaking districts which were always suspicious of plans emanating from the federal government. Although the Catholic German-speaking peasants of the mountain cantons of central Switzerland had also voted an emphatic " No ", the traditional clash between French- and German-speaking Swiss and between Swiss town and country was strongly in evidence.

Although the Swiss appeared so unwilling to pay for their rearmament the building up of a new modernized army and air force was enthusiastically promoted. A number of tanks were bought abroad, the construction of Swiss tanks was also initiated. In March the verdict was pronounced in the trial of two officers who had organized a difficult cross-country march for candidates for commissions in the previous summer, during this march five young men had collapsed of whom two had died. One of the officers was acquitted and the other sentenced to 30 days. But the affair aroused anxious and intense interest since the officers' attitude had been characteristic, whereas public opinion demanded at least a more scientific approach; military training, it was felt, must today be recognized as a matter of specialized technical knowledge rather than one of arbitrary standards of endurance.

The insignificant Swiss Communist party (Partei der Arbeit) was evidently spurred on from Moscow to make efforts to exploit discontent about rearmament and taxation. On April 20 voting took place on a Communist initiative against the unpopular purchase tax, but anti-Communist feeling was sufficient to bring about a rejection by 550,712 to 128,237 votes with no single canton in favour. The standing of the Communists in Switzerland was further reduced by a quarrel between their other leaders and Léon Nicole of Geneva. The latter, an elderly man whose personal character was widely respected, had been president of the party and editor of the chief Communist paper in the country; declaring that his views remained unchanged, he retired into private life and not long after was known to be receiving public assistance.

The economic history of Switzerland during 1952 was relatively uneventful. The boom brought about by the effects of the Korean war subsided gradually, but without impairing the country's remarkable well-being to any extent except in a few branches of the textile industry. There were no extraordinary changes in the foreign trade by which the Swiss live, though a tendency to trade more with the German Federal Republic and less with France became evident. As the summer passed even textiles showed signs of picking up, and the highly nervous watch industry, reassured by President Truman's decision not to allow an increase of the U.S. tariffs against Swiss watches, continued to export record quantities. Similarly the hotelkeepers, who had indulged in gloomy pessimism over the restrictions on British travel allowances, enjoyed an influx of west German, Belgian and North American tourists with plenty to spend.

In view of the anti-Berne demonstration of July 6 the government decided to let its financial problems slide for a time, meanwhile increasing the national debt. By the end of November the government entrusted the Ministry of Finance with the drafting of a constitutional amendment to regularize the levying of direct taxes—within strictly fixed limits—by the federal authorities This was an important step towards the reform of Swiss financial administration which would fall due at the end of 1954; it was expected by now that fiscal revision could somehow be made also to pay for rearmament

In spite of the agitation in favour of a more liberal and more thrifty economy a referendum at the end of March sanctioned the continuation of generous subsidies to agriculture, and two others on Nov. 23 sanctioned the continuation of the government's powers to control prices.

On Dec 11 Philip Etter was elected president of the Swiss Confederation for the fourth time and Rodolphe Rubattel vice-president. (E. Wt.)

Education. Schools (1948-49) primary, pupils 434,498, teachers 14,136 (5,460 women), secondary and lower middle, pupils 78,587 (girls 36,266), teachers 3,275 (women 427). Universities (1949-50) 7, students 14,903, professors and lecturers 1,379; institutions of higher education 2, matriculated students 3,957, teachers 453

Agriculture. Main crops ('000 metric tons, 1951; 1952 in brackets) wheat 235 (220); rye 38 (34), barley 50 (52), oats 60 (61); sugar, raw value 30, potatoes 938. Wine production ('000 hectolitres, 1949, 1950 in brackets) 551 (1,130) Livestock ('000 head, April 1951) cattle 1,607, pigs 892, goats (1950) 180, horses 131; sheep 191; chickens 6,268, geese, ducks and turkeys (Sept 1951) 68 Meat production ('000 metric tons 1951, 1952, six months, in brackets) 69 6 (33 7) Dairy produce ('000 metric tons 1951; 1952, five months, in brackets) butter 25 8 (8 6); cheese 46 8 (17 2), milk, about two thirds of total production ('000 hectolitres) 17,379 (1952, six months 8,639)

Industry. Industrial establishments (1950) 11,568, persons employed 492,563 Fuel and power manufactured gas (million cu m , 1949) 299, electricity (million kwh , 1951, 1952, six months, in brackets) 10,271 (10,265) Index of industrial activity (1950, 1951, six months, in brackets [1938=100]) building 116 (136), cotton 99 5 (106), silk 119 5 (129 5), embroidery 108 (119), metals 136 (149), watchmaking 123 (133), chemicals 162 (174), foodstuffs 129 (127) Index of employment in manufacturing (1950; 1951 in brackets [1948=100]) 92 (101).

Finance and Banking (million francs) Budget (1950 est) revenue 1,622, expenditure 1,466; (1951 est.) revenue 1,577, expenditure 1,901. National debt (Dec 1949, Dec. 1950 in brackets) 11,109 (11,176). Currency circulation (Aug 1951; Aug 1952 in brackets) 4,838 (5,017). Bank deposits (July 1951; July 1952, in brackets) 6,996 (7,017). Gold and foreign exchange (Aug. 1951; Aug. 1952 in brackets) 1,431 (1,427). Monetary unit *franc*, with an exchange rate of Fr S 12·25 to the pound and Fr S 4·36 to the U S. dollar.

Foreign Trade. (Million francs, 1951; 1952, six months, in brackets.) Imports 5,915 5 (2,781 3), exports 4,690·9 (2,250 7). Main sources of imports (1951): U S. 16%, Germany 15%; France 10%; U.K. 7%. Main destinations of exports. U S. 13%; Germany 9%, France 9%, Italy 7% Main imports machinery 10%; coal, petroleum and products 9%; steel mill products 8%; textile fibres 6%, fruit and vegetables 4%. Main exports. machinery 21%; watches, clocks and parts 22%; chemicals 16%; textiles, incl. apparel, 15%.

Transport and Communications. Roads (1949). 10,250 mi. Licensed motor vehicles (Dec. 1950) cars 146,998, commercial vehicles 41,514 Railways (1949) total 3,345 mi.; state 1,812 mi.; passenger-mi (1950) 3,356 million; goods, ton-mi. 1,215 million Shipping (1951) merchant vessels 20; total tonnage 100,000; goods handled (1949) 2,252,020 metric tons. Air transport (1950): passenger-mi. 91,487,000; cargo net ton-mi 2,450,000. Swissair traffic (1950). passengers 196,625; freight 2,349 metric tons; mail 1,554 metric tons; mi. flown 5,618,309. Telephones (1951): 896,398. Wireless receiving sets (1949). 986,679.

See E. Bonjour and others, *A Short History of Switzerland* (Oxford, 1952); Hans Huber, *Wie die Schweiz regiert wird* (Zürich, 1952).

SYNGE, RICHARD LAURENCE MILLINGTON, British biochemist (b. Liverpool, Oct. 28, 1914), was awarded the Nobel prize for chemistry jointly with Archer John Porter Martin (*q.v.*) on Nov. 6, 1952, for his part in evolving their method of identifying and separating chemical elements by chromatography. Synge was educated at Winchester college and at Trinity college, Cambridge, and he and Martin undertook chemical research together at Cambridge and, from 1941 to 1943, at the Wool Industries Research association's laboratories at Leeds, Yorkshire. In 1943 Synge

went as a biochemist to the Lister Institute of Preventive Medicine, University of London, and from 1948 he worked at the Rowett Research institute, Bucksburn, Aberdeenshire. He was elected a fellow of the Royal Society in 1950. In the *Dagens Nyheter* (Stockholm) of Nov. 6 Professor Arne Tiselius (Nobel prize-winner, 1948), with whom Synge had worked in 1946, wrote that the "elegant" Synge-Martin method was so simple "that almost any schoolboy with ordinary laboratory equipment could demonstrate the procedure," yet another indication that "British scientists seem to have a special gift for making great discoveries with small resources." The new chromatographic method had "given us the key to solve a number of very important problems of great current interest in chemistry, biology and medicine." In 1951 Synge, with four other scientists, formed a "science for peace" committee, and he was also a member of the British sponsoring committee of the Communist-inspired "People's Congress for Peace" held in Vienna in Dec. 1952.
See *Nature*, *170*. 4333, p 826 (London, Nov 15, 1952).

SYRIA. Arab republic, bounded W. by the Mediterranean and Lebanon, N.W. and N. by Turkey, E. and S.E. by Iraq, S. by Jordan and S.W. by Israel. Area: 66,063 sq.mi. Pop. (1950 est.): 3,228,000. Language: Arabic (86%); also Kurdish, Armenian, Turkish, Circassian. Religion (1952 est.): Moslem 85·7%; Christian 14%. Chief towns (pop. 1950 est.): Damascus (cap. 335,100); Aleppo (362,500); Homs (244,100); Hama (146,600), Latakia (100,500). Chief of state and prime minister, General Fawzi Silo

History. In Jan. 1952 the Syrian government closed all Moslem brotherhood offices in the country. In March the United States information centre in Damascus was blown up.

In that month the government (which had come into office on the nomination of the Higher Military council headed by the chief of the general staff, Colonel Adib es-Shishakli, after the military *coup d'état* of Nov. 29, 1951) announced a programme of national land reform. It decreed the distribution of some 4 million ac. of state-domain lands among groups of agricultural co-operative settlements, each comprising between 20 and 50 families and varying in size between 2,500 and 5,000 ac. This settlement scheme was designed to provide for about 16,000 families, and to help them the Agricultural bank would make long-term loans to finance the purchase of farm machinery, seed, etc.; at the same time the government would accelerate irrigation projects, and place agricultural experts at the disposal of the settlers. Budgetary provision up to Dec. 1952 was also made for national defence (40%) and public works (8%).

Also in March the government negotiated a trade agreement with the Lebanese government, thus ending a deadlock which had persisted since March 1950 when the customs union linking the two countries had been severed. By the new agreement free exchange of local agricultural and industrial products and free travel between the two countries (subject to Syrian military interests) were re-established; and in accordance with the agreement reached in 1949, Syria liquidated her French-franc debt by the payment to Lebanon of 44 million Lebanese francs. The Iraqi government recognized Colonel Shishakli's régime in November and the Syrian government entered on fresh terms of amity with the Lebanon and Jordan.

In April the Syrian government, following the example of Lebanon and Iraq, set up the Syrian Development council to direct the economy of the country. It also announced its support for the establishment of an industrial bank to further industrial projects and to assist with loans industries which had contracted debts during the depression of 1949. Among these were the textile industry (3,275 looms), the cotton ginning industry, the cement industry of Aleppo and the soap industry. In May the government introduced legislation controlling foreign companies operating in Syria. Under this legislation all such companies had to register with the Ministry of National Economy and had to have a Syrian majority of both directors and shareholders; also the chairman or local agents had to be of Syrian nationality.

In June a new government was announced which included General Fawzi Silo as prime minister and minister of defence and Said ez-Zaim as finance minister.

A conference in Damascus, called on July 7 by the Syrian government for the discussion of the Arab attitude to recent Israeli moves and attended by delegates from Syria, Lebanon, Egypt and Jordan, passed a resolution that the Arab delegates to the Mixed Armistice (Palestine) commission should form a joint body instead of attending as four separate entities. Nine Syrians were sentenced to death in Damascus in October for collaborating with Israel and in November Syria was represented at an Arab league conference in Amman to discuss Israeli violations of the armistice terms. Colonel Shishakli paid a state visit to Egypt in December and with General Neguib he took the salute of a march past of the Egyptian armed forces in Cairo. Later they discussed relations between the two countries including the problem of defence and the possibility of an economic union between Egypt, Syria, Iraq and the Lebanon.

In August the Syrian government approved the United Nations Relief and Works agency's project, negotiated with Jordan, for the harnessing of the upper waters in Syria of the River Yarmuk for the irrigation of the east bank of the Jordan river.

In September a trade agreement was signed between Syria and Czechoslovakia. In the same month a Damascus press report announced the constitution, sponsored by Colonel Shishakli, of a new party, the Arab Liberation movement Its programme included the emancipation of women, work for all, regulation of relations between employers and workers, progressive taxation and agrarian, economic and educational reform. (O. Tw.)

Education. Schools (April 1951) elementary 1,759, incl private 228, foreign 38, total pupils 260,759, incl private 48,817, foreign 6,715, secondary 136, incl private 69, foreign 18, total pupils 28,595, incl private 10,127, foreign 2,227 Technical schools (1950) 8, incl 2 private, university 1

Agriculture. Main crops ('000 metric tons, 1950, 1951 est. in brackets) wheat 889 (700), barley 357 (300), maize (1948) 39, oats 5 (3); potatoes (1948) 15, rice (1948) 20, cotton, ginned 40, cottonseed 73 Fruit production ('000 metric tons, 1950, 1951 in brackets) grapes (1950) 90, olives 26, olive oil 4 (9); oranges and tangerines 2 (2) Livestock ('000 head Sept 1951) sheep 2,363, goats (1949-50) 1,196, cattle 401, horses 93, donkeys 260, mules (1950) 54, chickens 2,171.

Industry. Production cotton ('000 metric tons 1950 est.) 5 6, natural and artificial silk textiles (million m., 1950) 26 7, box calf and kidskin leather ('000 sq m., 1947) 29 0, salt ('000 metric tons, 1947) 18 8, cement ('000 metric tons, 1951, 1952, six months, in brackets) 38 8 (44 4), asphalt ('000 metric tons, 1947) 14 5

Finance and Banking (£S million). Budget (suppl est., Jan 1-June 30, 1951) balanced at 67 8; (1951-52 est.) balanced at 197 0 Currency circulation (April 1950, April 1951 in brackets) 183 (225). Monetary unit Syrian *pound* with an exchange rate (Nov 1951) of £S 6 16 to the pound sterling and £S 2 20 to the U S dollar

Foreign Trade. Syrian-Lebanese customs union was terminated in March 1950. (£S million, April-Dec. 1950, 1951, three months, in brackets.) Imports 198 0 (76 8), exports 207 9 (96 9)

Transport and Communications. Roads (1950). 9,740 mi., of which 3,021 mi are usable all the year Licensed motor vehicles (Dec 1950) cars 4,172, commercial 5,476 Railways (1949) 539 mi Telephones (1951)· 11,516 Radio receiving sets (1950 est.) 50,000

TABLE TENNIS. The world championships were held in Bombay in Feb. 1952. The event was chiefly notable for the first participation of many Asian countries, particularly Japan, which, at the first attempt, won four of the seven world titles: men's singles (H. Satoh beat J. Koczian of Hungary in the final), men's doubles (N. Fujii and T. Hayashi),

the women's team event (Marcel Corbillon cup), and the women's doubles (S. Narahara and T. Nishimura). Czechoslovakia did not defend the men's team title (Swaythling cup) which was won, for the 11th time, by Hungary. The holder, A. Rozeanu (Rumania) retained the women's singles, winning her third successive final against G. Farkas (Hungary), and the mixed doubles, this time with F. Sido (Hungary) as partner English players reached five finals but won no title.

R. Bergmann won the All-England singles table tennis championship for the fifth time, on March 30. The Misses D. and R. Rowe won the women's doubles for the third successive year. J. Leach and Miss D. Rowe won the mixed doubles and Z. Dolinar and V. Harangozo (Yugoslavia) the men's doubles.

In March at Cleveland, Ohio, L. Pagliaro (U.S.) regained the U.S. open men's singles title, after eight years; L (Thall) Neuberger (U.S.) retained the women's title for the second year in succession. (I. Mu.)

TAFT, ROBERT ALPHONSO, U.S. politician (b. Cincinnati, Ohio, Sept 8, 1889), the son of William Howard Taft, 27th president of the United States. He graduated from Yale university in 1910, and from the Harvard law school in 1913. During World War I he served as assistant counsel of the U S. Food Administration, and after the war he helped to organize relief services to Europe. He served in both houses of the Ohio legislature, and was elected to the U S. Senate in 1938 and re-elected in 1944 and 1950. He was a strong contender for the Republican nomination for the presidency in the 1944, 1948 and 1952 national conventions. By the early '40s Taft had become recognized as the principal spokesman for the conservative wing of the Republican party. In the years after World War II he became increasingly critical of the administration's domestic policy, specifically attacking huge national expenditures and the trend toward centralized government. Likewise he assailed the foreign policy of President Harry S. Truman. Any attempt to halt Communism in Asia by ground forces alone, he contended, was futile; superior air and naval forces should be used instead. Taft, known familiarly as " Mr. Republican ", waged a bitter preconvention contest with Dwight D. Eisenhower for the Republican presidential nomination in 1952, but was defeated by Eisenhower on the first ballot at Chicago, July 11 He then declared that he would not again seek the Republican nomination. On Sept. 12 at New York city he composed his differences of view with General Eisenhower and announced that he would campaign for the latter without reservation. When, however, Eisenhower picked Martin P. Durkin, a Chicago trade union leader, as his secretary of Labour, Taft denounced this appointment as " incredible " (Dec. 2)

TANGANYIKA. British trust territory in east Africa, formerly German East Africa, bounded N. by Uganda and Kenya, E. by the Indian ocean, S. by Mozambique and Nyasaland and W. by Northern Rhodesia and the Belgian Congo. Area: 362,688 sq.mi. Pop.: (1948 census) 7,412,327, incl. 12,068 Europeans, 46,491 Indians and Goans and 11,952 Arabs; (1951 est.) 7,827,000. Language: tribal; Swahili (the *lingua franca*). Religion: pagan; many Moslems in coastal areas and up-country trading settlements; 1,069,285 African Christians (1949; *c.* 70% Roman Catholic). Capital, Dar-es-Salaam (pop. 1948, 69,277). Administration: governor; executive council; legislative council, 8 *ex-officio*, 7 nominated official and 14 unofficial members (7 Europeans, 4 Africans and 3 Indians). Governor, Sir Edward Twining.

History. A. T. Lennox Boyd, then minister of state for the colonies, visited the territory in Jan. 1952 and emphasized that both the Conservative and Labour parties in Great Britain were agreed on the policy to be followed in the political development of Tanganyika; and in June the secretary of state announced that the British government accepted the proposals made by the Tanganyika Constitutional Development committee in 1951 for racial parity between European, African and Asian unofficial members in the legislative council. The new council, however, was not to be formed for about five years in order to give time for the full establishment of the reformed system of local government and for experience in its working. Local reaction was favourable except among the European community, most of whom welcomed parity with the Africans but thought that it would give the Asians undue weight in the government. Meanwhile Professor W. J. M. Mackenzie of Manchester university had been appointed special commissioner to enquire into the problems of local government reform and had started his investigations.

Good rains resulted in good crops, but considerable damage was done to sisal in the Southern province by a cyclone which struck the Mikindani area on April 15. About 30 Africans lost their lives. The Rufiji rice-growing scheme, based on the hiring of tractor-drawn ploughs to African farmers, made big strides and about 6,000 ac. were being brought under cultivation. At Moshi, in March, the governor opened the new £200,000 business and community centre of the Chagga Co-operative union of coffee-growers.

Diamond exports, suspended for some months during negotiations about marketing between J. Williamson, discoverer and owner of the Madui diamond mine, and the Diamond corporation, were resumed in June, and a fillip was given to the production of lead and copper by the grant of a loan of $1,640,000 by the U.S. government to Uruwira Minerals, Ltd. In November Mau Mau agitators among Kikuyu settlers in Tanganyika were deported to Kenya and border control was imposed. (K. G. B.)

Education. Schools (1951) primary, 22 European, 82 Asian, 1,467 African (200,051 pupils), secondary, 2 European, 7 Asian, 28 African (2,725 pupils), industrial and vocational, 1 Asian, 22 African (1,091 pupils) There are also 35 African teachers' training colleges (1,144 students).

Finance and Trade. Monetary unit East African shilling (20*s* = £1 sterling) Budget (1952 est.) revenue £12,869,835, expenditure £12,769,460 Foreign trade (1951) imports £31,642,000, exports £41,497,000 Principal exports (provisional) diamonds (£847,832), textiles, fibres, lint (£26,660,713), hides (£1,805,010) Production (1951) maize 800,000 tons, cassava, etc. 880,000 tons, bananas 1,320,000 tons, copra 10,000 tons, sisal 145,000 tons, pyrethrum 310 tons, gold 129,439 oz., diamonds 8,593 ct., tin concentrates 92·09 tons, mica 69 96 tons, lead concentrates 2,964·59 tons Livestock (1951 census) cattle 6,112,967, sheep 2,445,055, goats 3,280,638

See A Loveridge, *Tomorrow's a Holiday* (London 1952).

TANGIER. An international and demilitarized zone of Morocco on the southern shore of the Straits of Gibraltar. Area: 232 sq.mi. Pop. (mid-1949 est.): 150,000 including 30,000 Europeans. Language: Arabic, French and Spanish. Religion: mainly Moslem. Administration by a committee of control composed of the resident consuls general of France, Great Britain, the United States, Belgium, Italy, the Netherlands, Portugal and Spain, which appoints a legislative assembly of 26 members (4 French, 4 Spaniards, 3 British, 3 American, 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, José Luis Archer (Portugal).

History. On March 30, the 40th anniversary of the Fez treaty which had imposed the French and Spanish protectorates on Morocco, a violent manifestation of the Moroccan Nationalist party took the international authorities by surprise. The police opened fire and at least 12 rioters were killed and 157

wounded. The demonstration, which was apparently meant to be anti-French, got out of hand and degenerated into an attack on any European shops and cafés, of which about a hundred were looted. On April 3 French and Spanish troops were moved into Tangier territory and put at the disposal of the chief of police, Colonel Legrand, a Belgian.

On April 7 the Spanish government delivered a *note verbale* to the heads of the diplomatic missions in Madrid of the seven other nations represented on the committee of control, demanding a complete revision of the 1945 agreement and a return to the conventions of 1923 and 1928 (under which the chief of police had been a Spaniard). At the end of May the British government replied to the Spanish note: it did not share the Spanish view that the 1945 agreement had lapsed, but agreed that certain changes in the interests of better administration would be desirable.

At the end of June it was learned the governments of France, Great Britain and the United States had suggested the creation in Tangier of a motorized police corps with a Spaniard as its commander and a Frenchman as his deputy. The municipal police of Tangier would be under the command of a Frenchman with a Spaniard as his deputy.

Economy (million francs) Budget (1950 est.) revenue 999 7, expenditure 968 7, (1951 est.) revenue 1,073 3, expenditure 1,066 1, (1952 est.) revenue 1,557 9, expenditure 1,415 2 Shipping handled in the port of Tangier, 1951 1,681,800 tons Total value of merchandise, 1951 exported (loaded) Fr 774,859,000, imported (unloaded) Fr 10,753,560,000

TARIFFS. The nation-wide movement towards the reduction of tariffs came to an end in 1952. In retrospect, the so-called General Agreement on Tariffs and Trade (G.A.T.T.) proved more successful during its first five years' operation than was expected. In the three rounds of multilateral tariff negotiations at Geneva in 1947, at Annecy in 1949 and at Torquay in 1950-51 some 58,700 specific tariff concessions in 34 countries, responsible for four-fifths of the world trade, were granted and multilaterally applied under G.A.T.T. What was even more important, a very large section of the participating countries' tariff rates were stabilized. With these reductions it appeared that the limits of further concessions in the existing climate of international economic relations had been reached. Moreover, in view of the difficulties about balance of payments, the climate had substantially changed during the past year with an emphasis rather on the prevention of more widespread restrictive and discriminatory controls over imports than on tariff bargaining Indeed this was one of the important subjects considered by the seventh session of G.A.T.T. which took place at Geneva in Oct.-Nov. 1952.

Most of the measures taken in 1952, rather than facilitating the free exchange of goods, tended towards further restriction by making use of the so-called 'escape clauses incorporated in the G.A.T.T. as well as in the Organization for European Economic Co-operation trade liberalization code. Thus, while the liberalization of the O.E.E.C. countries, *i.e.*, the freeing by April 1, 1952, of 75% of their imports on private account from quota restrictions, was on the whole an important contribution towards freer trade, it was overshadowed by a curtailment of liberalization by the United Kingdom in two stages from 90% to 46%, and by a suspension of liberalization in Feb. 1952 by France, following their balance of payments difficulties. The United Kingdom also invoked the escape clause of G.A.T.T. in connection with curtailment of imports from other than O.E.E.C. countries.

The same escape clause of G.A.T.T. was invoked by the United States on other grounds, namely, that imports caused serious injury to domestic industry, and tariff concessions granted with regard to imports of hats were withdrawn. Another protectionist move by the United States was the so-called "Andresen" amendment to the Defence Production act restricting the imports of, *e.g.*, cheese and casein. On the other hand President Truman showed a firm attitude to the pleas for relief addressed to the Tariff commission under the escape clause in the Trade Agreements Extension act of 1951, made on the grounds that the industries concerned were being unfairly affected by foreign competition. By the end of 1952, 40 applications had been made for tariff increase. Of these over half had already been dismissed (including those for whisky and motor cycles). Ten cases were still pending In five cases the Tariff commission recommended a tariff increase, but in two of these (including the case of Swiss watches) the president refused to follow the recommendations.

A positive move towards a reduction of tariffs was the realization of the six-country European Coal and Steel community (*q.v.*), which came into existence in Aug 1952. This would lead eventually to a unified and tariff-free market for coal and steel products within the contracting countries, and the six countries successfully applied to G.A.T.T. for a waiver of certain obligations to allow the implementation of the treaty.

It was expected that future prospects for tariffs would be influenced by the decision of the Commonwealth Economic conference in London in December 1952 to continue to adhere to G.A.T.T., and also by the refusal of the conference to support the U.K. desire for an extension of the imperial preferences. All Commonwealth countries agreed, however, to co-operate with the U.K. government in an approach to other G.A.T.T. countries to meet particular difficulties arising out of the U.K. tariff Another factor which was felt to be even more important was the attitude of the new Republican régime of the United States to tariff reductions. This would be particularly noticeable when the Trade Agreements Extension act of 1951 came up for revision in April 1953 It was questioned whether the traditional high tariff policy of the Republican party would triumph or whether the president-elect, Dwight D. Eisenhower, would continue to subscribe to the more internationally minded approach of "trade not aid", which implied tariff reductions and higher U.S. imports. The fate of the important bill on simplification of U.S. custom procedures would also depend on the general U.S. attitude to tariffs. (*See* also EXCHANGE CONTROL AND EXCHANGE RATES, INTERNATIONAL TRADE) (L. Rs.)

TASMANIA: *see* AUSTRALIA, COMMONWEALTH OF.

TAXATION. In the leading countries of the world taxation in 1952 continued at levels which would have been judged impracticable before World War II Reasons for this were the war itself, which had shown what could be done in the way of enforcing the claims of the state on the individual; the claims of rearmament; the appreciation by governments of the fact that no economy, however free, could neglect the appeal of the welfare state, and the growing skill in the use of fiscal policy rather than direct controls as an instrument for shaping the national economy. In a number of countries, however, the level of business activity showed signs of declining, and the idea of an approach towards deficit financing became correspondingly more attractive.

United Kingdom. This idea was probably one of the considerations at the back of the chancellor's mind when framing his budget, an instrument with clear inflationary possibilities which were, in fact, realized about the middle of the year. The main interest of the budget lay, however, in the fact that it was the first Conservative budget since the war. As such, it sought to provide incentives to higher production by a reduction in taxation coupled with the partial abolition

of the food subsidies. The latter reduction saved £160 million, the burden being allowed to fall gradually on the consumer as the year went on. The alleviations in income tax on the other side of the ledger were an increase in earned income relief from one-fifth to two-ninths; an extension of two-ninths relief to total incomes not exceeding £250, and an increase in the single allowance from £110 to £120, in the married allowance from £190 to £210, and in the child allowance from £70 to £85. The incidence of income tax before the application of the standard rate was lightened.

A political flavour clung to the imposition of an excess profits levy at 30% net. This tax was partly compensated by relaxations in the profits tax, the rate being reduced to 2½% on undistributed and to 22½% on distributed profits.

The tax on motor spirit was raised from 1*s* 10½*d*. to 2*s*. 6*d*. a gallon. Purchase tax was radically changed and the special provisions for utility articles were abolished, but the tax was reduced for certain cheaper goods.

Commonwealth. In Canada it was felt that, with some taxes (*e.g.*, those on cigarettes), the law of diminishing returns had begun to operate, and the cigarette tax was reduced. Corporation income tax was increased by the embodiment of the 5% provincial corporation income tax into the federal structure, but half the increase due to this change was compensated by a 6% adjustment in the tax-rate. Personal income tax was reduced by the incorporation of the 20% surtax into the rate structure. The purchase tax on a large range of goods (including cars and household appliances) was reduced from 25% to 15%, and the excise on soft drinks from 30% to 15%. Taxes on certain consumption goods were repealed.

A rather similar policy influenced the Australian budget proposals. These provided for a reduction of 2*s*. in the rate of tax on the first £5,000 of taxable income of public companies, the abolition of the land tax so far as the federal government was concerned, and a reduction in the sales tax from a maximum of 66⅔% to 50%, together with other reductions in the lower scales of sales tax. The bill proposed a readjustment of the relative revenue-raising powers of the federal and the states governments. In New Zealand the surcharge of 10% on income tax was reduced to 5%.

Heavier taxation was imposed in the Union of South Africa. The rebates for married and unmarried persons were withdrawn, the rate of tax for diamond-mining companies was raised from 8*s*. to 9*s*., that for other mining companies (except gold-mining companies) from 5*s*. 6*d*. to 6*s*., and that on other industrial and commercial companies from 4*s* 6*d*. to 5*s*.

The Pakistani budget reflected a policy of fostering capital development and of a consequent reduction in consumption. The customs duty on liquors was increased, and that on capital goods and cement abolished. The exemption limit on cottage and small-scale industries was raised, and the profits of industrial undertakings set up in Pakistan after Aug. 14, 1947, were exempted from the business profits tax. No changes were introduced in Indian income tax.

Europe. In France reforms were introduced calculated to lighten the burden of income tax while making evasion less attractive. A married, childless couple, for instance, was given a basic allowance of Fr. 360,000 instead of Fr. 280,000, and the actual rates of income tax payable at different levels were lowered by about 16%. The maximum rate of 60% was attracted at Fr. 12 million instead of Fr. 10 million. At the same time, the authorities were empowered to adjust declarations by taking into account visible indications of a high standard of living. Severe penalties, including the prohibition to carry on business, were provided for fraudulent declarations. Several indirect duties were increased.

(W. H. Jn.)

United States. In his economic report of Jan. 1952, President Harry S. Truman proposed that congress "provide at least enough additional revenues to reach the revenue goal proposed last year, by eliminating loopholes and special privileges, and by tax rate increases." This would have meant providing additional revenue of about $5,000 million. The president, however, did not send any special tax message to congress, and no further details on his proposals were given by the Treasury.

During the year there was no major federal tax legislation. Among several minor changes in the law were the following: the charitable deduction allowed individuals was increased from 15% to 20% of adjusted gross income. The capital gain on securities purchased by an employee through a stock purchase plan operated by his employer was made taxable only when the stock was sold and the gain actually realized. Under the excess profits tax some changes were made in the definition of base period earnings for corporations completing contracts or making deposits under the Merchant Marine act and certain corporations which used copper and zinc as raw materials and which increased their total facilities by 80% or more in the base period; also when a taxpayer operated a branch at a loss during the base period, the loss, subject to certain restrictions, was not required to be deducted from the base period earnings credit. Although there was no change in tax rates, people were paying heavier taxes in 1952 because the Revenue act of 1951 (passed in Oct. 1951) became fully effective.

(H. J. Mr)

TEA. Tea production in India and Pakistan in 1952 was estimated to be somewhat lower than the 682 million lb. in 1951, output in south India declining slightly while production elsewhere showed little change. Output in Ceylon was estimated to be some 16 million lb. below that of the preceding year. The gradual recovery in Indonesian production since World War II was not maintained in 1952, output in that year being about 20 million lb. less than in 1951. Although production was maintained in Japan, British East Africa and Nyasaland, world production (excluding China) in 1952 seemed likely to be below that in 1951.

India and Ceylon were again the principal exporters of tea. Sea-borne exports from India in the year 1951-52 totalled 426 million lb., 14 million lb. less than in the previous year, and continued at much the same level in the early months of 1952-53. Ceylon's exports in 1952, estimated at 325 million lb., were slightly less than in 1951. Exports from Pakistan, which in 1951 were at their highest level of 47 million lb., were running at a lower level in the early months of 1952, and the Pakistan export duty of three annas per lb. was suspended from Sept. 12, 1952, to stimulate exports. Indonesian exports in Jan.-Nov. 1952 were 13 million lb. below the comparable figure of 1951.

Gross imports of tea into the United Kingdom (which normally receives one-half of world exports) were already at a high level in 1951 and increased further by 33 million lb. to 497 million lb. in 1952. U.S. imports increased in 1952, while those into Canada were about the same as in 1951; imports into Australia, however, declined in 1952.

Re-exports of tea from the United Kingdom in postwar years had been limited by restrictions on re-exports of Ceylon and Indian teas imposed to safeguard the direct export trade of these countries with out-markets which had been built up during World War II. Some expansion in the re-export trade was likely to result from the lifting of restrictions by the United Kingdom in Oct. 1952 on the re-export of tea to destinations other than far eastern territories where general restrictions applied. Re-exports from the United Kingdom in 1952 were still only some 5% of gross imports as compared with 12% to 15% before World War II.

The removal of the tea subsidy in the United Kingdom in June 1952 brought retail tea prices into more direct relation with world prices, although still subject to a maximum price for most grades. Price control and rationing in the United Kingdom were finally abolished on Oct. 5, 1952. Licensing restrictions were also lifted on imports from specified territories, accounting for about 95% of all tea entering the United Kingdom. (J. J. O'C.)

TEACHERS, TRAINING OF. Great Britain and Commonwealth. The University of London Institute of Education celebrated the 50th anniversary of its foundation as the London Day Training college. It became part of London university under its present name in 1932.

The consultative committee set up in New Zealand in 1951 to enquire into the recruitment, education and training of teachers recommended that students preparing for primary teaching should be allowed to specialize on either junior or senior primary work, and that in place of the probationary year following the two-year course there should be a third year of training, to be spent half in college and half in continuous teaching practice No change was proposed in the arrangements for training for post-primary work.

In January 300 students from Malaya arrived in England to undergo a two-year course at Kirkby Training college, near Liverpool This training scheme was part of the programme to build in Malaya a national system of education on an inter-racial basis. Five races and six religions were represented among the students, who were brought to England so as to be able to study in an atmosphere free from racial tension. The scheme was financed by the Malayan government.

Other Countries. There was great concentration in Albania upon teacher training, six times as many teachers being trained as in prewar years.

In Czechoslovakia the shortage of teachers and dissatisfaction with the one-year university course for primary teachers brought about changes in teacher training. For primary and kindergarten teachers a four-year course in a "pedagogical gymnasium" between the ages of 15 and 19 was arranged. Following this these teachers must take a two-year evening or correspondence course in a university education department.

In June the Amsterdam municipality decided to open in September a Montessori teachers' training college The first in Holland, it would give a two-year course qualifying teachers for work in Montessori or other schools. Maria Montessori had lived in Holland for some years before her death in 1952 (*see* OBITUARIES) (H C. D)

TELEGRAPHY. In the field of international telegraphy the year 1952 was one of receding traffic and rising costs The difficult financial situation thus produced was met by the United Kingdom element of the Commonwealth overseas telegraph system by an increase of rates charged for overseas messages. This enabled the development and expansion of the system to continue without interruption.

Traffic carried on the Commonwealth system—excluding certain Anglo-European services—reached a wartime peak of 704 million words in 1944. There was a decline during the first two postwar years; but, by 1948, in which 624 million words were handled, traffic was again increasing. In the year ended March 31, 1951, 687 million words were handled, representing an increase of 56 million words over the traffic of the previous year. In the year ended March 31, 1952, however, a total of 675 million words was handled, showing a decrease of 12 million words. The traffic position was, however, less satisfactory than these figures suggested, since a recession of traffic had set in at the turn of the year. The decline continued throughout 1952 and was attributed mainly to diminished business activity and reduced international tension during the period.

The extent to which costs rose between the end of World War II and the latter part of 1952 was shown by the following figures taken from the experience of Cable and Wireless, Ltd., the largest unit in the Commonwealth system. The cost per ton of cableship construction rose from £165 in 1949 to £195 in 1952; the cost per nautical mile of a commonly used type of submarine cable from £345 in 1945 to £695. A short-wave, 3-kw. wireless telegraph transmitter that cost £3,650 in 1945 cost £8,000 in 1952. The cost of sea travel rose by 25% between 1945 and 1952, of motor transport by 100% and of office equipment by 66⅔%.

The first public intimation of the changing fortunes of international telegraphy was given with the publication of the annual report and accounts of Cable and Wireless, Ltd , in July 1952. They covered the year ended March 31, 1952, and recommended a dividend of 2½%, instead of the customary 4%. The directors' report, having reviewed the year's working, added "As regards the future, even allowing for all practicable economies, it is our opinion that the Company will not, after providing for taxation, be left with any earned surplus for the year 1952-53 and subsequently, unless charges are raised". As a result the partner governments in the Commonwealth system gave general assent in principle to an increase of about one-third in sterling collection rates for overseas messages in the United Kingdom and the crown colonies In accordance with this agreement the United Kingdom Post Office raised its rates for overseas telegrams on Sept 1 and by the end of the year rates had been increased in most of the crown colonies. The rates collected in the Commonwealth for intra-Commonwealth press messages and press messages addressed to the United States were not, however, increased. The Commonwealth 1*d.* a word press rate was consequently preserved.

The rate increase, by permitting the company's development and expansion programmes to be continued without modification during 1952, would enable the traffic-carrying capacity of the Commonwealth system to be substantially improved.

Three new wireless telegraph circuits were opened by the company during 1952 linking Nairobi with Pretoria, Hong Kong with Pusan; and Barbados with the Dominican Republic. This latter new circuit replaced the previous Turks Island-Dominican Republic circuit. In addition, five new overseas radio-telephony circuits were opened and a number of extensions of existing services were made.

The most important augmentation of the Commonwealth system was, however, the restoration of the 2,200-mi. direct trans-Atlantic cable linking Porthcurno (Lands End) with Harbour Grace (Newfoundland) and Halifax (Nova Scotia). This cable, laid in 1872, was interrupted during World War II It was restored at the end of August and brought into service again in September. The effect was to improve considerably the service between London and Canada, and between London and Australia and New Zealand *via* Canada. About half the cable was renewed with modern telcothene cable in the restoration operation.

The system in South America was improved and developed during the year. The Chilean stations were equipped for wireless working. Many of the stations on the west coast of South America were overhauled and modernized with the object of introducing regenerator working on the west coast cable route. The capacity of the intra-Brazilian system was improved by introduction of channel working on the coast cable chains. In north Brazil the Belem-Recife cable was linked with Fortaleza where regenerator equipment was installed, thus providing increased capacity for telegraph traffic.

The wireless system generally was strengthened by new receiving stations at Hong Kong and Singapore; a new transmitting station at Kuwait and introduction of electronic regenerators at wireless stations

The 2,500-ton cable-repair ship laid down by Cable and Wireless, Ltd., in 1951 was launched in February and named "Stanley Angwin" after Sir Stanley Angwin, chairman of the company, 1947-51, and chairman of the Commonwealth Telecommunications board. She was commissioned in July and started serving in the far east, using Singapore as a base port She thus released "Recorder" for breaking-up after 50 years' service. In November the company placed an order for the construction on the Tyne of a new cable repair ship of 3,300 tons with an endurance of 10,000 mi. and a cruising speed of 12 knots. This ship, which would be the largest in the fleet, was designed for operation in the Pacific ocean.

A telecommunications agreement had been concluded between the United States government and the governments of the British Commonwealth at Bermuda in 1945 and revised in London in 1949. Agreement was reached at conversations in London in July 1952 on a revision of the article of this agreement relating to the accounting arrangements. A conference of the International Telecommunications union attended by delegates of 70 nations opened in Buenos Aires in order to review the international convention concluded at Atlantic city in 1947. The conference ended in December, having considered over 650 amendments. (L. B. N.)

Post Office Telegraphs. The manual switching system used for inland telegrams (whereby re-transmissions at intermediate offices are avoided by providing for through transmissions) was further extended and was in use at 280 offices. The automatic switching system introduced experimentally at a limited number of offices in 1950 gave good results. This scheme provided direct connection between offices by dialling through automatic equipment and would ultimately replace manual switching. The average time taken to pass a telegram over the network was brought to within almost 5 min. of the prewar standard. (The delivery of telegrams was also speeded up and over 25% of those delivered by messenger were conveyed by motor cycle.)

During 1951 additional direct wireless telegraph services were opened between the United Kingdom and Baghdad and Damascus and it was expected that further additions to the number of direct circuits would be introduced in the near future.

Prior to the Olympic Games, arrangements were made in London for the acceptance of phototelegrams from Helsinki for onward transmission overseas. The service proved to be satisfactory and was therefore retained and extended to provide for the transmission *via* London of phototelegrams between many other oversea points. (G.P.O.)

United States. Outstanding among the United States telegraph industry's achievements in 1952 was the rapid expansion in the use of Western Union's facsimile telegraph methods for the transmission of intelligence between and within business organizations.

Desk-Fax. To supplement the high-speed network between cities, rapid progress was made in 1952 in the use of facsimile methods to speed telegrams between local Western Union offices and customers' offices. Thousands of Desk-Fax miniature sending and receiving machines were installed for customer use, enabling businessmen to send and receive their own telegrams by pressing a button. The telegraph company had approximately 10,000 Desk-Fax machines in use in 48 cities, more than double the number at the end of 1951.

Intrafax. To speed communications between departments or units of any company, Western Union developed the Intrafax, a customer-operated, leased facsimile system. Such systems were installed in department stores between store and warehouse to speed deliveries to customers; in the air line field to link scattered departments; in the banking field between branches and the central file of a bank to verify check signatures; and between a number of large banks and a central agency for the transfer of funds.

Armed Services. In 1952 Western Union was carrying out large contracts with the armed services involving high-speed switching systems, telegraph carrier systems, facsimile telegraph equipment and radio techniques. It greatly expanded the nation-wide push-button telegraph switching network it provides to the U.S. Air Force, linking more than 200 air force stations with 130,000 mi. of telegraph circuits.

The Press. Telegraph service to the press reached record breaking proportions during the Republican and Democratic nominating conventions in July. Western Union flashed 16,445,647 news words to the press in the United States and other countries during the conventions and handled additional millions of news words during the presidential campaign.

(W. P. MA.)

TELEPHONE. The demand for telephone service continued at a high level during 1951 and the first part of 1952. Although restrictions on capital expenditure continued to limit the provision of new plant it was found possible to maintain a high rate of supply and to effect some reduction in the waiting list Increased use was made of the shared-service facility: one telephone in every three was provided by means of this expedient and the total of subscribers sharing lines had reached nearly 500,000 by the middle of 1952.

On Oct. 1, 1951, the charge for a local call from a call office or coin-box telephone was increased from 2*d.* to 3*d.* In July 1952 the rental charges for exchange service were raised, so that charges for telephone service generally were now about 50% above prewar prices.

With the coming into force on April 1, 1952, of the Telephone regulations, 1951, made under powers given in the Telephone act, 1951, the need for individual agreements for telephone service was dispensed with, save in a few exceptional cases The 5 million agreements existing on that date were consequently terminated by notice, the services previously supplied under them, in common with new services, were now, in general, supplied subject to the regulations

During 1952, the gradual change-over from manual to automatic working continued, 96 new automatic exchanges being opened in the year ended March 31, 1952, and 82 manual exchanges closed. The proportion of traffic completed without the intervention of an operator was increased by the extension to additional exchanges of the facility whereby subscribers could dial direct to other subscribers up to four call-fee units distant and have the appropriate charges recorded on their call meters.

Sixty-two new circuits were provided between London and continental cities to cater for additional traffic and to speed-up operating methods in the services with certain countries. Additional facilities were also provided in the radiotelephone services and, with the extension of service to 12 overseas countries and 8 ocean-going liners, calls could now be made to more than 90 extra-European countries and 24 liners.

On Jan. 7, 1952, the Transatlantic Telephone service, the first commercial intercontinental radiotelephone service in the world, celebrated its silver jubilee. To mark the occasion greetings were exchanged between Lord Salisbury, acting secretary of state for foreign affairs, and the director-general of the Post Office, Sir Alexander Little, in London, C. F. Craig, president of the American Telephone and Telegraph company in New York, and Walter Gifford, U.S. ambassador to Great Britain, in Washington. (G. P. O.)

United States. There were about 79 million telephones

in operation in the world during 1952, more than 57% of which were in the United States.

Going forward with their largest construction programme since 1948, the Bell Telephone companies effected a change in service, to a line with fewer parties or to an individual line, for more than 660,000 customers during the first nine months of 1952. An important part of the new construction programme, was the conversion of manually operated telephones to dial operation. At the end of August, 78·6% of the telephones served by Bell companies were dial operated.

Long-distance Dialling. The trial begun by the Bell system on Nov. 10, 1951, in Englewood, New Jersey, on the dialling of long-distance calls by customers was continued during 1952. The Englewood customers were able to dial directly to telephones in cities as far away as San Francisco, California. Automatic accounting equipment recorded the charges when a subscriber dialled a long-distance call, summarized the call information and printed it in final form on the customer's monthly bill. Cross-country calls by this method could be made in a matter of seconds.

Operator Dialling. The operator dialling method of handling calls, which had been rapidly developing with the growth of dial systems, was improved and extended in 1952. Four out of ten of the Bell system's long-distance calls were being handled by operator dialling. With this system calls were handled by an originating long-distance operator who, in most cases, reached the called telephone in a distant city without the help of other operators along the route or at the destination. This was done by means of dial codes based on a universal numbering system and master dial-switching systems.

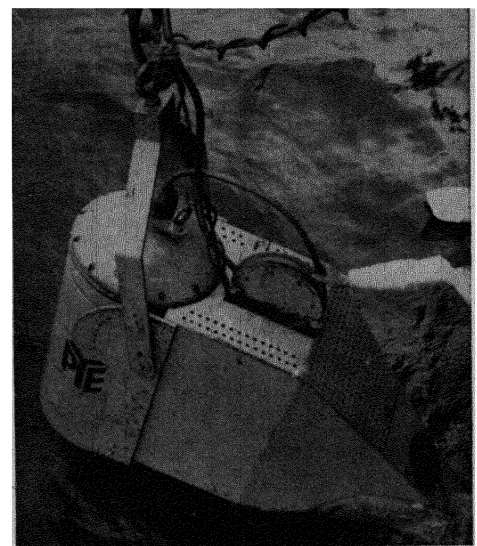
During the year major dial-switching centres for long-distance calls were placed in operation in Omaha, Nebraska, Houston, Texas, and Cincinnati, Ohio. Each of these centres was the core of a dialling network extending over a large area. The interconnected networks, together with other smaller systems, enabled operators to dial straight through to distant telephones in more than 1,600 U.S. cities and towns.

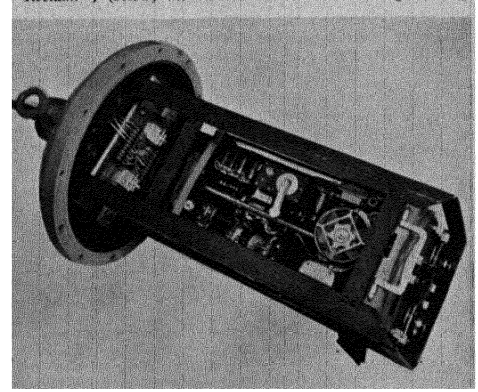
Defence and Military Developments. A telephone service vital to U.S. defence was instituted during 1952 when the Bell system, at the request of the army anti-aircraft command, began furnishing all the communication facilities required for its operation. The wire communication circuits being installed consisted of numerous multi-station private lines which were used between operations control centres, and strategic sites. The Bell system also was authorized to back up these wire facilities with the installation of radio communication between control centres and gun locations. Pilot installations were made and intensive manoeuvres staged to test the equipment prior to completing the network.

A new military field telephone was designed by the Bell Telephone laboratories and manufactured by the Western Electric company. It was lighter, smaller and more durable. It operated for several miles without batteries and could withstand nearby gun blasts. It could be submerged in water without effect and could be used by a soldier wearing heavy arctic mittens. It would work effectively at altitudes of more than 10,000 ft. and at temperatures from 130° F. to 40° F.

World. Among the places added to the telephone network during 1952 were the Azores, Madeira, Cape Verde Islands, Angola, Mozambique, Lebanon, Madagascar, Dakar and Iraq. (*See* also ELECTRONICS.) (C. F. CG.)

TELEVISION. Rapid progress was made during 1952 in the spread of television through western Europe. Radiodiffusion et Télévision Françaises opened a second station at Lille and began work on a new transmitter at Strasbourg. It was announced that transmitters at Lyons and Marseilles would be built shortly. The experimental service in the Netherlands was developed further. The greatest advance was made in northwest Germany, where Nordwestdeutscher Rundfunk completed a network of five transmitters, including one at Berlin. In addition, experiments were carried out by a number of other western German broadcasting organizations. Radio Italiana began a public television service during the summer, thus initiating a five year plan for a nation-wide network. Plans were also laid for television services to start in Belgium and Switzerland in 1953. Only in such countries as Norway, Sweden and Portugal, where the physical nature of the country presented serious technical and financial obstacles to the operation of television, was little progress made. Except in the U.S.S.R., where a regular service was in operation from stations at Moscow, Leningrad and Kiev, no advance was made in eastern Europe. An almost universal feature of television services in the planning





The Pye underwater television equipment (above) designed for use at 200 fathoms, which was installed in the salvage vessel H.M.S. "Reclaim"; (below) the camera without its water-tight casing.

stage in all parts of Europe was the adoption of a 625-line standard of definition. Of the two countries which had a fully-established service, however, France continued to employ an 819-line standard and Great Britain a 405-line standard.

In Britain, television transmitters at Kirk o'Shotts, Scotland, and Wenvoe, Wales, were brought into operation during 1952. With them the British Broadcasting corporation's plans to provide national coverage with five main transmitters were completed. There remained areas still to be covered with small transmitters, but by August television was available to 78% of the population of the United Kingdom.

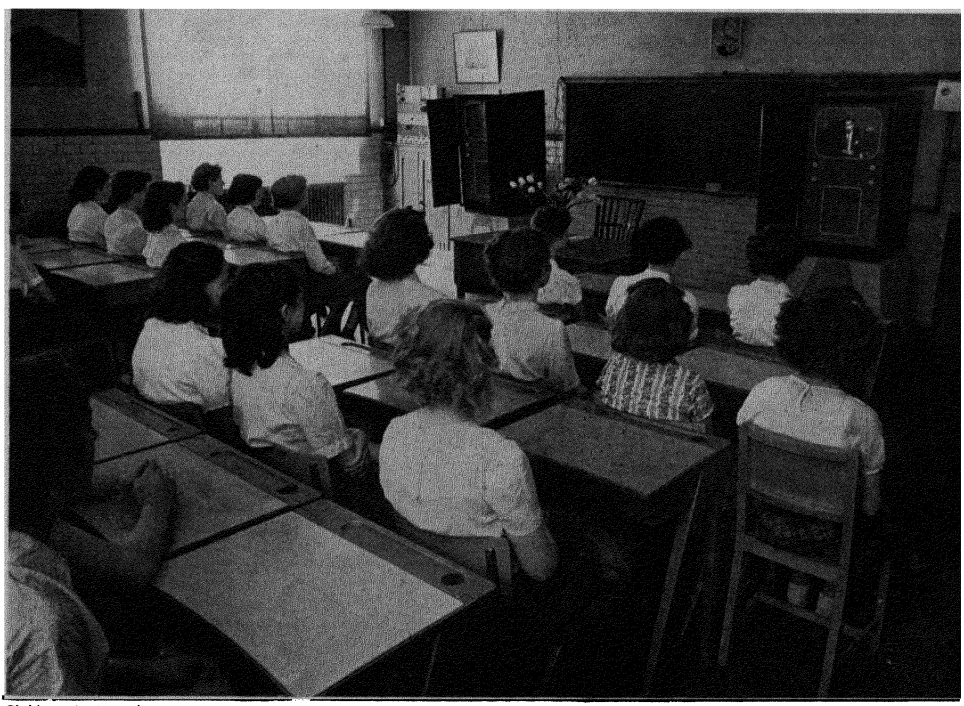
Programmes reflected this expansion. Thus "London Town", in its third year, was joined by a programme very similar in treatment, called "About Britain". Mobile camera units were able to go farther afield and visited the Edinburgh festival for the first time. There was also a transmission from Glyndebourne when Verdi's *Macbeth* was performed in the opera house, in a version produced for television. Television newsreel, ranging over the whole country and abroad, was extended to five complete editions every week and maintained its place as the most consistently popular programme. The funeral of George VI and the proclamation of Elizabeth II were fully covered. A series called "Special Enquiry" started in the autumn of 1952, dealing with problems of urgent national importance, but in country-wide rather than metropolitan terms. The first two programmes, presented in the name of the B.B.C. television service as a whole, and using the techniques of all its branches, investigated housing and employment.

A group of broadcasts was presented during July from Paris. Fourteen programmes, varying from cabaret shows and street scenes to a visit to the Louvre, were arranged jointly by the B.B.C. and by Radiodiffusion et Télévision Françaises. The programmes were spread out over eight days and transmitted simultaneously to audiences in France and the United Kingdom. The picture was converted en route (at Cassel) from the French 819 lines to the British 405 lines.

On Feb. 4 a third B.B.C. studio at Lime Grove, London, came into operational service for children's programmes. This freed a studio at Alexandra Palace, which was used during the summer term for the production of television programmes to schools. The service was purely experimental and covered six selected schools in the London area. At the White City, London, work began on the construction of the scenery block, as the initial stage in extensive B.B.C. accommodation on that site.

In 1952 sales of television receivers in Great Britain outstripped sound radio sales for the first time, in spite of purchase tax at 66⅔% and restrictions on hire purchase which, although applying to both sound and television receivers, affected the more expensive product more severely. A rate of production of 60,000 to 70,000 television sets per month was maintained in Britain during the year.

In Canada, a regular television service began early in September with two Canadian Broadcasting corporation stations: CBLT in Toronto, and CBFT in Montreal. A start was made on plans for a third station in Ottawa. In the initial period, both stations were operating for about three hours an evening, CBFT carrying programmes in



Children viewing television in a classroom in one of the six Middlesex schools chosen by the British Broadcasting corporation in May for experiments with school programmes. The vision was transmitted on a special wavelength and the sound was conveyed by landline.

French and English. The prime minister of Canada announced in September that the government would recommend further loans for the establishment of television stations on the Pacific coast, in the prairie region and in the maritime region, and that the participation of private interests in Canadian television was under consideration. (X.)

United States. The "freeze" on construction of new television stations imposed by the Federal Communications commission in late 1948 was lifted on April 13, 1952, to take effect on June 2. As from that date, 109 television broadcasting stations were on the air, operating on 12 channels in the very high frequency (VHF) portion of the radio spectrum, and their combined service areas included about 24 million homes, of which nearly 18 million had television receivers.

The commission's action made provision for additional stations within the 12 VHF channels and established 70 new channels in the ultra high frequency (UHF) band. Seventeen of these were "flexibility" channels to provide for future expansion. Provision was made for 233 non-commercial educational television stations.

The first commercial UHF station went into operation in September in Portland, Oregon, and its success resulted in a flood of orders for UHF transmitting equipment. It was recognized that only through utilization of UHF channels could television become truly nation-wide in scope. It was estimated that by the end of 1955 television service would be available to about 95% of all U.S. families.

The order of the director of defence mobilization issued in late 1951 banning the production of commercial colour television receivers was modified on June 24. However, production of home colour receivers was not undertaken by any of the television receiver manufacturers, nor did C B.S resume television broadcasting in colour.

For the first eight months of 1952, television receiver production amounted to 2,939,144 units, with the total for the year expected to reach 5 5 million or about 200,000 sets more than in 1951 Total television sets in use reached 18,724,000 by Sept. 1. Larger picture tubes continued to be made, the majority of receivers using 17-in. or larger sizes. Manufacturers were ready to place on the market, in line with the construction of UHF stations, converters and combination UHF-VHF receivers

The 109 stations operating on regular schedules served 64 metropolitan areas. The commission reported during the year that 95 of these stations were operating at a profit. The most important addition to the television network facilities in 1952 was the extension by the American Telephone and Telegraph company of its radio-relay and coaxial-cable systems to reach large communities in the south, southwest and northwest. Thus, by the time the national political conventions were held in Chicago, 107 television stations in 65 cities were interconnected by 29,500 mi. of network. By the end of 1952, the Bell system television network was expected to serve 113 television stations in 71 cities, utilizing 31,000 mi. of network. New telecasting techniques, including the first operational use of the "walkie-lookie", brought audiences of 65 million people into intimate touch with events as they occurred at the national conventions.

The National Collegiate Athletic association made available for broadcasting 11 important football games for the 1952 season, and the N B.C. purchased the television rights for over $2·5 million. Legal and economic issues relating to the telecasting of big sports events remained unsettled.

By Sept. 1952, 75 theatres had either installed or were installing television projection equipment. By far the largest network of theatres to carry a big sports event was used when 50 theatres presented the Jersey Joe Walcott-Rocky Marciano heavyweight championship fight. A standard R.C.A theatre television system was used, with the equipment mounted on a truck 125 ft. from the screen to provide a 24- by 36-ft. picture. An audience estimated at between 15,000 and 20,000 persons viewed the pictures.

The year saw substantial growth of wired television or "community-antenna" systems, which brought television programmes into smaller towns and cities shadowed out from the good service range of the radio transmissions of existing stations by intervening hills or mountains. A Community Antenna association was formed, with more than 100 member companies, and an estimated 80 or more installations were in operation or under construction (*See* also RADIO, SCIENTIFIC DEVELOPMENTS IN) (G. L. Bs.)

TEMPLER, SIR GERALD WALTER ROBERT

(b Ulster, Sept 11, 1898), was educated at Wellington college and the Royal Military college, Sandhurst. He joined the Royal Irish fusiliers in 1916. For his part in operations in northwest Persia (1919-21) he was awarded a medal and two bars. In 1936 he received the D.S.O. for his record in Palestine during disturbances between Arabs and Jews. At the beginning of World War II Templer became intelligence officer at Field Marshal Viscount Gort's headquarters. After Dunkirk, he was promoted to the rank of lieutenant general (the youngest officer of that rank in the army). After being wounded in the Anzio beach landings in 1943 he became staff officer to Field Marshal Viscount Montgomery of Alamein. In 1945 he was put in charge of civil and military affairs in the British zone of Germany and his efficiency there contributed to his appointment in Jan. 1952 as British high commissioner in Malaya, to succeed Sir Henry Gurney who had been killed by guerrillas. Templer's methods of dealing with the bandits were stern and uncompromising. He threatened heavy penalties for persons who helped the guerrillas in any way, but expressed his desire to help Malaya to become a fully self-governing member of the Commonwealth An example of his disciplinary measures was the punishment of the village of Permatang Tinggi, which refused to reveal which of its inhabitants had shot a Chinese resettlement officer early in August. The hamlet's 66 inhabitants were sent to a detention camp. Throughout the late summer and autumn there were encouraging reports of the success of the undeclared war on Communist guerrillas. Late in November Templer returned to England for consultation with the Colonial office. At a press conference on Dec 4, he stated that although he could not forecast when the emergency in Malaya would end, at last they were beginning to get the shooting war under control. He paid warm tribute to troops engaged in operations and commented favourably on the effects of psychological warfare. He returned by air to Kuala Lumpur on Dec. 16, having called on Marshal Pibul Songgram, the prime minister of Thailand, at Bangkok on his way.

TENNIS (sometimes called real tennis and, in the United States, court tennis) Lord Cullen won the amateur championship for the second time when in May he beat R. C. Riseley at the Queen's club by 3 sets to 2

Great Britain (the holders) retained the Bathurst cup, as neither the U.S nor France were able to send a team to London.

W. D. MacPherson in his 51st year won the Gold racket for the sixth time, by 3 sets to 1, when at Lord's he beat M. G. L. Bruce, who won the Silver racket, when he beat the holder, R. C. Riseley, by 3 sets to 1.

Oxford university beat Cambridge university at Lord's by 3 rubbers to love. Old Etonians for the third time won the Public Schools Old Boys competition for the Henry Leaf cup when they beat Old Rugbeians, the holders, at Queen's club by 2 rubbers to 1. (*See* also LAWN TENNIS.) (AE.)

TEXTILE INDUSTRY. The first few months of 1952 were the most difficult period for the United Kingdom textile industry since the slump of 1930-33. Production had to be severely curtailed in view of the alarming decrease in the buying activity of world export markets. World production exceeded available consumer demand but the world was not saturated with textile goods. Although prices of raw materials tended to be lower, the fact remained that they and high production costs made finished goods too expensive, and import restrictions, duties and embargoes aggravated the difficulties. The strain on the industry's economy was more severe than it had been the previous year when steep rises in wages and prices were supported by increased production. Another factor of grave concern was the rapid drift of labour to other jobs

The consumption of merino for topmaking in Aug. 1952 was 8,560,000 lb., as compared with 9,940,000 lb. in Aug. 1951, and consumption of cross-bred was 7,200,000 lb. (6,950,000) The consumption figures for the same period in woollen spinning were: merino 2,450,000 lb. (2,670,000); cross-bred 6,410,000 lb. (7,740,000); Indian, etc., 1,190,000 lb. (1,760,000); wool noils 1,020,000 lb (1,270,000); wool wastes 1,380,000 lb. (1,570,000), mungo and shoddy 5,050,000 lb. (6,380,000); these figures disregarded the consumption of hair, rayon and other fibres. Estimated deliveries of woollen yarn (monthly averages) for July-Aug.-Sept. 1952 were 22,500,000 lb. and worsted yarn deliveries for August were 12,630,000 lb., as compared with 14,530,000 lb. in Aug. 1951. Deliveries of woven fabrics for the same periods totalled 25,860,000 sq yd. (32,460,000) of which woollen cloth accounted for 15,880,000 sq yd. (19,490,000) and worsted fabrics 9,980,000 sq yd (12,970,000), blanket production was also lower at 2,410,000 sq yd. (2 million). Workers employed in worsted spinning and weaving in August totalled 72,500 as, compared with 76,800 in Dec 1951 and woollen spinning and weaving 59,400 (62,200).

In the cotton section of the industry total weekly average single yarn production in August was 8,590,000 lb. as against 15,910,000 lb. in Aug 1951 In the same period cotton waste yarn production was 1,280,000 lb. (1,840,000) and production of spun rayon and mixture yarns 1,750,000 lb. (2,120,000); the totals for doubled yarn were 2,380,000 lb. (4,780,000). The production of cotton cloth was 28,800,000 linear yd. (41,900,000) and rayon and mixtures 10,200,000 linear yd. (14,700,000) In the same periods (Aug. 1952 and 1951) the total number of operatives in spinning and doubling were 112,300 (148,700), and weaving 114,100 (145,700). Weekly average machine activity was 17,200,000 mule equivalent spindles, as compared with 26,500,000 in Aug. 1951, and the number of looms running was 221,000 (307,000); the figures for doubling spindles were 1,340,000 (2,510,000).

United Kingdom production in August of single continuous-filament rayon yarn was 9,600,000 lb., as compared with 18,300,000 lb. in Aug. 1951 and staple fibre production was 5,700,000 lb. (11,900,000) Weekly average production of filament and spun rayon woven fabrics for July was 5,320,000 linear yd , as compared with 9,710,000 linear yd. in the period Jan.-May. In the export field the position was extremely poor. Rayon staple, rayon yarn, rayon and spun rayon fabrics, mixtures, pile fabrics, ribbons, lace, etc., amounted in August to £2,710,000, as compared with £6,190,000 in Aug. 1951. In the same months the figures for cotton yarn were £970,000 (£3,110,000); cotton fabrics £5,980,000 (£12,560,000); wool tops and woollen and worsted yarns £3,500,000 (£4,850,000); woollen fabrics £3,050,000 (£4,180,000); and worsted fabrics £2,460,000 (£3,360,000).

In early 1952 all firms in the cotton sections came under an order to contribute to the Cotton board levy, which was based on half-yearly returns; previously, only spinners had paid the levy. Cotton buying control was relaxed in May and for the first time in 10 years spinners were given the option of dispensing with the services of the Raw Cotton commission and making their own arrangements for raw cotton purchases.

Shirley Developments, Ltd., was formed to undertake the commercial development and exploitation of the results of scientific work carried out at the Shirley institute and elsewhere. During the year there were many interesting technical developments in machines and processes. A new British precision-made brocade loom was announced of 70-in. reedspace with a built-in pick-at-will picking motion operated through the box motion and controlled by dobby or jacquard. A new beaming machine was introduced in which hydraulic arms lifted the beam out of the frame when the warp was leased and tied up. There was greater use of automatic control and a new electric creel stop-motion for warping machines was introduced: each bank of stop levers incorporated a red signal lamp; this was immediately illuminated and the machine stopped when a yarn broke during winding. In weaving and preparatory processes there was a steady trend towards the use of larger shuttles. Improved pirn and shuttle changing devices on automatic looms became available, and there was wider adoption of electric warp and weft stop-motions operating on 12-v. supply. Much original work was devoted to achieving better opening, cleaning, carding, combing, drawing and spinning processes. A new introduction was a completely mobile battery-operated cleaning machine for roller ends, necks, roller beams, lappet guides, etc. Magnetic and electric detectors were increasingly used to eliminate ferrous and non-ferrous metals from raw cotton or wool materials before opening and cleaning operations begin. Many firms experimented with blends of cotton and wool with other fibres including nylon, "Terylene" and "Ardil" Automatic and continuous systems of wool-blending and atomized spray oiling of wool during blending attracted much attention, and a new type of squeeze roller for raw wool and hank-scouring machines offered efficiency with much longer life. Other developments during the year included a photo-electric yarn irregularity instrument, ultrasonic thickness gauge, electronic thermometer, conductivity meters, an electronic heat generator, a reflectance spectrophotometer and a colour temperature meter.

Europe. In most countries textile production was adversely affected by the world-wide recession and exports were lower than in 1951 Belgium, the Netherlands and Italy were the first to curtail production of cotton and spun rayon yarns and piece goods. Federal Germany and Austria soon took similar action, followed by France. Exports from Italy revealed a marked decline. At the annual Swiss fair the latest machines for dyeing hanks, cones and cheeses were exhibited, as also was mercerizing, bleaching, finishing and printing equipment. New German developments included a 40-spindle side-change reeling machine with the headstock in the centre; speeds of 100 to 500 yd. a minute could be reached. A new Dutch automatic four-spindle pirn winder, capable of speeds of 3,600-7,000 yd. a minute attracted considerable attention. Probably, the most advanced technical development in Europe was a vertical duplex screen printing machine made by an Austrian firm for printing simultaneously in accurate register on both sides of the fabric.

Commonwealth. In India there was a fall in demand during 1952 for cotton textiles both locally and overseas and the government attempted to alleviate the situation by partly decontrolling textiles at home and lifting some restrictions on exports. Exports to the transhipment areas were permitted and there were no restrictions on the export of fine and superfine cloth, but the export duty on coarse and medium

cloth remained. India's exports of jute manufactures were more than doubled in value during 1951-52, as compared with the three previous years. World demand for Indian gunny bags was the largest since 1946-47 and 36% more than in 1951; exports of gunny cloth in 1951-52 totalled 287,000 tons, as compared with the previous year's 263,000 tons. In 1951-52 India exported a total of 804,000 tons of jute manufactures valued at Rs. 268 1 crores, as against 649,000 tons valued at Rs. 113·8 crores in 1950-51. The new laboratories of the Indian Jute Mills Association Research Institute were officially opened in March.

In Australia over 90 cotton spinning and weaving mills were steadily employed, as also were the 170 woollen mills. Wool prices during the latter half of the year had become more stable and gave fresh impetus to world buying activities. It was announced that Australian wool growers would receive from the Joint organization about £31 million sterling in profits arising out of disposals of wartime accumulated wool. (A. DR.)

United States. After the sharp rise in demand for textiles which followed the outbreak of the Korean war the industry encountered a sharp recession from which it began to recover only in the middle of 1952.

Total U.S. consumption of the four major textile fibres (cotton, artificial fibres, wool and silk) was 6,800 million lb. in 1950, 6,900 million lb. in 1951, and was at an annual rate of 6,400 million lb. in the first half of 1952. There was an interesting shift in the relative importance of the fibres. Thus cotton represented 80% of all fibre used by weight in 1939, artificial fibres accounted for 10%, wool for 9% and silk for 1% By 1951 the respective shares were 72%, 22%, 6% and nominal. The same general consumption trend was observable in broad weaving and in tyre cord and fabric output.

Total civilian *per capita* consumption of cotton, artificial fibres and wool was 29 8 lb. in 1939. It rose to 40 5 lb in 1946 and dropped to 34 2 lb. *per capita* in 1951. By mid-1952 it had dropped to 32 2 lb., but some recovery was expected later in the year. Here again, the advance of artificial fibres was clear.

For silk, the United States is entirely dependent on imports, and about 83% of the raw wool consumed in 1951 was obtained from sources abroad. In artificial fibres, on the other hand, only 8% of the total 1951 poundage used was imported.

The value of U S. exports of all textile products in 1951 was $1,966 million. (*See* also CLOTHING INDUSTRY; COTTON; LINEN AND FLAX; RAYON AND SYNTHETIC FIBRES, SILK, WOOL.) (S. B. H)

THAILAND (SIAM). Kingdom of southeastern Asia bounded W. and N.W. by Burma, N.E. and E. by French Indochina and S. by Malaya. Area: 198,270 sq mi. Pop.: (1947 census) 17,442,689; (1951 est.) 18,836,000. Language: Thai (Siamese) 75%; Chinese 20%; Indian and Malayan 6%. Religion (1947 est.): Buddhist 95%, Moslem 4%. Capital (pop, 1947 census): Bangkok 1,173,549. Ruler, King Phumiphon Adundet (or Bhumibol Adulade); prime minister, Marshal Luang Pibul Songgram.

History. On June 28, 1952, a son was born to King Phumiphon and Queen Sirikit; this was the first time a son had been born to a reigning monarch of Thailand since 1893 and was therefore an occasion for general satisfaction.

A new constitution adopted following the *coup d'état* of Nov. 28, 1951, was brought into force on March 8 when the king formally approved it, and thus Thailand reverted to the system first adopted in 1932 under which there was a single chamber, half being elected by universal adult suffrage and half nominated by the crown, in place of the bi-cameral and elective system introduced in 1946.

The elections already held in February gave the existing ministry a strong position, for of the 123 elected members of the chamber only about 40 were likely to be in opposition, while the support of the 123 nominated members was assured The new parliament met on March 18 and six days later nominated Marshal Pibul Songgram once more as prime minister. Of the 24 members of the new cabinet, 19 were service officers. The ministry's position was also strengthened by its insistence that under the new constitution the existence of political parties was not lawful; in fact, however, as the year went on the supporters of the ministry habitually met in a Government Legislative Study commission and in emulation the members opposed to the government formed an Opposition Legislative Study commission, both these bodies having all the characteristics of political parties except the name. Despite its majority, the ministry had to face frequent criticism in the house, where the continued censorship of the press was objected to and the dominance of service officers in both cabinet and parliament was strongly denounced.

Thailand was hit during the year by the fall in the price of rubber, and the southern provinces were in a distressed condition; in August the government resolved to make a grant of 5 million ticals to assist the rubber industry. The northeastern provinces also suffered owing to the lateness of the rains, whereby the crops suffered. The central plain of Siam was able, however, to maintain the level of its rice exports, which totalled about 1,500,000 tons. A number of plans for developing the country's economic resources were formulated during the year; according to the press, loans totalling 3,000 million ticals (about $166 million) were sought from the International Bank for Reconstruction and Development, for electric power projects, irrigation, extension of the railway system, harbour development, modernization of mines and development of new mineral resources.

The government maintained its co-operation with the United Nations and the western powers, and the Thai contingent in Korea continued at full strength. Diplomatic relations were resumed with Japan, and a Japanese embassy was established in Bangkok on April 28 Internally, however, a certain amount of Communist agitation continued, almost exclusively amongst the large Chinese population, and this unrest was strengthened by resentment against the raising of the alien registration fee from 20 to 400 ticals a year. An effort was made to send delegates to the peace conference at Peking in September, but the authorities refused to issue passports; it was announced by the organizers that the country would therefore be represented by Thais abroad; *i.e.*, by supporters of the former prime minister, Nai Pridi, who left the country in 1947. (B. R. P.)

Education. Schools (1951) government 364, pupils 81,340, local public and municipal 18,581, pupils 2,660,492, teachers 72,281, private 1,279, pupils 267,442 Universities 5, students 10,557

Agriculture and Fisheries. Main crops ('000 metric tons, 1950, 1951 in brackets) rice 6,782 (7,250), sugar (raw value, year beginning Sept 1950) 32 (32), soyabeans 8 (12), sesame 8 7 (9 5), (1949, 1950 in brackets) groundnuts 30 (55), tobacco 14·1 (21 3), cotton 6 (6), jute 3, cottonseed 10 (14) Livestock ('000 head, Dec. 1949) cattle 5,000; pigs 2,000, buffaloes 5,000, horses (1951) 220. Meat, commercial production ('000 metric tons, 1951) 70 8 Fisheries total catch ('000 metric tons, 1949, 1950 in brackets) 195 8 (150)

Industry. Electricity production (million kwh, 1951), Bangkok (93% of total generation) 57 Raw materials (metric tons, 1951, 1952, six months, in brackets) rubber (net exports) 110 5 (five months, 44 2), tin (concentrates) 10 8 (4 5), cement 228

Finance and Banking. Budget (million baht). (1951 est) revenue 2,500, expenditure 2,499, (1952 est) revenue 3,055, expenditure 2,749 Currency circulation (Dec. 1950, Dec 1951 in brackets) 3,043 (3,782) Bank deposits (Dec. 1950; Dec. 1951 in brackets) 1,234 (1,517) Monetary unit· *baht* or *tical* with an official exchange rate of 35 00 bahts to the pound sterling and 12 55 bahts to the U S dollar.

Foreign Trade (million baht, 1951; 1952, five months, in brackets). Imports 3,713 (2,272), exports 4,652 (2,299) Main sources of imports (1949)· Hong Kong 17 3%; U S 15·7%, Singapore 13 4%, U.K. 8·7% Main destinations of exports· Singapore 19 5%, U.S. 15 3%,

India 13·4%; Penang 9·1%. Main imports: textiles 19·4%; foodstuffs 11·7%; metal manufactures 8·3%; yarns 6·8%. Main exports: rice 50·7%; rubber 15·7%; tin and tin ore 9·7%; teak 4·1%.

Transport and Communications. Roads (1950): 5,776 km. Licensed motor vehicles (Dec. 1950): cars 8,500; commercial vehicles 6,570. Railways (1950): 3,272 km.; passenger-km. (1950) 1,436·1 million; freight net ton-km. 480·5 million. Merchant shipping (1949): vessels of 200 tons and over, 13; total tonnage, 4,709. Air transport (1950): mi. flown 1,265,000; passenger-mi. 11·5 million; cargo ton-mi. 267,000; mail ton-mi. 30,400. Telephones (1951): 6,100. Wireless receiving sets (1950): 100,000.

THEATRE. In 1951 the needs and purposes of the Festival of Britain had imposed upon the British stage a severe nationalism and in 1952, as if by natural reaction from an artificial state of affairs, it was noticeable that London seemed to have an English-speaking, rather than an exclusively English, theatre. This is not merely a roundabout way of saying that the importation of plays from the United States was resumed in 1952 on a more than usually lavish scale (though that did in fact happen), but rather a comment on the remarkable degree to which the British and American stages had fused themselves into one vast organization in which almost every kind of talent was interchangeable.

A specially striking example occurred in *The Young Elizabeth*, by Jennette Dowling and Francis Letton, which came to the New theatre on April 2, and proved one of the year's chief successes. Although the theme of this play, the stormy and dangerous years of the girlhood of Elizabeth I, was a page of English history, the authors were American, and the leading lady, Mary Morris, had been born in the Fiji Islands and had made her first appearance on any stage in the British West Indies. Arriving in London as it did, at the psychological moment, when another young Queen Elizabeth had suddenly been called upon to ascend the throne, this play had a very special call on the interest of playgoers; and it was the first play to be visited by the queen when the period of strict court mourning came to an end. Nevertheless, it was announced by no flourish of trumpets, but was given a modest trial trip by a Sunday night producing society, the Repertory Players. This proved so far above the standard usually achieved by such productions that Mary Morris and the rest of the company engaged for the single trial performance were given their original parts for the West End run also; Mary Morris, who had been doing distinguished work for years without much reward, became a popular favourite overnight.



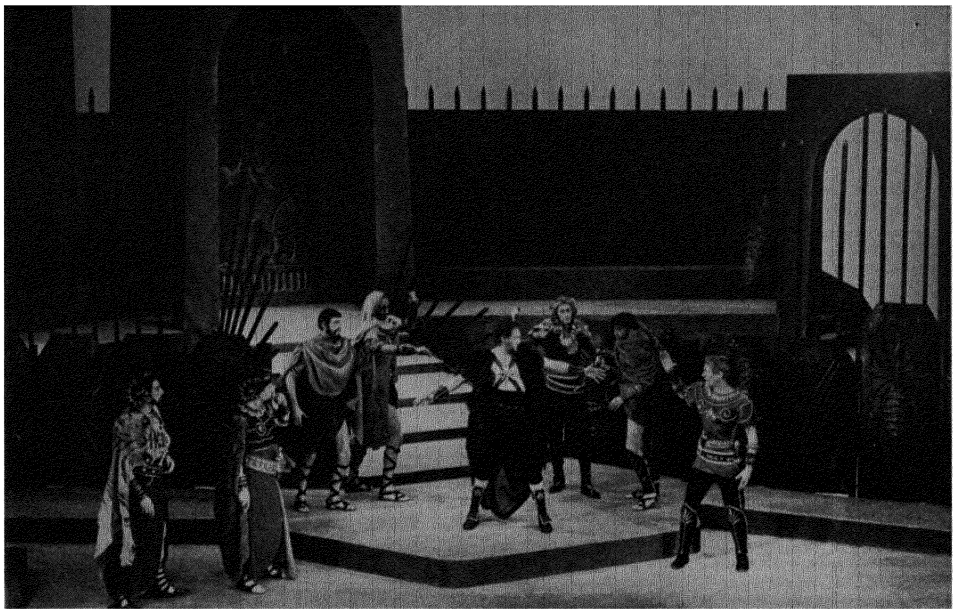
Serena (Lynn Fontanne) and Axel Diensen (Alfred Lunt) in Noel Coward's "Quadrille" which opened at the Phoenix theatre, London, on Sept. 12.

Another actress who belonged by birth to the Commonwealth and by training to the British stage, but increased her reputation during the year by appearing in plays from the United States, was Margaret Johnston, born in Australia. She appeared first in Tennessee Williams's *Summer and Smoke* (Duchess, Jan. 24), and although the play did not entirely satisfy either critics or public, Margaret Johnston's sure but delicate touch in the part of the unhappy heroine, and her faculty for creating about her an atmosphere of strangeness, were greatly admired. Eight months later to the day in Philip Barry's *Second Threshold* (Vaudeville) she showed her ability to play a much more formidable woman without losing her individual quality. Once again, the actress won more praise than the play. Barry's work as a dramatist had always been more highly thought of in New York than in London and in this last play (left unfinished at his death but completed by Robert Sherwood) his brilliant light dialogue seemed to some tastes not well suited to the serious theme, a subtle study of the father-and-daughter relationship. Clive Brook, English by birth and American by long residence, gave one of the year's outstanding performances as the father.

Alfred Lunt, Lynn Fontanne and Noel Coward all bear names equally familiar to London and New York, and they renewed an old partnership with Coward's play *Quadrille* (Phoenix, Sept. 12). Compared with his last piece, *Relative Values*, which was still running at the Savoy, critical opinion found *Quadrille* a deeply disappointing comedy, a poor pastiche of his own *Private Lives* without life or sparkle. However, the parts of American rail magnate and English countess, who together pursue their runaway spouses and fall in love with one another on the way, gave Alfred Lunt and Lynn Fontanne a "vehicle"; and perhaps neither they nor their admirers were looking for anything better. An altogether more worthy example of dramaturgy was *Winter Journey* by Clifford Odets (St. James's, April 3) in which a brokendown actor was magnificently played by Michael Redgrave, his director by Sam Wannamaker—a fine American player new to London—and his wife by Googie Withers.

A nice balance of international ingredients was achieved in *Letter from Paris* (Aldwych, Oct. 10) in which Dodie Smith, a thorough Englishwoman living in the U.S., had adapted a novel by Henry James, a thorough American, who had finally chosen England as his home. The total result of this blend was, surprisingly enough, a play so completely American in flavour that an English cast could not seem at home in it. Henry James, who failed in his own day to gain acceptance in the theatre, seemed now to provide an inexhaustible mine for playwrights, and at Her Majesty's, his story of the supernatural, *The Turn of the Screw*, provided an inspiration and background for William Archibald's *The Innocents* (July 3). This story has an English setting, and an English cast consisting of Flora Robson, Barbara Everest and two clever children carried it to success; though purists were heard to complain that the subtlety of James's story had evaporated in translation.

An Irish-American alliance which had a startling success was that of Bernard Shaw with Katherine Hepburn. It was not Shaw's way during his lifetime to admit that he needed help from anybody; but it was certainly due to the dynamic Miss Hepburn that when Shaw's very poor play *The Millionairess* at last reached the West End (New, June 27) it drew good audiences. Other U.S. productions which won commendation during the year were *Red Letter Day* (Garrick, Feb. 21), *Under the Sycamore Tree* (Aldwych, April 23), *The Trouble-Makers* (Strand, Sept. 16) and the musicals *Call Me Madam* (Coliseum, March 15) and *Porgy and Bess* (Stoll, Oct. 9).



A scene from Shakespeare's "Coriolanus" which opened the 1952 season at the Stratford-on-Avon Memorial theatre. Coriolanus (Anthony Quayle) is in the centre, and Tullus Aufidius (Laurence Harvey) is on the right. The production was by Glen Byam Shaw.

As may be deduced from the length of the foregoing list, 1952 was not a good year for those British dramatists whose interests lay wholly at home. Indeed, only five such plays of real distinction were put on during the year—Terence Rattigan's *The Deep Blue Sea* (Duchess, March 6); Charles Morgan's *The River Line* (Edinburgh festival, Aug. 18 and Strand Oct. 28); J. B. Priestley's *The Dragon's Mouth* (Winter Garden, May 13); Christopher Fry's *The First-Born* (Winter Garden, Jan. 29); and James Forsyth's *The Other Heart* (Old Vic, April 15)—and of these only the first three could be accounted successes. The Rattigan play, a gloomy piece about a woman's infatuation for an unsuitable young man, showed this accomplished dramatist at the top of his form and gave Peggy Ashcroft—and in her absence, Celia Johnson—the chance for an admirable display of deeply sensitive acting. Charles Morgan's piece (which had, by the way, an American as hero) was an unusual combination of violent doings in the underground escape network in France during World War II and of discussion on a high spiritual plane in a quiet English garden some years afterwards. If the author did not quite integrate his action on two such different planes, and did not quite provide his players with material at two crucial points, he made up for such technical faults by giving playgoers that rare experience—a play which engaged both their minds and their hearts. There was exquisite acting by Pamela Brown as a Frenchwoman and a perceptive performance by Paul Scofield as the American.

J. B. Priestley's contribution was a frank experiment—a discussion play with virtually no action at all. Whether he and his collaborator, Jacquetta Hawkes, had invented a new form for the drama was doubtful, for the strong dramatic interest of *The Dragon's Mouth* lay in the situation of the four characters—the knowledge that one of them (but which it is they do not know) has contracted a fatal disease. Such situations are not easy to come by, for they must seem natural as well as effective. In this particular case the difficulties were ingeniously met and the experiment was emphatically worth making. Christopher Fry's play, which treated of Moses and the plagues of Egypt, was impressive but not very moving. James Forsyth's, an account of the life and death of François Villon, was less impressive and less moving. On a lighter plane, Anthony Sharp's *Nightmare Abbey* (Westminster, Feb. 27) was an unexpectedly rewarding stage transcription of Thomas Love Peacock's extravaganza. Later in the year the Westminister housed a really good "thriller"—Frederick Knott's *Dial M for Murder* (June 19). Alan Melville's adaptation from the French, "Dear Charles" (New, Dec. 18), lightened up a dull close of the year with a sparkling part for Yvonne Arnaud.

The year had more than its share of worthy Shakespeare revivals, though some of the Stratford performances were not up to standard. John Gielgud's production of *Much Ado About Nothing*, which was in fact a reminiscence of his own Stratford seasons, started the year's playgoing brilliantly (Phoenix, Jan. 11); and a month later the Bristol Old Vic company, visiting the parent theatre with *Two Gentlemen of Verona* (Feb. 19), carried that seldom-seen and generally intractable play to something very like a triumph. On May 28 the Old Vic company itself staged a memorable production of another rare play, *Timon of Athens;* and at the opening of the autumn season *Romeo and Juliet*, with Alan Badel and Claire Bloom as the two lovers and Athene Seyler as the nurse, proved a real achievement.

The admirable series of revivals at the Arts Theatre club continued during the year, the most interesting being Harold Brighouse's *Hobson's Choice* (June 4) and the 18th-century comedy *The Way to Keep Him*, by Arthur Murphy (July 9). Another old play which was resuscitated during this season

was Thomas Middleton's *A Trick to Catch the Old One*, which proved to have more than a little life in it as produced on the Elizabethan stage of Bernard Miles's private theatre, the Mermaid, now established as a home of fascinating experiment. (W. A. D.)

France. The most notable feature of the Parisian season of 1952 was the extraordinary success achieved by plays on a religious or spiritual theme; for instance *Dialogue des Carmélites*, by Georges Bernanos, showing life in a convent as numbers of its inmates were being executed during the French Revolution; *Sur la terre comme au ciel*, by the Austrian playwright Fritz Hochwälder, about the failure of the Jesuit state of Paraguay in the 18th century; *Le Profanateur* by Thierry Maulnier; and *Résurrection des corps* by Loys Masson. Two others rather severely reviewed by the critics were *Lazare*, by André Obey, and *Notre-Dame d'en haut* by Jean-Jacques Bernard. The reason for the success of these plays seemed to be that after the tolerant years that followed World War II the French theatre public became more exacting and demanded not merely entertainment but also plays on serious themes. Nevertheless they eagerly applauded versions of such masterpieces from other countries as Schiller's *Maria Stuart*, presented by Raymond Hermantier; Kleist's *Prinz Friedrich von Homburg*, produced by Jean Vilar; and Shakespeare's *Twelfth Night*, brilliantly performed by Jean Deninx's company of young actors.

This predominance of serious plays did not mean that the public had ceased to care for works of native inspiration following French dramatic traditions. But in 1952 the more noteworthy playwrights did not live up to the expectations of their admirers. André Roussin followed *Lorsque l'enfant paraît*, a pleasing comedy, with *La Main de César*, which was a failure and had to be taken off; but he made good his loss by a revival of *Nina* at the Bouffes-Parisiens in September. Jean Anouilh, another favourite playwright, disappointed hopes with *La Valse des toréadors:* Jean-Jacques Gautier writing of it in *Figaro* said that it was " a digest of Anouilh, the quintessence of his exhalations and agonies, a broth for horror to breed in. With superb passages, real anthology pieces, and splendid speeches, but all founded on raging realness." At the beginning of the 1952-53 season, Henri Bernstein put on his 29th play, *Evangéline*, which was coldly received by the critics. Marcel Achard was less than usually inspired with *Les Compagnons de la Marjolaine*.

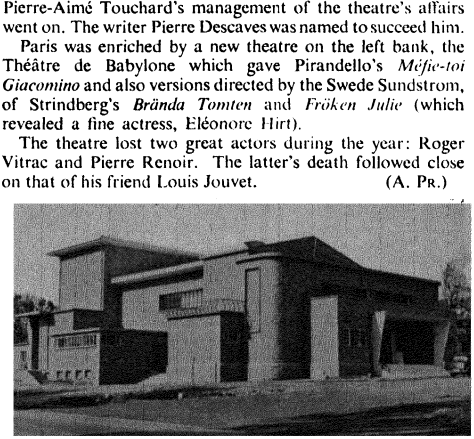
Marcel Aymé caused a sensation at the Théâtre de L'Atelier with *La Tête des autres* which incurred the magistrates' wrath. Protests from many quarters made profitable publicity for this spirited caricature, but it was ill-constructed and wavered continually between a comedy of manners and a farce. In the field of light fantastic comedy Albert Husson was successful with *La Cuisine des anges*, which some critics (notably Gabriel Marcel) considered the best play of the year. A point of interest was that the novelist André Chamson made his début in the theatre with a play called *On ne voit pas les coeurs*.

Light comedy and vaudeville formed part of the year's repertoire with, among others, *Le Père de mademoiselle* by Roger Ferdinand, *Médecin malgré elle* by Marie-Louise Villiers and *La Feuille de Vigne* by Jean Bernard Luc (an amusing satire on A. C. Kinsey's *Sexual Behaviour of the Human Male*). Jean Vilar continued to draw crowds, particularly of young people, to the Théâtre National Populaire at the Palais de Chaillot, with his presentations of *Le Cid* (played with spirit by Gérard Philipe), of Molière's *L'Avare* and of Kleist's play already mentioned. He had less success, however, with *Nucléa*, a verse composition by Henri Pichette.

The 150th anniversary of Victor Hugo's birth was marked by a revival of *Hernani* at the Comédie-Française. This national theatrical shrine gave as well not wholly successful revivals of *Cinna* and *Britannicus* and excellent new presentations of *Le Bourgeois Gentilhomme* and Pirandello's *Six Characters in Search of an Author*; *Donogoo* (by Jules Romains) had a striking stage-set. The controversy about Pierre-Aimé Touchard's management of the theatre's affairs went on. The writer Pierre Descaves was named to succeed him.

Paris was enriched by a new theatre on the left bank, the Théâtre de Babylone which gave Pirandello's *Méfie-toi Giacomino* and also versions directed by the Swede Sundstrom, of Strindberg's *Brända Tomten* and *Fröken Julie* (which revealed a fine actress, Eléonore Hirt).

The theatre lost two great actors during the year: Roger Vitrac and Pierre Renoir. The latter's death followed close on that of his friend Louis Jouvet. (A. PR.)



The Kenya national theatre in Nairobi opened on Nov. 6 as the first part of a Kenya Cultural centre. Eugenie Hughes, architect.

Germany. There was no lessening of theatrical activity in the German Federal Republic during 1952. In the Ruhr and adjoining areas, the town theatres at Aix-la-Chapelle, Duisburg, Krefeld and Oberhausen were reopened after reconstruction. There were further signs that the serious crisis in the theatre after the currency reform of 1948 had been overcome. The Düsseldorf Schauspielhaus announced that only 20% of the first-year guarantee provided by the town, the *Land* and private concerns would be required; at Frankfurt the first list of subscribers reached the record number of 30,000; in Krefeld 12% of the population took season-tickets for the new theatre. On the debit side, unemployment figures showed that far more actors continued to be trained than could be employed, and two town theatres were forced to dismiss a considerable proportion of their companies at short notice.

Once again no new German playwright of outstanding distinction appeared and the repertory continued to be supplemented by the revival of the lesser-known works of playwrights of the comparatively recent past such as Gerhard Hauptmann. Revivals of Franz Wedekind, including *Erdgeist* and *Die Büchse der Pandora* (Berlin) were only moderately successful. Of living authors Hans J. Rehfisch, recently returned from exile in America, won approval with his *Eiserne Strasse*, a play about George Stephenson and the early days of the steam locomotive. Bertolt Brecht's *Der gute Mensch von Sezuan* received its first German production at Frankfurt. Of the personalities well-known in German theatrical life before World War II, Fritz Kortner contributed an interesting if not wholly convincing production of C. F. Hebbel's difficult *Herodes und Mariamne* (Munich, Kammerspiele), Erwin Piscator returned to produce, among other things, Lessing's *Nathan der Weise* (Marburg), Werner Krauss re-appeared in some of his old roles at Hamburg and elsewhere, and Gustaf Gründgens gave a remarkable performance of Pirandello's *Henry IV* (Düsseldorf). The distinguished but largely inactive Jürgen Fehling produced Schiller's *Maria Stuart* at Berlin. Of the important municipal theatres outside the largest cities, Düsseldorf, Göttingen and Darmstadt continued to be noted for excellence, enterprise or both.

Plays by foreign authors, mainly French, American and English, continued to occupy a large part of the repertory. French plays new to Germany included P. Claudel's *Partage de Midi* (Cologne) and J. Cocteau's *Bacchus* (Dusseldorf). Attention continued to be paid to the work of Spanish dramatists, classical and modern. Bochum saw a widely praised production by Gustav Rudolf Sellner of Federico García Lorca's *Blood Wedding*. England offered among others Christopher Fry's *Firstborn* (Recklinghausen and Berlin festival) and Peter Ustinov's *Love of Four Colonels* (Berlin and elsewhere). Notable Shakespeare revivals included Sellner's production of *A Midsummer Night's Dream* (Darmstadt) with a new musical score by Carl Orff. The Old Vic made a successful tour with *King Lear*, but among foreign visitors during the year the palm was clearly awarded to the French Théâtre National Populaire with *Le Cid* and a translation of Kleist's *Prinz Friedrich von Homburg*. The many festivals showed little deviation from the course pursued in 1951. The second Berlin festival was notable for the contribution made by ballet companies. 1952 showed a marked increase in interest in the classical dance, including the New York City ballet and the senior Sadler's Wells company. A special series of open-air performances at Bad Hersfeld in July was devoted to the works of Hugo von Hofmannsthal, including his version of Sophocles' *Oedipus* with Ernst Deutsch in the title-role. (R. H. CN.)

Italy. No new play of exceptional merit appeared in 1952 and it was significant that the "Premio Feltrinelli" for drama was not awarded. Among new plays, *Il Faustino* by Dino Terra showed an existentialist Dr. Faustus in a modern setting. Unfortunately the author failed to reach the standards of the French existentialist theatre, while his burlesque was not wholly successful. Definitely more interesting despite its faults was Clotilde Masci's *Vigilia di nozze*, which dealt with a plain and middle-aged maid's attempt to awaken interest in herself by admitting to a crime that she had not committed. A similar problem was dealt with in *Donne Brutte* by Achille Saitta, though here an ugly woman's quest for a husband, a quest which ended tragically, was not exploited quite successfully.

A very promising first comedy was Carlo Levi's *Legittima difesa*, where the dilemma between knowing the truth but dying almost certainly, and living safely but in doubt, was handled very competently. Not so successful, on the other hand, was *In nome del Padre* by Cesare Giulio Viola, a play about a widowed ex-sinner turned priest and faced by the fact that his daughter wished to divorce her husband, which was spoilt by conventionality of feeling and empty rhetoric. Such faults were also evident in Ezio d'Errico's *Corona di carta*, which dealt with an aged office clerk who had entertained literary ambitions in his youth and imagined himself as a king at home. Gherardo Gherardi's posthumous play *Un tale che passa*, Anna Bonacci's *L'ora della fantasia* and *Un giorno di sole* by Gino Cavalieri were all pleasant, witty and competent pieces of work, which certainly deserved their success.

Several old plays were revived during the year: moreover, Sophocles' *Oedipus Colonaeus* and Euripides' *Troades* were performed at the Greek amphitheatre of Syracuse, while the *Trachiniae* of Euripides was produced by Guido Salvini at the Teatro Olimpico of Vicenza. Foreign plays continued to enjoy great popularity. *The Merchant of Venice* and *Macbeth* were performed in Milan in January and Schiller's *Maria Stuart* in Rome in April. Besides these, there were also performances of D. Cannan's *Captain Carvallo* and of a play by Jean Anouilh in Milan, where some performances were also given in May by the Rideau of Brussels.

La bocca da lupi by Riccardo Melani was awarded the "Premio teatrale Francesco Vallecorsi"; the important "Premio Murano" went to *Giorno di visite* by Luigi Primo Soldo. The death occurred of the well-known playwright Augusto Iandolo. (R. W.)

United States. The many difficulties facing the theatre in the United States appeared to increase during 1952. The shortage of new plays of merit by Americans continued to prevail, and growing production costs made formerly adventurous producers cautious. While no new native dramatist seemed to have anything very extraordinary to offer, such superior works from abroad as Sean O'Casey's *Cock-a-Doodle-Dandy*, Lord Dunsany's *The Strange Lover*, various unseen plays by Ferenc Molnar (*see* OBITUARIES), André Roussin's *The Ostrich Eggs* and Marcel Aymé's *Clérambard* were available for production. The financial risk of staging them, however, prevented their being attempted, and Eugene O'Neill, ill and unable to supervise its production, published in book form instead of presenting in the theatre his new play, *A Moon for the Misbegotten*.

The New York dramatic critics complained bitterly about the state of the theatre, and George Jean Nathan declined to contribute his annual volume on the season on the grounds that the year was unworthy of record. The New York Drama Critics circle prize was awarded to John van Druten's *I Am a Camera*, a dramatization of some short stories of pre-Nazi Berlin by the English novelist Christopher Isherwood, and Julie Harris as the drifting British bohemian in this play was selected as the season's outstanding actress. The Pulitzer prize went to *The Shrike*, a drama of life in the psycopathic ward of a large Manhattan hospital, the first play by Joseph Kramm, a former radio writer. *The Shrike* was distinguished by the direction and acting of José Ferrer, whose performance as the harassed inmate was another of the year's histrionic triumphs.

Helen Hayes found a following with Mary Chase's rather maudlin, Barrie-esque fantasy, *Mrs. McThing*, and Paul Osborn's dramatization of John P. Marquand's novel *Point of No Return* with Henry Fonda, Anita Loos's dramatization of Colette's novel *Gigi* with Audrey Hepburn, and Jan de Hartog's two-character play of 25 years of married life, *The Fourposter* (all three had opened in late 1951), proved popular at the box office. S. N. Behrman contributed a drawing-room piece, *Jane*, based on a Somerset Maugham story, and Truman Capote, turning from the novel, wrote his first play, *The Grass Harp*, a gentle comedy of small-town life in the south.

There were many importations and revivals. Rex Harrison and Lili Palmer offered Christopher Fry's poetic comedy of autumnal passion, *Venus Observed*, and Sir Laurence Olivier and Vivien Leigh played Shaw's *Caesar and Cleopatra* and Shakespeare's *Antony and Cleopatra*. Jean Anouilh's *Eurydice*, adapted as *Legend of Lovers*, appeared and disappeared. The Drama Quartette (Charles Laughton, Sir Cedric Hardwicke, Charles Boyer and Agnes Moorehead) read the "Don Juan in Hell" sequence from Shaw's *Man and Superman* and were so successful that many other "reading" companies were formed across the nation. The American National Theatre and Academy revived O'Neill's *Desire under the Elms*, Odets' *Golden Boy* and Gertrude Stein and Virgil Thomson's *Four Saints in Three Acts*, while the New York City Centre theatre revived Clemence Dane's *Come of Age*, George S. Kaufman and Edna Ferber's *First Lady*, Ibsen's *The Wild Duck*, Deval's *Tovarich* and Elliott Nugent and Jane Thurber's *The Male Animal*, the last enjoying an extended engagement. Another theatre event of note was provided by the London actor Emlyn Williams, reading from the works of Charles Dickens.

The U.S. musical comedy stage suffered from a lack of fresh material as severely as did the dramatic stage during 1952. *South Pacific*, *Guys and Dolls* and *The King and I*—all held over from previous seasons—continued to prosper, but no new musical show joined their happy company. The only other show to do so was the handsome revival of *Pal Joey*, a

Richard Rodgers-Moss Hart musical comedy of 1940 vintage. *Wish You Were Here*, an expensive extravaganza suggested by Arthur Kober's play *Having a Wonderful Time*, found a wider public than the critics had predicted, but the revival of George Gershwin's *Of Thee I Sing*, a new edition of the celebrated Negro revue *Shuffle Along*, and *Three Wishes for Jamie* all fared badly (T. Q. C.)

THEOLOGY. The year 1952 saw no spectacular development in theology, but there was a steady accumulation and sifting of knowledge, an increased definiteness in denominational loyalties and a growing conviction that "reunion" would need more patience and labour than was once envisaged.

The number of publications on theological subjects was immense. The *Book List, 1952*, edited by Professor H. H. Rowley for the Society of Old Testament Study, contained over 320 titles relative to the Old Testament alone. The *Internationale Zeitschriftenschau fur Bibelwissenschaft und Grenzgebiete, 1951-52*, edited by Dr F. Stier with assistance from the Evangelical and Catholic faculties of the University of Tubingen, listed 393 periodicals and 1,391 books and articles dealing with Biblical subjects. Publications on patristics, on mediaeval theology, on modern theology and on such diverse subjects as liturgy and mysticism, were very numerous, the 1952 *Revue d'Histoire Ecclesiastique*, of Louvain, for instance, listed 4,328 books and articles.

Summaries of the work accomplished during recent decades were published during the year: scholars welcomed such surveys as *The Old Testament and Modern Study. A Generation of Discovery and Research*, by members of the Society for Old Testament Study, and Dr. A. M. Hunter's *Interpreting the New Testament 1900-1950*. Books on the development of English theology in recent times were written by Dr. Elliott-Binns and Dr. J. K. Mozeley. Dr E. Hocedec's last volume on the history of theology during the 19th century was published in Brussels, and Fr. José Madoz' *Secundo Decenio de Estudios sobre Patristica Española, 1941-50*, in Madrid.

In Old Testament studies, interest continued to be felt in the series of documents discovered in 1947, called the Dead Sea Scrolls, these manuscripts contained considerable portions of the Old Testament, and seemed to represent a pre-Massoretic text, but beyond this, there was no agreement among experts as to their date, interpretation and significance. They might turn out to give some additional knowledge of religious ideas current in certain Palestinian circles at a date not too far distant from Christ. Translations of the Bible continued to be issued, perhaps the most conspicuous during 1952 was the American *Standard Revised Version*, under the direction of the emeritus dean of Yale Divinity school, Dr. Luther Weigle. It was too early in 1952 to give any estimate of the success of the version. The same was true for the first eight books of the *Confraternity Bible*, edited by Dr. Louis Hartmen of the Catholic university at Washington. It is interesting to note that at Amsterdam was published a quarterly devoted solely to translations of the Bible, *The Bible Translator*, to which Dr. E. A. Nida, of Princeton, was a copious contributor. The lexica of Dr Ludwig Koehler (Leyden) and Fr. F. Zorell (Rome) made progress, and Dr. W. R. Coates was directing a series of translations from G. Kittel's *Theologisches Worterbuch zum Neuen Testament*.

In the New Testament, the tradition behind the Gospels and the letters of St. Paul continued to hold attention. During the year, St. Mark's Gospel was specially discussed in books by Drs. V. Taylor, Austin Farrer, Philip Carrington and R. H. Lightfoot. Misgivings about R. Bultmann's form criticism were voiced by the Evangelical faculty of Tubingen in a book entitled *Für und wider Theologie Bultmanns* (Tubingen). On St. John's Gospel, books were published during the year by W. H. Rigg, A. H. N. Green-Armytage and H. P. V. Nunn. Professor William Manson's *Epistle to the Hebrews* suggested a new approach.

In patristics, work was less prolific. The Bibliothèque Nationale of Paris published the results of ten years' work in its *Catalogue Générale des Manuscrits Latin*, tom. 3. Fr. G. Muller advanced steadily with his *Lexicon Athanasianum*, fasc. 9 (Berlin). Professor Werner Jaeger published, with assistance, a critical edition of St. Gregory of Nyssa's *Ascetica* (Cambridge, Massachusetts); the Editions des Cerfs published the third book of St. Irenaeus' *Heresies*, by Fr. F. Seynard, and two books published in the "Ancient Christian Writers" series of Drs. Quasten and Plumpe, of Washington, were Tertullian on *Marriage and Remarriage*, translated by Fr. W. P. le Saint, and Prosper of Aquitaine, *The Call of the Nations*, translated by P. de Letter. Dr. F. L. Cross published his admirable edition of St. Cyril of Jerusalem's *Lectures* (London); and Dr. J. Solano, of Oña, his first volume of patristic extracts on the Eucharist. Dr. W. H. Frend's book on *Donatism* (London) is perhaps less theological than the earlier work (in which he assisted) by Dr. G. G. Willis, *St. Augustine and the Donatist Controversy*, but is indispensable for the background. Special welcome must be given to the reprint of Dr. G. L. Prestige's *God in Patristic Thought* (London).

In mediaeval studies, apart from much in periodicals, the year saw the publication of Professor Bernhard Geyer's first volume of Albert the Great, *De Bono* (Bonn), Dom. F. S. Schmitt's fifth volume of St. Anselm's letters (Edinburgh), Dr. A. M. Landgraf's *Commentaries of Stephen Langton on Peter Lombard* (Munster); R. M. Martin and R. M. Gallet's third volume of Robert of Melun; and the English Dominican Fathers' translation of St. Thomas, *De Potentia* (Maryland). Dr. E. Gilson's large work on Duns Scotus appeared during the year (Paris), and Beryl Smalley's *The Study of the Bible in the Middle Ages* (New York).

The year saw an exceptional number of books on modern, *i.e.*, Reformation and post-Reformation, theology: reprints of works by William Cartwright, John Wesley, John Fox and George Salmon; four books on the history of the Reformation; three on Martin Luther; three on John Calvin; one each on Huldreich Zwingli, Hugh Latimer, John Knox and John Bunyan; studies of A. P. Forbes of Edinburgh, of C. F. Andrews, William Clowes, Clarendon, Philip Doddridge, Ralph Cudworth, and of the more recent W. P. de Bose and P. T. Forsyth, and doctrinal histories of Puritanism, of the English free churches, the Evangelical party, the Evangelicals in Cornwall, the English Antinomians, the Methodist heritage, the Episcopal Church in Scotland.

In general theology, interest still tended to centre on the relationship between Christianity and culture and civilization, as manifest in books by Dr. N. H. G. Robinson, Dr. C. H. Dodd, Canon V. A. Demant (all London), Dr. Paul Tillich and Professor Martin Buber; on the church, manifest in the books prepared for the World Conference on Faith and Order, edited by Dr. Newton Flew, Dr. Donald Baillie and Dr. J. Marsh, and by Melville Chaning-Pearse; on the Oecumenical movement, manifest in volumes by Dr. V. Nicholls, by Canon R. A. Edwards, by the Orthodox Dr. L. A. Zander, and the Roman Catholic Dr. W. H. Van de Pol of Nijmegen; on the sacraments, manifest in Dr. A. J. B. Higgins' book on the Eucharist (London), Dr. A. D. Frenay on the spirituality of the Mass (St. Louis), and by numerous comments upon Dr. G. W. H. Lampe's book on baptism and confirmation (London).

On liturgy, may be mentioned the *Liturgisches Jahrbuch*, edited by Dr. Joseph Pascher for the Trier Liturgical institute (Munster), Dr. Streiber's edition of the *Libelli Sacramentorum Romani* (Bonn), Dr. Cross's translation of Professor Theodor

Klauser's history of the western liturgy, and Dom Illtyd Trethowan's *Christ in the Liturgy*. On the philosophy of religion, mention may be made of books by Mgr. Fulton Sheen and by Dr. Josef Pieper, as well as *Symposia* on science and religion by the London School of Religion, and by the American Guild of Scholars.

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TIBET. Country of central Asia, N. and N E. of the Himalayas. Nominally a Chinese dependency, it had been in practice independent and was the only country in the world entirely under ecclesiastical control. Area: *c.* 469,294 sq.mi. Pop. (1948 est.): *c.* 3 million. Language: Tibetan. Religion: Buddhist. Capital, Lhasa. Ruler, the Ling Erh ("divine child") Pamo Tontrup or Lamu Fankha, the 14th Dalai Lama.

History. The first anniversary of the "liberation" of this natural mountain fortress towering above the three most populated realms of the world was celebrated at Lhasa on May 23. Both the Dalai Lama and the Panchen Lama (who reached Lhasa on April 28) sent telegrams to Mao Tse-tung thanking him for his friendly protection. A military parade took place at Lhasa in the presence of General Chang Ching-wu, the Chinese civil administrator, General Chang Kuo-hua, commander of the Chinese forces, and Ngabo Ngavang Jigme, representing the Tibetan administration.

Shortly before, under Chinese pressure, the Dalai Lama had had to dismiss Lukhang, his premier, and Lobsang Tashi, a deputy premier, who were charged with being responsible for the nationalist movement which led to Sino-Tibetan clashes in Lhasa in April. Savang Lhalu, another minister, who commanded the fortress of Chamdo (Chengtu) when Tibet was invaded in 1950, was forced to resign. In June the death was reported of Dzasa Surkhang, who in 1950 had led a three-man delegation which visited India. In June also the Panchen Lama left Lhasa for the monastery of Shigatse where he was to make his headquarters

In September it was reported that the Chinese were building an airfield at Lhasa and a highway linking Lhasa with Kashgar in Sinkiang. During the summer of 1952 the Chinese sent through Calcutta, by the Sikkim trade route, some 10,000 tons of food and other supplies for their 15,000-strong occupation army in Tibet.

The governments of India and China agreed in September that the Indian mission at Lhasa should henceforth be designated the Indian consulate-general. A. K. Sen, formerly of the Indian embassy in Peking, was appointed consul general and S. Sinha, the head of the Indian mission at Lhasa, returned to New Delhi. It was also understood that the three Indian trade agencies in Tibet, at Gyantse, Yatung and Gartok (western Tibet) would continue to function, and that the small Indian army detachment would remain at Gyantse for the protection of the trade route.

See Fosco Maraini, *Secret Tibet* (London, 1952); R. B. Ekvall, *Tibetan Skylines* (London, 1952).

TIMBER. The year 1952 saw the end of the long seller's market in the timber-exporting countries of Europe and the Commonwealth. The free-on-board prices of softwood, hardwood and plywood all fell considerably, and c.i.f. (carried insurance free) values experienced an even greater set-back because of a severe fall in freight rates. Amongst European exporters, Finnish shippers started the ball rolling by lowering their price for average redwood in May to £72 per standard f.o.b. When the Russians issued their stock sheets shortly afterwards it was found that their price for unsorted redwood was £60 per standard f.o b. The Finns made further cuts and by midsummer their price stood at £58 per standard f.o.b. This fall in prices was undoubtedly helped by the fact that the United Kingdom, through financial stringency, cut its softwood import quotas to about 450,000 standards as against 1,750,000 standards imported in 1951. The Board of Trade granted a measure of freedom to private importers of softwood by permitting them to buy direct under a strict global quota later amended. The combined effect of all this was not only to shake down prices in other softwood-exporting countries in Europe such as Yugoslavia, Poland and Czechoslovakia, but also seriously to affect the Canadian export market. Here matters were complicated by the fact that the British Timber control had made forward contracts with Canadian exporters covering a large part of 1952, and in the spring of the year their commitments were about 170,000 standards. These contracts were sold on c.i.f. terms to British importers at steadily reduced prices during the year, thus still further weakening the market position. Following a wage dispute in British Columbia a strike broke out at the end of June in the great Douglas Fir sawmills which was not settled until July 29, 1952. An example of the fall in Baltic freight rates was that in May 1951 the rate from Wasklot port was £13 15*s.* per standard, whereas in May 1952 only £8 was being quoted for the same voyage.

For the hardwood trade 1952 was also a period of considerable price adjustment. Prices for practically all the tropical hardwoods produced within the Commonwealth fell sharply, helped in many cases by the fall in freight already mentioned which applied equally to hardwoods as to softwoods. The market for west African timbers suffered particularly heavy falls, because under boom conditions production there had expanded beyond the capacity of normal consumption. For instance, Obechi, which at one time had been selling at over £20 a ton f.o.b., fell during the year to a low level of £13 a ton f o.b. Beech, one of the stable productions of the European hardwood trade, suffered falls ranging up to 20%. In the spring the French government announced the following export quota: sawn poplar 25,000 cu m., sawn oak 15,000 cu m, sawn beech 8,900 cu.m, sawn ash 1,500 cu m, miscellaneous hardwoods 15.000 cu m.

The export trade, however, was so dull that it was a little doubtful if even these restricted quantities were fully taken up. As far as the United Kingdom was concerned, certain well-informed circles expressed the opinion that the peak consumption of hardwoods had passed—at any rate for the time being—the large import figures built up since World War II having been in part due to the shortages of softwoods. For instance, a large trade developed in soft hardwoods mainly from west Africa, Malaya and Borneo, which were used as substitutes for softwoods. Exports from these countries had a set-back during 1952. In the first six months of 1952 18,668,000 cu ft. of hardwoods, both logs and lumber, were imported into the United Kingdom, as compared with 26,675,000 cu.ft. for the same period in 1951.

Prices of plywood fell considerably in all the main producing countries. Gaboon plywood, one of the standard productions of France and its colonies, experienced falls in price ranging up to 33⅓%. British home manufactured plywood was

seriously reduced in price to meet competition from abroad. Finnish birch, which from its popularity for general utility purposes might almost be called a standard plywood, joined the general setback with a fall in price according to grade up to 20%.

A feature of 1952 was the holding of the Sixth British Commonwealth Forestry conference at Ottawa during August and September. This conference was attended by delegates from all the principal Commonwealth timber-producing and consuming countries. (B. L)

United States. Lumber production in the United States during 1952 was maintained at the relatively high level shown in 1951. Total production was estimated at 37,500 million bd ft. The leading species cut were, in order of importance, southern pine, Douglas fir and ponderosa pine which together comprised about 64% of the total volume. About 81% of the total cut was of softwoods and 19% was of hardwoods. About 46% of the total lumber production came from west of the Great Plains and 54% from the eastern states, although the three leading lumber-producing states were Oregon, California and Washington. California lumber production was greatly increased by the activity of about 600 relatively new sawmills in the Douglas fir forests of the northern counties. The greatest volume of Douglas fir came from Oregon and Washington.

The south remained an active producing region of both southern pine and hardwoods in all states from Virginia to Texas. North Carolina remained an important lumber state although its virgin timber had been largely cut more than 40 yr. before. Maine continued to be the most important white pine state. Very little virgin timber was cut except in the Rocky mountains and on the west coast. The timber resources of the United States were growing up at a surprisingly rapid and satisfying rate, largely because of fine protective and prevention measures and excellent management policies. Certainly the timber famine so widely predicted 40-50 yr. earlier had not arrived, nor was it threatening. A large share of the country's timber supply, probably 60% to 70%, was by 1952 now coming from regrowth timber.

The tree farm movement sponsored by the lumber, plywood, pulp and paper and other timber-owning interests was actively continued and expanded. This movement had been responsible for a reawakening of interest in practising efficient and successful forest management on more than 25 million ac of productive forest. (*See* also FORESTRY.) (N. C. B.)

TIMOR: *see* PORTUGUESE OVERSEAS TERRITORIES

TITO (JOSIP BROZ), Yugoslav statesman and soldier (b. Kumrovec, Croatia, May 25, 1892). The son of a blacksmith, he served as a private in the Austro-Hungarian army in World War I and was captured in March 1915 by the Russians. A prisoner of war until 1917, he was at Omsk at the time of the Communist *coup d'état*, and married a Russian woman there. He could reach Petrograd only in 1920 and left for Yugoslavia. One of the organizers of the Yugoslav Communist party, he was arrested many times, and was sentenced in 1928 to six years' imprisonment for conspiracy. On his release in 1934 he went to Moscow. In 1936 he was sent to Paris, where he helped to organize the transport to Spain of volunteers for the international brigades. In 1937 he became secretary-general of the Yugoslav Communist party and remained in the country. After the German attack on the U.S.S.R. he started guerrilla warfare in Yugoslavia. In the first months of 1945 all Yugoslavia was liberated and on March 7, 1945, Tito, who in the meantime had appointed himself marshal, became prime minister and c.-in-c. He visited Moscow in April 1945. He paid state visits in March 1946 to Warsaw and Prague, in Nov. 1947 to Sofia and in December to Budapest and Bucharest, signing on each occasion a bilateral treaty of friendship and mutual aid.

On June 28, 1948, the Cominform published a statement denouncing Tito for his "hateful policy in relation to the U.S.S.R." But the real core of Tito's heresy was his brand of Yugoslav patriotism. In June 1950 he proclaimed that Yugoslavia was the only neutral country in the contemporary world. In Feb. 1951, however, he pursued his qualified approach to the west. As the Soviet propaganda campaign against Yugoslavia increased in violence, on Nov. 14, 1951, Tito and George V. Allen, the U.S. ambassador, signed at Belgrade an agreement providing that the United States would "make or continue to make available" to Yugoslavia military equipment, materials and other services. On July 6, 1952, Tito said that Yugoslavia was ready to collaborate with Greece, Turkey and Austria but would not enter into formal alliances with those countries. On Sept. 18, in Belgrade, and four days later at Bled, Tito discussed European problems with Anthony Eden, British foreign secretary. It was learnt on that occasion that Tito had remarried and that his third wife was Mlle Jovanka Budisavljević. On Nov. 3, at the Yugoslav Communist party congress, Tito spoke for five and a half hours.

TOBACCO. The estimate of the world's tobacco harvest for 1952, excluding that of the U.S.S.R., was about 7,400 million lb., an increase of 80 million lb. on the previous year's total of 7,320 million lb. and considerably higher than the 1950 total of 7,200 million lb. The latest estimate of total leaf production in the United States was 2,235 million lb. which again was higher than the previous year's 2,226 million lb.

One of the largest increases in acreage was planned in Australia. The government approved a five-year plan to increase production from 6,000 to 16,000 ac. This was the result of an 80% cut in tobacco imports, which severely hit British manufacturers of cigarettes, pipe tobacco and pipes.

In Southern Rhodesia, which was becoming more then ever an important source of supply for Britain, expectations were somewhat disappointed. Growers had hoped for a leaf crop of 115 million lb., but weather conditions restricted it to about 96 million lb., sold at an average price of 43*d* a lb. to realize nearly £17,250,000. Of this leaf total British buyers secured 62 million lb. instead of the 75 million lb. they expected. The growers' profit margin was narrowed by the unusually low yield of 500 lb. per acre, the lowest for nine years. France contracted to buy £100,000 worth of leaf yearly.

The Canadian government provided an outstanding example of how excessive taxation could kill tobacco revenue. A revenue increase that raised the price of cigarettes by 3 cents a pack was expected to yield an additional $21 million revenue. In fact, it inspired a drop of $1 million and the Ministry of Finance hastily reduced the tax, thereby leading to an immediate increase of consumption and revenue. Cigarette consumption leapt from 1,098,023,345 in February to 1,750,711,685 in May.

India emerged as the third largest tobacco-growing country after the United States and China. Exports reached an all-time high level of 106,346,000 lb. Of that total 99,234,647 lb. was unmanufactured leaf. Manufactured tobacco exports totalled 7,111,679 lb., consisting of 1,664,819 lb. of cigarettes, 14,793 lb. of cigars and 5,432,067 lb. other kinds. The United Kingdom was the leading foreign outlet for leaf, having taken 42,146,318 lb. in 1951-52; Hong Kong took 18,217,219 lb. and the U.S.S.R. 7,581,733 lb. Japan entered the market as an important buyer by taking 10 million lb.

Tanganyika's Department of Agriculture stated that an experimental tobacco-growing area near Songea was showing promise and planters and commercial concerns were interested in acquiring land in the area for tobacco cultivation.

Nyasaland's sales of tobacco at the Limbe auctions were: flue-cured, 3,460,244 lb., averaging 21·76*d.*; fire-cured southern, 645,271 lb., averaging 10·95*d.*; fire-cured northern, 14,839,207 lb., averaging 16·81*d.*; sun-cured, 2,994,075 lb., averaging 16·56*d.*; burley, 997,893 lb., averaging 23·50*d.*

Cuba's 1951-52 tobacco crop was estimated at 4% below the 1950-51 output, according to the U.S. embassy in Havana. Exports of leaf tobacco during 1951 were 18% above 1950. Consumption of cigarettes in 1951 was 4% above 1950. The 1951-52 leaf crop was unofficially estimated at 75·0 million lb. (stalked, unstemmed weight), as compared with 78·3 million lb. in 1950-51. Even though production was smaller, the quality of the season's leaf was reported to be better than the 1950-51 crop. Exports of leaf during 1951 totalled 37·6 million lb. (unstemmed equivalent), as compared with 31·8 million lb. in 1950. The U.S., the most important Cuban leaf market outlet, took 23·1 million lb., or 61%, during 1951.

The U.S. Department of Agriculture compiled statistics showing the average tobacco consumption per head per year of smokers over 15 years of age as follows:

Country	Year	lb.	Country	Year	lb.
United States	1950	10·2	Norway	1948	5·2
Netherlands	1950	9·1	South Africa	1950	4·4
Denmark	1950	7·4	Greece	1949	4·0
Canada	1950	7·2	Sweden	1950	3·9
New Zealand	1949	7·0	France	1950	3·6
Ireland	1950	6·7	Austria	1950	3·2
Belgium	1950	6·6	Spain	1947	3·2
Switzerland	1950	6·3	Turkey	1950	3·2
Australia	1949	5·7	Italy	1950	2·5
United Kingdom	1950	5·6			

In the United Kingdom there was no marked change in the tobacco situation as regards either price increases or taxation. Throughout the year, however, a struggle developed between the manufacturers and the National Union of Retail Tobacconists, which represents some 20,000 of the 60,000 tobacconists in the country. The retailers' organization in June demanded an additional 2% profit margin to compensate for decreased sales and increased overheads. They advised members to refrain from stocking all new brands that did not carry the extra 2% profit. At a private conference in October the manufacturers flatly refused any profit increase and the retailers decided to suspend their embargo on new brands. Their campaign was reported to be not unduly successful, because many retailers found that several new brands which did not conform to the profit standard required were in great demand and for financial reasons could not be rejected.

(G. WT.)

TOBAGO: *see* TRINIDAD AND TOBAGO.

TOGOLAND: *see* FRENCH WEST AFRICA; GOLD COAST; TRUST TERRITORIES.

TONGA: *see* PACIFIC ISLANDS, BRITISH.

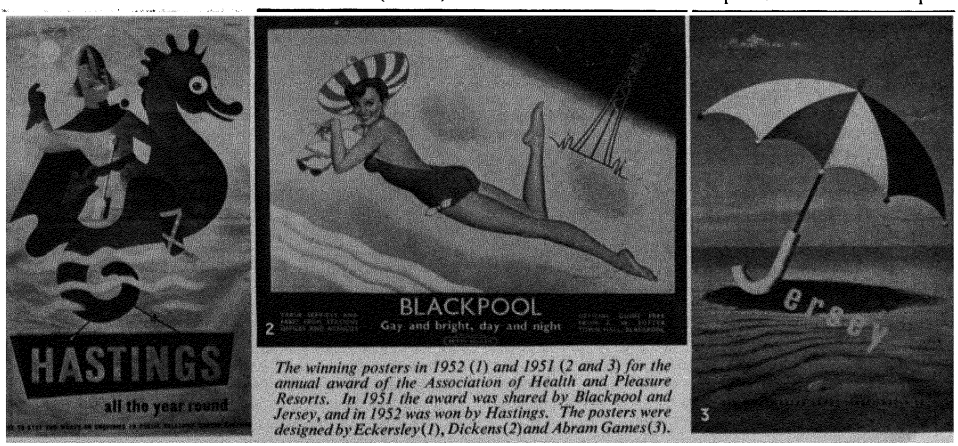
TONGKING: *see* INDOCHINA.

TOURIST INDUSTRY. Tourist traffic in Europe continued to expand successfully in 1952. The total volume of international travel in Europe was now considerably above the level of the best prewar years. Transport facilities, the introduction of new motor-coach and bus services, new trains and cheaper air fares helped to swell the rapidly expanding volume of international traffic, much of which was the result of the continuing redistribution of incomes in favour of the less well-to-do classes of the population.

The year also saw the removal of many currency restrictions in Europe. Amongst the major countries, however, Britain had the most severe limit of £25, which had the effect of restricting the number of visitors travelling first class or requiring first-class accommodation. Yet in spite of the currency restrictions, the total volume of British traffic to the continent was only slightly lower than in 1951.

The greatest increase of traffic in Europe took place in countries which had only recently come back again after World War II into the "market", such as Germany, which was rapidly getting back to its prewar position; Austria, where the government had spent £35 million since 1950 on roads, winter sports facilities and hotels; Spain, where government assistance to the tourist industry was considerable; and Yugoslavia, which made a determined effort to get visitors from western Europe and America for the first time.

A significant factor of the year's tourist movement in Europe was the very considerable increase in U.S. visitors. It was estimated that this traffic increased by a third as compared with 1951 and was almost up to the peak prewar (1929) figure of 350,000. The tourist class air fares across the Atlantic, offering a reduction of 40%-50% on a very substantial fare, were undoubtedly an important factor, but more so still was the growing feeling of confidence in the United States that although world conditions were not favourable they were at least more settled. Concentrated publicity by European countries in the U.S. and continued improvement in accommodation facilities contributed to the increased traffic. It was estimated that Americans spent $416 million in European



The winning posters in 1952 (1) and 1951 (2 and 3) for the annual award of the Association of Health and Pleasure Resorts. In 1951 the award was shared by Blackpool and Jersey, and in 1952 was won by Hastings. The posters were designed by Eckersley (1), Dickens (2) and Abram Games (3).

currencies, a figure amounting to probably more than 20% of all Europe's dollar earnings, making tourism one of the most important industries in solving the dollar trade problem.

The number of visitors to Britain, estimated to be 720,000, showed a further rise over the 1951 Festival of Britain year record figures of 694,570. Earnings were estimated at £110 million in foreign currencies, £41 million of which represented dollars, making tourism the country's chief net U.S. dollar-earning export and seventh in the list of principal exports. Tourism was one of the few British industries which had continued to expand and where the potential was still far greater than the existing level of business. The number of U.S. visitors to Britain, for example, rose from 103,000 in 1937, the peak prewar year, to nearly 128,000 in 1950 and 170,000 in 1952.

Although 42% of the Americans came to Britain by air, there was an even greater expansion in travel by sea, reflecting the considerable efforts made by shipping companies to put new ships into service, for example, "United States", "Flandre" and "Maasdam".

Visitors from other European countries to Britain were less numerous than in 1951; however, traffic from Europe had been stimulated considerably by the festival celebrations in 1951. One of the main problems limiting tourist traffic to Britain was the lack of good-class hotel accommodation in the principal cities. It was in capital cities that the problem of providing seasonal accommodation was most acute, but at the same time accommodating traffic was aggravated by rising labour and capital costs. (*See* also HOTELS, RESTAURANTS AND INNS.)

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TOWN AND COUNTRY PLANNING. Great Britain. The development plans under the Town and Country Planning act, 1947, had by Nov. 1952 been submitted to the Ministry of Housing and Local Government for 117 planning areas. Public inquiries had by then been held into about 70 of these plans and 14 had been approved. Though there were many detailed objections to some of the plans, public interest was not as lively as had been expected. There was, however, a growing acceptance of town planning as a normal function of government and, if there was little excitement at its possibilities, there was certainly no alarm. The development plans in general followed the lines of policy suggested in the advisory plans prepared for many regions and cities at the end of World War II, with modifications that reflected as a rule a chastened optimism. While opinion was agreed that, in the economic circumstances, the more grandiose development projects must be abandoned or postponed, the lowering of basic standards in plans was less widely accepted. Some uneasiness was expressed when the tendency to increase permitted density in new development and redevelopment was encouraged by the ministry, whose well-documented manual on *Density of Residential Areas* (H.M.S.O., London, 1952) began by stressing the vital importance of saving land for agriculture and the advantages of "close and compact" development. That Britain and the world had cause to be anxious about the food supply had become a platitude by 1952; but that it was proper to save a few thousand acres of land at the expense of what had come to be regarded as minimum standards of space for home gardens (which could also produce food) was a subject of controversy. However, during 1952 the agricultural point of view on this matter undoubtedly gained ground from that of urban housing standards and the plans reflected the trend.

Though the administrative system set up by the Town and Country Planning acts of 1947 had firmly established itself, the parts of the act dealing with compensation and charges for development rights were widely regarded as unsatisfactory; land was not changing hands freely at existing use value and the complaints of purchasers (especially of plots for private houses) who had paid more than this value and had in addition to pay the Central Land board the full 100% of development value, became a considerable force for amendment or even repeal of these provisions. On Nov. 19 the government introduced a bill into parliament to abolish the development charge.

The 14 new towns established under the New Towns act, 1946, made accelerated progress and by the end of 1952 over 10,000 houses had been completed. Factory building and the growth of local employment (essential to the intention of creating self-contained towns) on the whole kept pace with housing. Many schools were provided, but community facilities lagged seriously behind or were provided for by ingenious makeshifts. The architecture and lay-out of the new towns differed to an extent that provided much interest and debate. The 1946 act's allocation of £50 million for capital expenditure was exhausted during the year, and the New Towns act, 1952, provided for a second £50 million, expected to be spent in two years No new towns were started or sites designated in 1952, though several were contemplated in development plans

Planned expansions of existing towns had always been intended, along with new towns, as reception areas for some of the people and industry to be dispersed from congested places. In August the Town Development act, 1952, received royal assent. It empowered and aided county and county district councils to undertake housing and related developments for the relief of congestion elsewhere, and to enter into arrangements with councils having congestion to be relieved for their financial assistance or participation in schemes The act also provided that exchequer contributions might be made for acquiring and developing land, providing water and sewerage services and covering housing subsidies usually paid from local rates. The act was welcomed by all sections of opinion; it could clearly be of great value if authorities proved willing to co-operate and if the government would assist financially where necessary. Another act of the year greatly increased the housing subsidies and accentuated the loading of these subsidies in favour of flats on expensive sites. Wise use of grants under the Town Development act might, it was thought, save something in excess subsidies for flats. There were suggestions urging that great cities, such as London, Manchester, Birmingham and Glasgow, should be encouraged and empowered to build some new towns themselves, beyond their green belts.

In addition to national parks (*q.v.*) designated, seven nature reserves in England and one in Scotland were declared by the Nature conservancy, that in Ross and Cromarty extending to 10,450 ac. On the taking over of open-cast mining by the National Coal board in March, planners were assured that "the same regard will be paid to agriculture and amenity." The control of outdoor advertising received attention from many planning authorities and the formation by the business interests concerned of the Outdoor Advertisers' Advisory committee promised a new and enlightened approach to the problem from the side of the "planned".

City redevelopment, chiefly of war-damaged areas, continued to make rather slow progress, and the ministry declared an intention to speed it up and to make a new start on slum clearance.

The Lisbon congress in September (International Federation for Housing and Town Planning) was attended by 600 delegates from 24 countries and was the most conspicuous



An air view of the centre of Plymouth in Sept. 1952 showing the progress made in rebuilding. In the foreground is the new thoroughfare, Royal Parade, with shops and business premises, many of which had been completed.

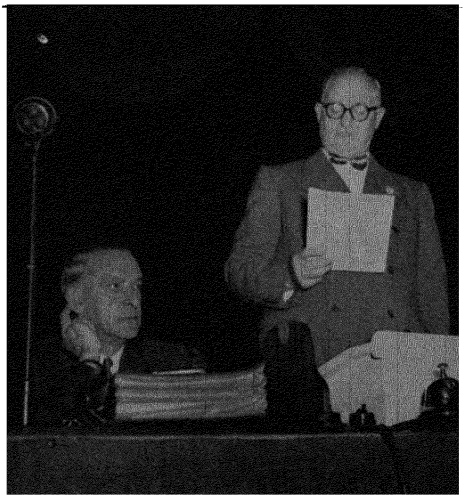
of many evidences of the growth of interest in planning and the copious and increasing exchange of experience and ideas between different countries. (*See* also HOUSING; LOCAL GOVERNMENT.)

See Ministry of Local Government and Planning, *Density of Residential Areas* (H.M.S.O., London, 1952); International Federation for Housing and Town Planning, *Education in Town Planning* (The Hague, 1952); *Reports of New Town Development Corporations*, for year to March 31, 1952 (H.M.S.O., London, 1952). (F. J. Os.)

TRADE UNIONS. International Movement. The International Confederation of Free Trade Unions continued to expand its membership in 1952, and the following organizations affiliated during the year: Unione Italiana del Lavoro, Singapore T.U.C., Turks Island Workers' union, and trade union organizations in Dutch and British Guiana, St. Lucia, Trinidad, Ecuador and Madagascar. The total membership of the I.C.F.T.U. was 53 million in 70 countries, an increase of about 1 million over the previous year.

The regional organization of the I.C.F.T.U. was further developed; the target of £250,000 for which an appeal had been made in 1951 to carry out this work was reached early in 1952. The general council of the Trades Union congress reported that the contribution of the British trade union movement had totalled £110,000. In addition to assisting trade unions to become securely established, the regional fund provided the means for the setting up in Calcutta of an I.C.F.T.U. residential college for the training of trade union officers; this was opened in Sept. 1952. Preparations were also made for the establishment of training schools in Singapore, Accra (Gold Coast) and in Abidjan (French West Africa), and there were plans to commence preparations for training schemes in the Arabic-speaking countries of the middle east. The European regional organization gave special assistance to the non-Communist Italian and French trade union movements. In Feb. 1952, it convened a European Trade Union Conference on Housing which was attended by over 80 delegates, observers and housing experts from international organizations; on the recommendation of the conference a permanent Committee on Housing was established.

The I.C.F.T.U. continued its work in defence of trade union rights; it submitted detailed evidence of the violation of trade union freedoms in Venezuela and Argentina to the International Labour organization, and the Economic and Social council of the United Nations, and supplemented previous evidence given to the council on the prevention of free trade unionism by the government of the U.S.S.R. After sending an observer to Tunisia, the I.C.F.T.U. vigorously interceded with the French government in support of the demands of the General Confederation of Labour of Tunisia. The first meeting of the I.C.F.T.U. general council was held in Berlin, July 1-5, 1952. The American Federation of Labour refused to send delegates to this meeting in protest against what it regarded as unsatisfactory aspects of the I.C.F.T.U. From the foundation of the I.C.F.T.U. the A.F. of L. had desired it to pursue a more militantly anti-Communist policy than other trade union centres thought wise. Dissatisfaction came to a head when Sir Vincent Tewson, secretary of the British Trades Union congress, accepted nomination and was elected president



Arthur Deakin delivering his presidential address to the Trades Union Congress at Margate. On his right is Sir Vincent Tewson.

of the I.C.F.T.U., following the resignation of Paul Finet, in 1951. The acceptance of this post by Sir Vincent Tewson was regarded by the A.F. of L. as a violation of an alleged gentlemen's agreement that neither the A.F. of L. nor the T.U.C. would hold the senior office in the I.C.F.T.U. Immediately before the meeting of the I.C.F.T.U. general council Sir Vincent Tewson and J. H. Oldenbroek visited the United States to confer with the leaders of the A.F. of L. and attempted to resolve the difficulties.

Great Britain. After a slight decline in each of the two previous years, the affiliated membership of the British Trades Union congress for the first time exceeded 8 million in 1952, rising from 7,827,000 in 1951 to 8,020,000 in 1952.

R. A. Butler, the first Conservative chancellor of the exchequer after World War II, continued the practice of his Labour predecessors and received a delegation from the T.U.C. to hear their views on fiscal and economic problems. The suggestions of the T.U.C. were that food subsidies should be increased; charges for National Health service prescriptions should be withdrawn; the standard rate of income tax and the tax on unearned incomes should be increased, while the lower rates of tax should be reduced; profits tax should be increased, a statutory limitation of dividends introduced, and a tax on capital gains imposed. In the event the chancellor adopted only one of these suggestions—an alteration in the number of rates of tax. In a statement approved by the general council on March 26, the T.U.C. sharply criticized the budget and the assumptions on which they claimed it rested—notably that there would be some increase in unemployment and a rise in prices—and issued a warning that in the circumstances the trade unions would be compelled to press for higher wages. Following the publication of this statement the chancellor again met representatives of the T.U.C. and suggested that wage increases should be linked to productivity. As a result of further discussions with the chancellor and the obvious seriousness of the economic situation the general council issued a lengthy report to congress, which after reviewing Britain's economic difficulties concluded that substantial wage increases would be bound to raise costs in the export trades, but refused to countenance any interference with traditional methods of wage determination. The general council's opposition to any attempt to control wages by direct methods was underlined when in July, after the minister of labour had referred back for further consideration 12 proposals for wage increases made by wages councils, its economic committee immediately sought an interview with the prime minister. Replying to the delegation, Winston Churchill stated that approval of the wages councils' awards would have encouraged a spate of further wage claims, and the reference back was intended as an indication that the government was in earnest. None of the wages councils concerned made any alteration in their awards as a result of their reconsideration.

The economic policy of the general council was put to the annual congress held in September in the form of its report supplemented by a resolution moved by the Union of Shop Distributive and Allied Workers, supported by a number of other large unions; this resolution, while criticizing severely the government's economic policy, was carried together with the report of the general council by votes of 7,771,000 to 39,000 and 6,856,000 to 504,000 respectively and was clearly understood to commit the trade union movement to a policy of moderation in wage claims. A second resolution, moved by the Communist-led Electrical Trades union, was framed in almost identical terms but specifically rejected "restraint" or "moderation", and provided a direct trial of strength between the centre and the left-wing, which resulted in the substantial defeat of the latter by a vote of 4,914,000 to 2,626,000. Another triumph for the general council was in the heavy defeat by congress of attempts to reject its support for the rearmament programme. Two resolutions which had been supported by Communist delegates were defeated by 6,941,000 to 1,887,000 and 6,075,000 to 1,801,000. An amendment to the second resolution, which was generally thought to state the policy associated with the name of Aneurin Bevan, was also heavily defeated by 5,801,000 to 1,272,000; thereafter the general council's report in favour of rearmament to the maximum extent consistent with economic stability, was carried by 5,597,000 to 1,450,000.

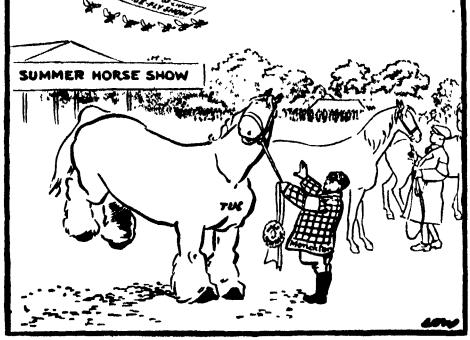
An event of outstanding importance during 1952 was the dismissal of an employee after 31 years' service by D. C. Thomson, Ltd., because it had come to their notice that he was a member of a trade union. This was followed by a strike of 74 fellow employees who were called out by the National Society of Operative Printers and Assistants to which they also secretly belonged. The strike was supported by a nation-wide boycott of Thomson's by other trade unions, the members of which refused to handle supplies of paper destined for the firm's printing offices. As a result D. C. Thomson, Ltd., sought an injunction against Arthur Deakin, general secretary of the Transport and General Workers union and several other trade union officials, on the grounds that they had procured a breach of contract on the part of the Bowater Paper Corporation, Ltd., who were principal suppliers of paper to D. C. Thomson, Ltd. Mr. Justice Upjohn dismissed the motion because the facts did not, in his judgment, give rise to an intention on the part of the trade union leaders to procure directly a breach of contract; they were entitled under section 3 of the Trade Disputes act, 1906, to act as they had done without committing a tort.

In the meantime the minister of labour had instituted a court of enquiry into the dispute, his attention having been previously drawn by the T.U.C. to the I.L.O. convention 98, which had been ratified by the British government. This convention protects workers from being discriminated against by employers, because they want to join a union, already

belong to a union or refuse to relinquish membership of a union. The report of the court of enquiry, published on July 11, viewed with misgiving the attitude of D. C. Thomson, Ltd., and called upon them to reconsider their policy of refusing to employ none but non-unionists; at the same time it suggested to the trade unions that they would be well advised to consider the wisdom of disrupting industry and bringing hardship on the public by pressing their demands to the limit.

During the year the Anglo-American Council on Productivity, on which the trade unions of both Great Britain and United States had been represented together with management from both countries, was wound up. In all, 47 teams and 19 specialist groups had been sent to the United States during the lifetime of the council, and by the end of the year most of them had published their reports. As a result of discussions between the British members of the A.A.C.P., T.U.C., F.B.I. and British Employers confederation, it was decided to establish jointly a British Productivity council.

United States. The most important event of 1952 was the strike in the steel industry. The Wage Stabilization board having awarded an immediate advance of 13 75 cents an hour plus fringe benefits, making a total package of 26 cents and hour—the highest advance ever secured by the Steelworkers union—the employers demanded an increase in the price of steel, which the government refused. To prevent a strike taking place the president seized the industry on the deadline, April 8. The employers responded by taking the president's action to the Washington district court which ruled it illegal. This ruling was upheld by a six to three vote of the supreme court, and the president returned the industry to its private owners. The strike which followed lasted for eight weeks, during which time it was reckoned 20,000,000 tons of steel were lost to the nation. After a further intervention from the White house when the president called together the leader of the Union, Philip Murray, and the president of United States Steel, Benjamin F. Fairless, a settlement was reached within 24 hr. which gave the workers a straight increase of 16 cents an hour, retroactive to March 1, plus fringe benefits totalling 5·4 cents. On the union shop, which had been a sticking point during the negotiations, the two sides arrived at a compromise, old workers were to remain exempt from having to join the union, but all new workers would have to join, though they would be able to withdraw from union membership in the second two weeks of the first month they were at work in the steel mills. Largely as a result of its handling of the steel dispute congress voted to divest the Wage Stabilization board of its power to settle disputes; and the board was reconstituted with a completely new body of public members.



Low's cartoon "Restless Champion" which was published in the "Daily Herald" (London), July 25

The Congress of Industrial Organizations early endorsed Adlai Stevenson and supported his campaign as democratic nominee for president. The A.F. of L. invited both presidential candidates to address its convention, but unanimously decided to support Stevenson, thus breaking its traditional neutrality by endorsing a presidential candidate for the first time since 1924.

Within three weeks of the triumph of the Republican party's candidate, General Dwight D. Eisenhower, both U.S. labour movements had lost their leaders. On Nov. 9 Philip Murray, leader of the steelworkers and president of the C.I.O., died suddenly; less than two weeks later, on Nov. 21, the death occurred of William Green, president of the A.F. of L. (for these *see* OBITUARIES). George Meany, secretary-treasurer of the A F. of L., was chosen successor to Green. After a bitter struggle Walter Reuther, leader of the United Automobile Workers, was narrowly elected president of the C.I.O. When President-elect Eisenhower announced the name of his secretary of labour, the U.S. unions were gratified to learn that it was a trade unionist, Martin P. Durkin, president of the Plumbers' union, A.F. of L., who had been chosen.

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(B. C. R.)

TRANSPORT. The railways of Britain found between World Wars I and II that they faced a formidable rival in road transport which, on many passenger routes and for many classes of goods, was cheaper or more convenient. The railways were under statutory duty as common carriers to accept all traffic offered and statutory restrictions on charges compelled them to accept much unprofitable work left by the roads. It was clearly in the public interest, both from an economic and strategic point of view, that the railways should be prevented from falling into decay and the Road Traffic act, 1930, was passed to give them a measure of protection by limiting, through a licensing system, the number of passenger service vehicles coming on the roads. The Road/Rail Traffic act of 1933 dealt with goods traffic and gave protection, through licensing, to the railways and the then existing operators in road haulage. But it provided also for licences, known as "C" licences, for vehicles which carried only the goods of the firm which owned them. These "C" licences were given as of right and large numbers of firms distributed their own goods in their own vehicles. The method was highly convenient for the firms, but the vehicles were not allowed to carry loads for payment in the reverse direction, had that even been practical. This was therefore an uneconomic use of transport from the national standpoint By 1938 it was clear that the licensing systems had not solved the railways' problems and the four main line companies started a "square deal" campaign. But World War II reversed the trend and the railways were fully employed, under requisition by the government, throughout that period.

The Transport Act, 1947. The Labour party was returned to power in 1945 and announced its intention to nationalize the railways and long-distance road transport, which would be integrated both in services and charges on lines similar to those set out in the London Passenger Transport act, 1933 "C" licence vehicles on long-distance transport work, *i.e.*, operating more than 25 mi. from base, were included in the first draft of the nationalization bill but after protests from the Conservative opposition, as well as from the Co-operative societies, they were taken out. There were 306,000 "C" licence vehicles, heavy trucks as well as vans, at the end of 1945, 590,000 at the end of 1948 and 796,000 at the end of

1951. Many Socialists held that their exclusion from nationalization wrecked the act.

Among the objections to the bill by the Conservative opposition were that it would be difficult to cut out rail services where these overlapped with road, that there would be a monopoly, albeit a public one, that integration denied real freedom of choice by the transport user, and that the task of the transport commission which the bill proposed was immense and too great a burden for one body. The opposition asked for a full public inquiry before nationalization but Herbert Morrison, lord president of the council, rejected this demand during the second reading debate in the House of Commons in December 1946 as "a time-wasting expedient to prevent the government getting on with the job."

The opposition also criticized the terms of compensation. Hugh Dalton, chancellor of the exchequer, answered that the railways, at any rate, "with well-worn tracks, dilapidated rolling stock and dingy stations . . . are a poor bag of assets." If not nationalized they would be exposed to the full blast of road transport competition as soon as they were released from wartime requisition and would become bankrupt

G R Strauss, parliamentary secretary to the ministry of transport, said there were only four courses other than nationalization: no legislation; more competition, a permanent subsidy, or some form of co-ordination of road and rail without nationalization. Every commission that had studied the question of integration had endorsed nationalization and it was the only satisfactory solution.

Sir David Maxwell Fyfe, for the opposition, said the bill was "the greatest disservice the government have done to the nation's trade and industry" It would create a "cumbrous top-heavy monopoly"

The bill became law on Aug 6, 1947 Its main provisions, after setting up the British Transport commission, were:

(1) All railway and canal undertakings to be taken over
(2) Power to acquire all passenger transport fleets and all long-distance road haulage, except certain special carriers, *e g*, bulk liquids, livestock and ordinary furniture removing
(3) Limitation of private hauliers to a 25-mi radius from base
(4) The duty of the commission to prepare area schemes for co-ordination of road and rail passenger transport and charges
(5) The setting up of five functional executives under the commission railway, road transport, dock and inland waterway, London transport, hotels
(6) A central Transport Consultative committee to be set up to represent users' interests
(7) The formation of a Transport tribunal to replace the Railway Rates tribunal

The four main line railway companies ceased to exist from Jan. 1, 1948. Compensatory stock of over £1,000 million face value was issued and the Railway executive assumed control, with the railways continuing to be operated in units corresponding to the former companies.

The Road Transport executive was divided in 1949 into the Road Haulage executive and the Road Passenger executive. By the end of 1951, 3,766 road haulage undertakings had been acquired, 3,289 of them under compulsion. Abnormal administration from acquisitions was receding and an "ideal fleet" for British Road services had been planned. The road haulage executive had 80,212 employees and 41,265 motor vehicles. Most of these vehicles were operating in units corresponding to the companies with which they came over, but substantial progress had been made in building an integrated chain of trunk services. Much short-distance and specialized work had come over with the companies and on these British Road services competed with private firms.

Buses taken over continued to be operated on the old company basis, with the Road Passenger executive owning the companies. Slow progress was made in initiating area charges schemes and by 1952 it was only in the London Transport area that charges had been integrated. During 1948-51, the railways obtained authority to close 1,200 route mi of uneconomic lines; 31 stations were to close entirely, 148 to passengers and 55 to freight.

The Transport Bill, 1952. The Conservative government's Transport bill of 1952 appeared to go further than their election pledge that "Private road hauliers will be given an opportunity of coming back into the business, and the crippling restriction of the 25-mile limit of operation on private lorries will be modified." The bill's main provisions were: to withdraw power of compulsory acquisition of vehicles, to require the British Transport commission to dispose of road haulage assets as quickly as reasonably possible and to remove the 25-mi. limit on private hauliers from the end of 1954, to impose a levy on road haulage vehicles until sufficient funds had been obtained to compensate the commission for losses on denationalization and compensation to staff, to withdraw power to acquire passenger transport fleets and permit retention of controlling interests in companies only with the approval of the minister of transport; to end the power to make area charges schemes, except in the London Transport area; and to permit reorganization of British railways under area authorities in whom would vest day-to-day management. The railways would also be freed from many old statutory restriction on their power to vary their rates Their charges schemes would provide only maximum rates and, subject to an individual's right of complaint to the Transport tribunal, could be varied below this level

Traders represented in the Association of British Chambers of Commerce opposed the railway charges proposals, the dissolution of the trunk services built up by British Road services and the levy which was to follow denationalization as they feared it would in the end be paid by the user. They argued that, while they had considered nationalization ill-conceived, precipitate denationalization was not likely to put the matter right Trade union employees of the Road Haulage executive also opposed the bill and there were unofficial proposals, not countenanced by the union executives, for protest strikes if it were passed. The Trades Union congress asked the minister of transport for opportunities for discussion.

In the debate on the second reading on Nov 17-18, Alfred Barnes, minister of transport in the former Labour government, said the enforced sale of British Road services would mean an unnecessary loss of at least £20 million. It was also, he said, dangerous to open up the railways to competition.

L. J. Callaghan, Labour member for southeast Cardiff, claimed that in the event of its returning to power Labour would take over such units as were necessary for an integrated long-distance road transport system and there would be no compensation for loss of business. The second reading was passed by 308 votes to 282. (*See* also AVIATION, CIVIL, ELECTRIC TRANSPORT; MOTOR TRANSPORT, NATIONALIZATION; RAILWAYS.) (R. JA.)

TRIESTE, THE FREE TERRITORY OF. 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. (mid-1951 est.): 378,000. Military governors under provisional régime: Zone A, British-U.S. (area, 96 sq.mi.; pop., 318,000), Major-General Sir John Winterton; Zone B, Yugoslav (area, 197 sq.mi.; pop., *c.* 60,000), Colonel M. Stamatović. Mayor of the city of Trieste, Gianni Bartoli.

History. The history of the free territory during 1952 was particularly stormy. Towards the end of February Marshal Tito approached the question from a new angle, proposing a Yugoslav-Italian condominium by which there should be alternate Yugoslav and Italian governors of the whole



A fire brigade truck trying to quieten rioters in Trieste in March 1952. The rioting began on the occasion of the fourth anniversary, March 20, of the Allied joint declaration favouring the return of Trieste to Italy.

territory, each holding office for three years; a Yugoslav governor would have an Italian, and an Italian governor a Yugoslav deputy.

Italy rejected this proposal out of hand. It was used by Fascist and Communist extremists in Trieste to whip up still further the feeling in Zone A against the virtual annexation of Zone B by the Yugoslavs, and the feeling against the British who were quite unjustifiably held responsible. On March 20 large-scale demonstrations were organized in favour of the implementation of the three-power declaration made exactly four years before, which had advocated the return of both zones to Italy. When the crowds got out of hand the British-commanded police found themselves obliged to hose and to charge them. The resulting indignation stimulated the disorders which developed into four days of serious rioting with a 12 hours' general strike on March 22; well-organized Fascist sallies occurred, British centres were attacked and British soldiers stoned.

The demonstrations in Trieste towards the end of March were primarily intended to press for the return of the whole of the free territory to Italy and to arouse sympathy for the Italians subjected to the Yugoslavs in Zone B. The result, however, of the whole affair was that U.S.-British-Italian talks on modifications only in Zone A were opened in London on April 3. In a speech to both chambers in Belgrade on March 31 Marshal Tito protested against a discussion of the Trieste question without the participation of Yugoslavia, and on April 14 there was a monster demonstration—in this case almost certainly spontaneous—in Belgrade against the London talks which were branded as surrender to Italian blackmail.

On May 9, nevertheless, a U.S.-British-Italian memorandum was signed which provided for the handing over of a number of administrative functions in Zone A to Italians. The reorganization thereby necessitated was completed by the end of August and came into operation on Sept. 1. Under the British military governor, three senior officials, one U.S., one British and, for the first time, one Italian, were appointed to direct the administration of Zone A; the Italian, who actually arrived in Trieste on July 16, was the former prefect of Genoa, Gian-Augusto Vitelli. To serve under the latter 17 Italian officials were nominated of whom a number were Triestine. In reply the Yugoslav military governor, not unexpectedly, introduced further Yugoslav legislation on matrimony and divorce, local administration, commerce and banking into Zone B in September.

Meanwhile elections, postponed from 1951, had been held in Zone A on May 25 with the unexpected result that the anti-Italian Independence front increased its strength, as compared with the last elections in 1949, by even more than the Triestine Fascists who had made themselves so conspicuous in March and again in the election campaign. It was also noteworthy that the Stalinist Communists lost while the Titoist Communists gained. While 94% of the electorate voted, the percentage voting for reincorporation in Italy fell from 63% in 1949 to 62%. The proportion of Christian Democrat voters diminished from 39% to 32·5%; the administration, however, remained in mainly Christian Democrat hands. In spite of the results of the elections Italians and pro-Italian Triestines increasingly demanded a plebiscite in both zones on " Back to Italy ", a demand which Alcide De Gasperi reiterated at the Council of Europe meeting at Strasbourg in September. This was rejected in a speech by Marshal Tito at Toplice on Sept. 15 in which he again proposed a Yugoslav-Italian condominium. He also advocated that, in view of the incompatibility of the Italian and Yugoslav points of view, the Trieste question should be left in abeyance for some time.

On Sept. 17 Anthony Eden arrived in Belgrade for an official six-day visit during which, it was clear, the Yugoslavs re-stated their case in the matter of Trieste. On Oct. 30 Italy proposed that the International Court of Justice should ajudicate on Yugoslavia's administration of Zone B; this was refused the next day by the Belgrade government, who claimed that Allied action in Zone A was to blame.

Elections were held in Zone B on Dec. 7. It was subsequently announced that 97% of the electorate had voted for the official People's front to which all candidates belonged.

(E. WI.)

Finance. Budget (million lire, 1952-53 est.): revenue 31,581, expenditure 44,236. Monetary unit: *lira* with an exchange rate of L. 1,750 to the pound and L. 625 to the U.S. dollar.

Foreign Trade. (Excluding Italy; million lire, 1951; 1952, six months,

in brackets) Imports 29,776 (20,431); exports 9,116 (6,504). Main sources of imports (1951) Yugoslavia and Yugoslav zone 7 2%; Germany 5 7%, Austria 3 3%, U S 27% Main destination of exports U S 32 8%, Yugoslavia and Yugoslav zone 39 1%, Austria 6 7%, U K 2 7%

TRINIDAD AND TOBAGO. British colony, two islands off South America north of the Orinoco delta. Area: 1,980 sq.mi. Pop : (1946 census) 557,970 (27,161 in Tobago), (1951 est) 643,000 (31,000 in Tobago). Language: English, Hindi, French, Spanish Religion Christian 70%, Hindu 23%, Moslem 6%. Chief towns (pop. 1950): Port of Spain (cap., 105,700), San Fernando (32,870). Administration. governor; executive council, 3 *ex-officio* members, 5 elected by legislative council, 1 nominated, legislative council, speaker, 3 *ex-officio* members, 5 nominated, 18 elected Governor, Major-General Sir Hubert Rance

History. Extremes of wet and dry weather caused the 1952 sugar crop to fall some 25,000 tons below the estimated 165,000 tons. The year's cocoa crop, at an estimated 12 million lb., was 8 million lb. down on the previous year. The United Kingdom government made a Development and Welfare grant of 500,000 British Caribbean dollars towards the cost of a land settlement scheme. A Department of Co-operative Development was established. In May, four of the bases leased to the U.S A. were provisionally handed back to the colony, 22,000 ac. thereby becoming available for cultivation New installations at the oilfield at Point-a-Pierre, completed in August at a cost of $24 million, included the colony's first catalytic cracking plant A large cotton mill and a knitwear factory were opened during the year. In Tobago, the opening of a dam of 230 million tons capacity added 850,000 gal to the available water supply, and electric light and power were available for the first time in the town of Scarborough.

Legislation was passed to vest executive powers of local government in the colony's county councils.

The cost of living continued to rise, and a permanent committee was set up to study the question. A new index of retail prices was substituted for the former cost of living index. Prices calculated at 100 in January, had risen to 106 6 in August.

A colony-wide attack on tuberculosis by means of B.C G. vaccination was undertaken with the help of U.N. International Children's Emergency fund. During the two-year campaign 400,000 persons were to be examined and about 250,000 vaccinated.

Education (1951) Pupils enrolled elementary 120,847, secondary 5,882. Government expenditure, $5,344,000 Imperial College of Tropical Agriculture (1952) students 80, senior teaching and research staff 62

Finance and Trade. Monetary unit British Caribbean dollar; $4·80=£1 Budget (1952 est) revenue $56,115,500, expenditure $60,384,500 Foreign trade (1951) imports $218,639,400, exports incl re-exports $214,746,700 Production (1951) petroleum 20,843,000 bbl ; asphalt 154,705 tons, rum 2,277,000 proof gal , cocoa (delivery for export) 7,705 tons Sugar crop (1952) 140,724 tons

(P. H.-M.)

TRIPOLITANIA: *see* LIBYA

TRISTAN DA CUNHA: *see* SAINT HELENA.

TROPICAL DISEASES. A new fever made its appearance in Korea where it attracted considerable attention. It became officially known as "epidemic haemorrhagic fever", though it also possessed a category of local names. It had been known to the Japanese army during their occupation of Manchuria in 1939, but its importance was not recognized earlier because all previous reports were written in the Japanese language.

It is an acute infectious disease, characterized by an abrupt onset with high fever, headache, muscular pains, a tendency to petechial haemorrhages and a leucocytosis. According to Japanese investigators the specific cause was found to be a filterable virus and they claim to have reproduced an identically similar disease by the injection of ground-up, saline-suspended mites (*Laelaps jettmari*) recovered from the suspected host reservoirs—*Apodemus agrarius*, the field mouse, and *Microtus michnoi*, the eastern vole. They also transmitted the disease to monkeys, whilst Russian workers claimed by these means to have infected some 46 volunteers

The infection is attributed by the Japanese investigators to the bite of the mite which does not produce an eschar The peak incidence of this fever coincides with the greatest productive period of this mite in the months May to June and October to November. The fever, therefore, was specially prevalent in areas adjacent to river beds and swamps with high grass where *Apodemus* abounded and troops were commonly infected when sleeping in bivouac. The main pathological feature was vascular congestion, tendency to haemorrhage with diffuse disturbance of the peripheral circulation.

The incubation period varied between 3 and 30 days and the onset was sudden with chills, fevers, nausea and vomiting The temperature rose rapidly to 104-105°F. on the third day, when a petechial rash appeared, after which it defervesced The rash was usually mobilliform involving the neck, axillary folds, arms and thorax. In serious cases there was tachycardia and the blood pressure fell as the temperature declined. In severe cases too haemoptysis was common, whilst haematemesis, haematuria and melaena might also ensue Renal involvement usually ended in anuria Albuminuria commenced on the third day and oliguria during defervescence might also lead to anuria. There might be early leucopenia, followed by a true leukaemoid leucocytosis sometimes reaching 80,000 per cu.mm.

The prognosis was poor if there was brachycardia and hypotension on the third day and persistent hiccough was a bad sign. The case mortality was about 13%. No specific treatment was known. Demerol was found to be the most useful drug in 50-100 mgm doses, intramuscularly. It reduced restlessness, pain and vomiting.

Intravenous medication or infusions appeared to be of no value; in fact they often seemed to increase the oedema and aggravate the symptoms and pulmonary congestion might ensue Watchful waiting had so far been the measure resulting in lowest mortality. (U.S. Navy Medical News Letter *18*, 8 : 2-6 [1951], *20*, 1 : 17 [1952], *ibid.*, 2 : 22-23, N. M. Kater, *Med. J. Austr. 2*, 24 : 824 [1952].)

Treatment of Amoebiasis by Antibiotics. Terramycin There appeared to be no question that terramycin had beneficial immediate effects on amoebiasis. H. Most and F. Van Assendelft treated 54 patients with proven intestinal amoebiasis The dosages were one gram for children, or two grams for adults daily for five to ten days. Of the 37 treated with two grams daily for this period all, with one exception, remained free from parasitic relapses for 150 days. It was concluded that the optimum dosage was two grams daily for ten days and that terramycin was highly active for *Entamoeba histolytica* both in culture and in man. (H. Most and F. Van Assendelft, *Amer. J. Trop. Med., 31*, 3 : 284-285, New York, 1951.)

In France R. Crosnier and his colleagues treated 17 patients with acute amoebic dysentery contracted in Indochina. The dosage was three grams daily for five days and then two grams daily for a similar period. The clinical response was said to be spectacular and all the amoebae vanished from the stools early in the treatment. Two patients who had relapsed after aureomycin therapy were subsequently cured by

terramycin. (R. Crosnier, A. Darbon, P. Ducourneau, J. Bouilloc, M. Martin, J. Ricossé, *Bull. et Mem. Soc. Med. Hop. de Paris, 21/22* : 875-878, 1951.)

Fumagillin was a new antibiotic isolated from *Aspergillus fumigatus*. A. K. Hrenoff and M. Nakamura confirmed the work of McCowen and others on its activity on cultures of *E. histolytica* in dilutions as high as 1 : 10 to 1 : 15 million Tests were carried out on monkeys naturally infected with *E. histolytica*. In them it was shown that fumagillin also possessed considerable *in vivo* activity as the infection was eradicated in more than half the number of infected animals. (A. K Hrenoff and M. Nakamura, *Proc. Soc. Exp. Biol. and Med*, *77*, 1 : 162-164, 1952)

The effect of terramycin on yaws lesions was evaluated by F H Loughlin and A. A. Joseph at the experimental yaws centre in Haiti. There were 150 patients, of whom only 1 was in the primary, 87 in the secondary and 45 in the tertiary stage Many had enlarged glands and were Wassermann positive. The optimum dosage of terramycin was two grams on five successive days. The drug was given orally, but to secondarily infected primary lesions and extensive tertiary lesions terramycin was applied locally after the completion of oral therapy. In over 80% spirochaetes could not be demonstrated 48 hours after treatment had commenced Primary lesions, uncomplicated by bacterial infections, were dry in two to three days and had healed in four.

Wet secondary plantar lesions were usually healed in 11 days. The relief of pain in five days was a satisfactory feature. (E. H Loughlin and A A Joseph, *Antibiotics and Chemotherapy*, *1*, 1 . 76-87, New York, 1951)

Tapeworms A new treatment for tapeworms was introduced by W. A Sodeman and R. C. Jung with quinacrine hydrochloride (atebrine). It had the advantages of simplicity and efficacy. Milk diet on the day before treatment and a purge of castor oil or magnesium sulphate appeared to be essential as a preliminary.

On the morning of treatment a saline enema was given and one hour later 0 6 to 0 8 gm of quinacrine hydrochloride was administered, according to age and size Two tablets of 0 1 gm each were given every five minutes with a little water until the whole dose was consumed. Two to four hours later the purge was repeated and food withheld until the bowels were opened. In ten cases the treatment was effective at the first trial and the whole worm was passed including the head. In the eleventh it had to be repeated. (W A. Sodeman and R. C Jung, *J Amer Med Ass., 148*, 4 : 285-286, New York, 1952.)

Bartonellosis. Until 1952 no drug had been found effective against *Bartonella bacilliformis*. Now E. H. Payne and O. Urteaga published details of six patients suffering from oroya fever treated with chloromycetin. Not only did this dire fever subside within 24 hours, but the organism in the blood assumed the coccoid form, the appearance of which is held to mark the termination of the anaemic phase. (E. H. Payne and O. Urteaga, *Antibiotics and Chemotherapy*, *1*, 1 : 92-99, New York, 1951) (P. H. M -B)

TRUCIAL SHEIKHDOMS: *see* ARABIA.

TRUJILLO Y MOLINA, HÉCTOR BIENVENIDO, an officer in the army of the Dominican Republic (b San Cristobal, Dom. Rep., April 6, 1908). After attending the university of Santo Domingo, he entered upon an army career as a second lieutenant in 1930 and in 1944 became a general. In 1931 he served as military attaché in Spain, France, Belgium, Italy and Switzerland. He was army chief of staff (1936), supervisor-general of national police (1938-43) and secretary of war and navy (1942). He was inaugurated as president of the Dominican Republic on Aug. 16, 1952, for a five-year term, succeeding his brother, Rafael Leónidas' who had served as president since 1930 except for the years 1938-41.

TRUMAN, HARRY S., U S. statesman (b. Lamar, Missouri, May 8, 1884). He was elected to the U.S. Senate in 1934 and re-elected in 1940. Elected vice-president of the United States in 1944, he became president on the death of Franklin D Roosevelt on April 12, 1945 He was elected president on Nov. 2, 1948. (For his early career see *Encyclopædia Britannica*)

Truman surprised Democratic party leaders on March 29 1952, when he said at a Jackson-Jefferson dinner at Washington that he would not seek re-election. At the Chicago convention in July he gave his support to Adlai E. Stevenson of Illinois and, after the latter received the nomination, campaigned vigorously for him, travelling about 18,000 mi and making more than 200 speeches.

Foreign affairs continued to be a major problem for the president in 1952 In his state-of-the-union message to congress, Truman declared that a world war still threatened, and about $50,000 million of his $85,000 million budget was allocated to national defence. In his October campaign speeches, however, he said that the balance was swinging in favour of the "free world" and that the probability of actual conflict had become more remote. Truman's Fair Deal legislative programme suffered its usual fate in the U S congress, none of his major proposals being enacted. Amid sharp controversy, congress overrode his veto of the McCarran-Walter act, which tightened immigration laws and continued the existing basis of national origin quotas The administration's alleged softness toward Communists and fellow-travellers was cited as evidence of need for this legislation and for stricter security tests. Congressional exposure of corruption and political favouritism in several executive departments, notably the Department of Justice, Internal Revenue Bureau and the Reconstruction Finance corporation compelled Truman to reshuffle his cabinet Labour troubles beset the White House when, in March, the Wage Stabilization board recommended a wage increase and union shop for striking C I O. steel workers Charles E Wilson, director of the Office of Defence Mobilization, criticized the recommendation as an inflationary threat and when Truman upheld the board, he resigned. He was succeeded by Henry H. Fowler, former head of the National Production authority. As the strike continued, Truman ordered federal seizure of the steel plants under what he called the "inherent powers" of the presidency. In a sharp judicial rebuke, David Pine, judge of the U S district court in Washington, held this to be unconstitutional, and he was upheld by the U S Supreme Court in a 6 to 3 decision.

Truman's plans for his future career were indefinite, but he declared that he would always take an active interest in politics.

TRUST TERRITORIES. Former German colonies and islands which became mandates after World War I and trust territories after World War II; South-West Africa, which remained mandated; and the former Italian Somaliland which became a trust territory with Italy administering on April 1, 1950. Total area: 1,251,906 sq.mi.; total population *c.* 19,236,200. Certain essential information is given in the table.

History. In 1952 the Trusteeship council had to hold three separate sessions, in order to carry out its duty of supervising by means of comprehensive and continuous study the political educational and social development of 11 trust territories, presenting extraordinary differences in stages of civilization,

TRUST AND MANDATED TERRITORIES

	Area (sq mi)	Population	Administering Authority
South-West Africa*	317,725	(1951 census) 430,354	S Africa
Togoland (Br Adm)	13,041	(1948 census) 382,768	U K
Togoland (Fr Adm)	22,463	(1948 est) 958,000	France
Cameroons (Br)	34,080	(1951 est) 1,000,000	U.K
Cameroun (Fr)	170,231	(1950 est) 3,006,000	France
Tanganyika	362,688	(1948 census) 7,412,327	U K
Ruanda-Urundi	20,540	(1951 est) 3,905,000	Belgium
New Guinea (Northeast New Guinea, Bismarck archipelago, certain of Solomon Is)	93,000	(1947 est) 900,000	Australia
Western Samoa	1,133	(1951 est) 82,493	N Zealand
Nauru	8	(1948 est) 3,162	Australia
Pacific Is (Marshall, Marianas and Caroline)†	687	(1952 est) 57,205	United States
Somaliland	216,310	(1951 est) 1,100,000	Italy

* Mandate † Former Japanese mandates

climate and economic resources. The recent reports of visiting missions, the annual reports of the administrations, the actual presence of experts from all the trust territories to answer questions and give full information and the growing number of petitions all combined to make the Trusteeship council a body possessing immense experience, and able to speak with unique authority on the whole range of questions involving the future of these vast and in many cases backward areas.

The council was able to take long views, commending the progress made by the administrations in many directions and, without losing sight of the inherent difficulties in the way, to urge acceleration of policy where in its judgment this was necessary.

A particularly urgent case seemed to be Somaliland. Here conditions were unusual. Italy, the administrative power, was not yet a member of the United Nations and was being assisted by a U.N. Advisory council; within a fixed period of eight years the country was to achieve independence. Obviously the whole trusteeship system would be affected by the success or otherwise of this first case of a trust coming to an end. So very careful consideration was given to the annual and visiting missions' reports and a large number of recommendations were made emphasizing the key urgency for taking further steps towards the integration of the Somalis, of whom a majority were still nomadic, into the territory's social and economic life.

The wide range of far-reaching problems with which the Trusteeship council was faced and their bearing on the trusteeship system as a whole could be appreciated from the following examples. In the Pacific islands the task was to plan for the economic future of an area where resources were dwindling. The same planning for the future was necessary in the case of the smallest trust territory, Nauru, whose phosphates, the sole source of wealth, would be exhausted in 70 years. In Western Samoa real progress had been made towards self-government and the problem was becoming one of more education both at home and abroad. In New Guinea, the most backward of trust territories, the urgent need was to bring the whole area under administrative control. In Tanganyika, where a smallish population was spread over a vast area and where conditions of soil and climate showed extraordinary extremes, it was an immense task to promote the territorial consciousness necessary for the attainment of real independence. A remarkable point in the administration's annual report was the adoption of measures aiming at the improvement of conditions all round for women and the removal of the load of taboos. In Ruanda-Urundi, where the year's record of the administration (Belgian) won special commendation from the Trusteeship council, the duality of the territory and the survival of some of the old hostility between the two parts still remained problems to be solved.

Two larger questions, already considered at earlier sessions of the Trusteeship council, came up for review. They involved the pooling of certain administrative services in Ruanda-Urundi and those in Belgian Congo, and of similar services in Tanganyika and those in Kenya and Uganda. The council approved the benefits derived from this interstate co-operation which in its view involved no political fusion whatever. In two instances the council signalled out for commendation the raising of funds by the administration of a territory for special purposes: these were the Native Welfare fund for economic and social development in Ruanda-Urundi and the Trust fund for meeting the changes in the economic situation of Nauru in the near future: both provided new examples of the way in which the trusteeship system could be used to realize the objectives of the U.N. charter.

The Trusteeship council also took occasion to tighten up its own machinery, on the basis of recent experience. In one case more effective methods for dealing with petitions were worked out. A special committee was set up to examine petitions both before and during the council's sessions, in two stages, a preliminary stage dealing with the facts and further information if required, a second for more final examination and recommendation of action by the Trusteeship council as a whole. In another a special committee was set up to improve the functioning of the periodic visiting missions, one of the most important innovations of the trusteeship system. Stress was laid on the need of full preparation beforehand, and a body of principles and broad guiding rules, the result of experience, were prepared for future guidance. (M. FE.)

TUBERCULOSIS. Under its more common name of T.B. or consumption this disease occupies a high place among the preventible illnesses and medico-social problems of almost every country in the world. It is spread by an organism, the *mycobacterium tuberculosis*, conveyed by contact, spit, dust and by the milk of tuberculous cows. The year 1952 saw greater progress in prevention and treatment than perhaps any year since the end of World War II. In Great Britain in June 1952, the Ministry of Health announced that 15,969 people had died of the disease during the previous 12 months.

Most countries of northern Europe, the United States and Canada, have a falling tuberculosis death rate. In Scandinavia and some western provinces of North America, the disease has been almost eliminated. On the other hand, it is still serious in large cities; *e.g.*, Glasgow, Paris and the old industrial centres.

In the tropics and sub-tropics, contrary to public belief, tuberculosis is probably more serious than malaria, sleeping sickness or leprosy and two-thirds of the world tuberculosis problem lies east of Suez. In the African territories, where mining, industry and rapid communications are bringing people more into an urban form of life, tuberculosis must be reckoned as a menace of the future. In such cities as Johannesburg it is complicated by quartz-rock silicosis, a disease of the lungs connected with, or favouring, the onset of tuberculosis. When native races unprepared by previous contact come into cities for the first time, as for instance in west Africa, they readily fall victims, especially when housing conditions are bad, work unaccustomed and nutrition poor. A speaker at the Commonwealth Health and Tuberculosis conference in 1952 said India alone had 500,000 deaths a year from tuberculosis. No one has ever been able to count the deaths from this cause in China.

Preventive measures lie chiefly in the sphere of social hygiene, good housing, adequate nutrition and "social justice"—since anxiety plays a part in devitalizing the physique. Countries like Scandinavia and North America,

where the standard of living is high, have least tuberculosis.

Among the specific medical measures is vaccination with BCG (*Bacillus Calmette-Guérin*). This gives a form of protection which lasts several years and in Britain is used mainly for children, adolescents, nurses and others specially exposed, though in some countries universal BCG vaccination is attempted. BCG vaccination is simple and safe, but it has to be preceded by a tuberculin test, which proves whether the subject has already been infected. In the case of positive reactors to this test, BCG is unnecessary and even harmful. Through the United Nations International Children's Emergency fund and the World Health organization vaccination with BCG has been introduced to India, Indonesia and other countries of the far east.

Mass radiography was introduced to Europe about 1939. It is a method of rapid X-ray examination of the chest and heart, the X-ray image being recorded on small areas of celluloid film. When this is examined in a dark room, a first view of the subject's chest is obtained and this, if necessary, can be followed by more detailed examination In Great Britain, 57 travelling X-ray units were operating in 1952 and about 4 tuberculous patients were found in every 1,000 examined. In Brazil, where mass radiography was invented by Manoel de Abreu, free X-ray examinations were offered on public railway stations. In Great Britain during 1952, the Medical Research council published a report on the National Tuberculin survey (1949-50) and in Oct. 1952 the Pneumoconiosis Research unit of the Medical Research council published an interim report, " Pulmonary Tuberculosis in the Rhondda Fach ", demonstrating that it was possible to X-ray 90% of the adult population of a community This was the most accurate measurement yet achieved.

DEATHS FROM TUBERCULOSIS (ALL FORMS, QUARTERLY)

	1951				1952		
	1st	*2nd*	*3rd*	*4th*	*1st*	*2nd*	*3rd*
Greater London	894	565	457	592	610	430	315
Birmingham	159	99	85	98	101	71	62
Liverpool	164	117	94	105	127	76	46
Manchester	111	71	66	67	71	63	47
Amsterdam	39	23	29	37	26	30	
Bombay	664	609	630	687	646	763	
Calcutta	780	719	846	897	844	893	
Copenhagen	41	34	45	55	47	36	18
Hamburg	159	146	133	146	157	123	65
Montreal	101	102	83	91			
New York	594	542	494	520	498	412	346
Rome	317	301	301	305	290	166	115
Stockholm	61	—	57	40	52	42	43
Toronto	31	34	20	31	11		
Zurich	21	20	27	14	22	15	

SOURCE *General Register Office, The Registrar General's Quarterly Return* (H M S O, London).

Treatment. *Streptomycin*, a drug obtained from the growth of a mould, was introduced in 1945 by Selman A. Waksman (*q.v.*). For this achievement he received the Nobel prize for medicine in 1952. Streptomycin has a remarkable effect in some tuberculous conditions, especially in tuberculous meningitis. Streptomycin is now frequently given in conjunction with para-amino-salycilic acid (PAS), a compound introduced by J. Lehmann of Sweden. In the spring of 1952 the medical world was electrified to hear of new research in New York on isonicotinic acid hydrazine (generally called INAH). This drug, chemically speaking, is a simple compound and easy to manufacture. It appeared at first to have a remarkable effect on pulmonary tuberculosis. It stimulated the patient's appetite to a remarkable degree. In the autumn of 1952 the Medical Research council in Great Britain published an interim report suggesting that INAH is even more useful when combined with other drugs, *e.g.*, streptomycin, than when used alone. The use of these three drugs depends on correct clinical judgment. It seemed likely by the end of 1952 that other compounds, either antibiotics (produced from moulds) or chemicals, would be used and that the future might see even more remarkable triumphs in the treatment of the disease.

Modern chest surgery has made great advances in this field. Artificial pneumothorax has been used for more than 30 years. It is a method of injecting air into the cavity between the lung and the outside chest wall, with the result that the lung is " collapsed " or deflated Air can be introduced into the abdominal cavity with the same object By major surgical operations such a collapse can be made permanent and in suitable cases a portion of a diseased lung, or even a whole lung, can be removed, with benefit to the patient.

Rehabilitation, training and after care, has been carried farther in Great Britain than in any other country, although much attention is bestowed on this activity in the United States. Through social welfare the patient's immediate socio-economic worries are removed and by sheltered workshops, or village settlements, the manual worker can follow a healthy occupation, while at the same time his income is safeguarded

Apart from the discovery of new drugs and the development of welfare services, the control of tuberculosis really lies in public health and hygiene

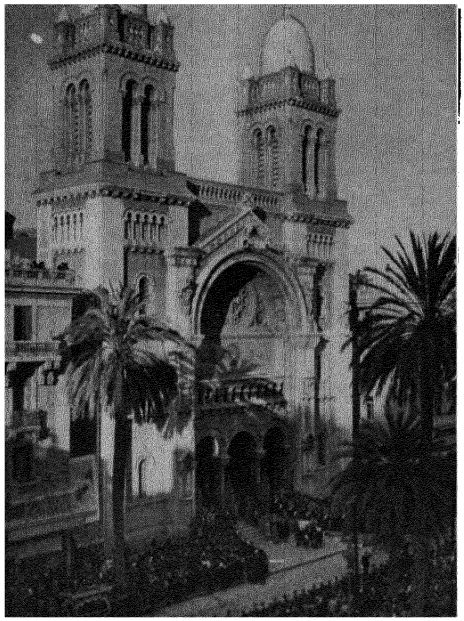
It is an interesting fact that although the mycobacterium tuberculosis has been the enemy of mankind since the pyramids of Egypt were built, its virulence today, and its power of causing illness, is undiminished, its most remarkable power being to spread among " virgin " populations unprotected by previous contact. (H. W.)

TUNISIA. French protectorate in north Africa, between Algeria (W.) and Tripolitania (E.). Area, *c.* 48,300 sq mi Pop. (1946 census). 3,230,952, largely (87 6%) Moslem and Arabic speaking (Arabs and Berbers) but incl. 239,249 Europeans (143,977 French citizens [many Italian-born] and 84,935 Italians) and 71,543 Jews. Chief towns (1946 census). Tunis (cap., 364,593, incl. 119,222 Europeans); Sfax (54,637), Bizerta (39,327); Sousse (36,566). Ruler, Bey Mohammed el-Amin. Prime ministers in 1952: Mohammed Shenik and (from March 28) Salah ed-Din ben Mohammed Bakkush French resident-general, Jean-Marie-François de Hauteclocque.

History. The agitation that had begun in Dec 1951 continued in Jan. 1952. The Shenik ministry made a complaint against France to the United Nations. On Jan. 13 Louis Périllier was succeeded by Jean de Hauteclocque as resident-general. The leader of the Neo-Destour party, Habib Bourguiba, was put under surveillance. Rioting broke out, in the course of which several Frenchmen (including Col. L. Durand, the district commander at Sousse) were killed. Counter-measures were taken in February, with particular severity in the Cape Bon region.

In March the bey agreed to dismiss the Shenik ministry, which was succeeded by Salah ed-Din Bakkush's government. Tranquillity was restored in April. The Tunisian complaint was ruled out of order by the Security council. The French government proposed reforms as follows: Tunisian sovereignty to be recognized, with a gradual advance towards internal self-government; Tunisian assistant-directorships to be set up beside the French directorships, public offices to be reserved in principle for Tunisians, the legislative power to lie with the bey, assisted by two councils (one, legislative, entirely Tunisian, the other, financial, half Tunisian and half French), elections to be held for municipal councils and caidate assemblies.

This plan met with sharp criticism in the National Assembly: the right wing thought it went too far, the left not far enough. The bey refused to approve the reforms and convened 40 notables to examine them. In August he rejected them. Tentative discussions went on while the Arab



Crowds in Tunis on Jan. 29, watching the funeral of three French policemen who had been killed in riots led by the Neo-Destour party.

states and certain Asiatic governments lodged a fresh complaint with the United Nations. The French population of Tunisia objected to the idea of their being excluded from public affairs on the grounds that they paid more than half the taxes and that the country depended on France for financial investments and as a market for its primary products (oil, wine and phosphates). The Destour party on the other hand was against any idea of joint sovereignty. When the dispute was brought up before the general assembly of the United Nations, France denied that body's right to interfere. (*See* FRENCH UNION.)

On Sept. 9 the bey addressed a letter to President Vincent Auriol summarizing the course of Franco-Tunisian relations since World War II in support of his contention that France had repeatedly broken its promise to restore self-government to Tunisia. President Auriol replied deploring the fact that his repeated appeals to the bey's wisdom had been met only by intransigence. On Nov. 29, the French resident-general called upon the bey to indicate by "a plain answer" his willingness to settle the outstanding problems.

The situation deteriorated gravely as a result of the murder during the night of Dec. 4-5 of Ferhat Hashed, secretary-general of the General Union of Tunisian Workers and one of the most influential figures of the Nationalist movement. Vigorous measures were adopted by the French authorities to meet the intensified Nationalist agitation that was expected to follow the murder - the circumstances of which remained unknown.

On Dec. 20 the bey finally agreed to sign two reform decrees: one establishing elected municipal councils with a two-college system; the other organizing elected provincial councils (*conseils de caïdat*).

During the year terrorist activities continued throughout the country. From January to the end of November there were 1,661 incidents, in which 116 people, including 20 members of the French police, had been killed and 619 wounded; and damage estimated at Fr. 10,000 million had been caused by bomb explosions and acts of sabotage.

The rehabilitation of the wine-growing industry made progress. The budget, however, showed a deficit of more than Fr. 3,000 million, which was covered by the French treasury. An extraordinary development budget of Fr. 14,000 million was to be covered partly by a loan and partly by the French treasury.

Education. Pupils 200,000 (incl. 38,000 French). *Lycées* and *collèges* 15. Institute of Higher Studies at Tunis.

Industry. Mineral production (1951, '000 metric tons): phosphate rock, 1,740; iron ore 915; lead ore 35.

Finance and Banking. Note circulation Fr. 21,000 million. Monetary unit: Tunisian franc = metropolitan franc.

Foreign Trade (1951, million francs). Imports 59,495 (incl. 45,063 from France); exports 35,212 (incl. 15,907 to France), mainly phosphates (5,745), alfa grass (5,278), olive oil (3,674), cereals (2,900), iron ore (1,929), wine (1,540).

Transport and Communications (1951). Railways 2,174 km.; roads 14,000 km.; motor vehicles *c.* 22,000. Ships entered (all ports): 2,900. Aircraft landed: *c.* 5,000. (HU. DE.)

TUNNELS. During 1952 the use of light rock drills with tungsten carbide bits, held up to the rock face by means of pneumatic "jacklegs", became general for rock tunnelling. It was found that faster drilling speeds could be obtained with the hard metal-tipped bits and that savings were being effected in drill-sharpening and in the numbers of steel changes. It was possible to drill up to eight or even ten feet without changing drill steels where formerly with heavy drifters and large steels it had been necessary to change the drill steels every two feet in order to maintain the gauge of the drill holes. For the support of rock tunnels and particularly in grounds which are likely to exert pressure such as shales, thin bedded sandstones and flagstones, the use of curved channel or joist-section steel ribs became standard practice. Very high concrete-lining speeds, up to 200 ft. per day, were achieved by the use of long travelling shutters and the continuous pumping of concrete. Compressed air and shields were being increasingly applied to various types of soft-ground tunnelling work, along with cast-iron and bolted reinforced-concrete segments. Chemical ground consolidation was found very successful for dealing with difficult ground conditions in sands and gravels when applied to limited areas and this process was likely to be more widely used where circumstances permitted.

In England, the double railroad tunnel at Woodhead through the Pennines was rapidly approaching completion. The pilot tunnel had been completed, and the main portion of the full opening out of the tunnel was well advanced and the concrete lining up to 2 ft. 6 in. in thickness was being poured at a rapid rate. The 10-mi. Bowland Forest tunnel was in process of being lined with concrete, and driving work on the 12-mi. Haslingden-Walmersley tunnel and the 3-mi. Marl Hill tunnel was approaching completion. A large programme of tunnelling works in connection with post office developments was in progress in central London, mainly in London clay. At Bristol, a 16-ft.-diameter drainage tunnel was being driven under somewhat difficult conditions and two 10-ft. tunnels at Portishead were being advanced under the Bristol channel as intake works for a new power station.

In Scotland, several large tunnels were being driven for new hydro-electric schemes at Loch Quoich, the River Conon and Glen Moriston.

The largest tunnel job in North America was the 5-mi. 45-ft. finished diameter tunnel for the new hydro-electric plant at Niagara falls. Excellent progress was maintained and equipment of the largest sizes was being used in the operation, *e.g.*, 1½ cu.yd. capacity electric shovels and 10 cu.yd. Euclid

waggons to remove the spoil. Extensive tunnelling works were started on the Snowy Mountain hydro-electric scheme in Australia and on the Roxburgh scheme in New Zealand.
(J. C. WN.)

TURKEY. Republic in the southeastern Balkans and Asia Minor, bounded W. by the Aegean sea, N.W. by Greece and Bulgaria, N. by the Black sea, N.E. by the U.S.S.R., E. by Persia and S. by Iraq, Syria and the Mediterranean. Area: 296,184 sq.mi. (incl. 9,256 sq.mi. in Europe). Pop.: (1950 census) 20,934,670, incl. 1,626,229 in European Turkey. Language (1935): Turkish 86 8%, Kurdish 9·3%, Arabic 0 9%, Greek 0·7%, Armenian 0 4%. Religion (1945): Moslem 98%; Christian 1 4%; Jewish 0 4%. Chief towns (1950 census): Ankara (cap , 286,781), Istanbul (1,018,468); Izmir (362,340); Adana (117,799); Bursa (100,007); Eskişehir (88,459). President of the republic, Celâl Bayar; prime minister, Adnan Menderes

History. Home politics were uneventful during 1952 owing to the weakness of the opposition. A law was passed permitting the return of female members of the exiled dynasty, of which advantage was taken by three ex-princesses. An analogous law permitted the return on visit for four months in the year of former Turkish subjects who had accepted foreign nationality Advantage was taken of this by many U S citizens of Greek-Turkish origin.

There was little Communist activity A few individuals were arrested, including 15 members of the so-called Socialist party and a group known as Friends of Peace. The director of religious affairs instructed preachers to explain the dangers of Communism. The first sermon was listened to by 2,000 students

Religious fanatics gave a little trouble. The Nakhshbends, an order of dervishes, were arrested for conducting prohibited practices and a number of members of the Ticani sect received long sentences: they had been breaking statues of Kemal Ataturk, which they called idolatrous. One smashed a typewriter over the head of an official, crying that it was an invention of the devil.

The Moslem Peasants' party was found to be masked Communism and was forbidden A genuine Peasants' party, however, existed.

Foreign Relations. The year saw Turkey admitted as a full member of the North Atlantic Treaty organization, the first result of which was its attendance at the Lisbon conference. This was the most important event in Turkey's history since the 1920 revolution. The result was the formation of the Southeastern Europe command, the headquarters of which were fixed near Izmir (Smyrna). Satisfaction was felt in Turkey at the appointment of Admiral Robert Carney (U S.) as commander-in-chief of the Southeastern Europe command and of Lieut.-General Willard G. Wyman (U.S.) as commander of the Turkish and Greek land forces. Admiral Carney and Major-General David Schlatter, commander of the N.A.T.O. air forces in Southern Europe, attended the Turkish army manoeuvres in September. There was a series of visits of high-ranking U.S. and British officers to Ankara. General Dwight D. Eisenhower came in March, Field Marshal Viscount Montgomery of Alamein came in May and again in September; General Matthew Ridgway included Turkey in his round of visits upon accepting the supreme command of the N.A.T.O. forces.

With the United States relations remained particularly intimate owing to the help, military, financial and economic, that America had given Turkey. Turkish journalists visited the United States, as did also numbers of Turkish technicians for training.

Relations with Great Britain remained as friendly as ever. The visit of Adnan Menderes, the prime minister, and Fuad Koprulu, minister of foreign affairs, to London in October was regarded as an important event It was conjectured that among the matters discussed were the organization of the defence of the middle east and the increase of Anglo-Turkish commerce Hope was expressed in the Turkish press that Winston Churchill and Anthony Eden would pay a return visit to Turkey. The feeling of friendship with Great Britain was made evident by the outburst of sympathy upon the death of King George VI, whose funeral was attended by President Celâl Bayar Turkey was represented by a group of artists at the Edinburgh Festival of Music and Drama.

When a delegation of the First Turkish army made a pilgrimage to the battlefields of the Dardanelles in August, a party of British and French ex-servicemen, including veterans of the Dardanelles campaign, accompanied it as guests of the Turkish army

Another even more remarkable reconciliation of ancient antagonists was the conclusion of friendship between Turkey and Greece In January, Sophocles Venizelos, Greek minister of foreign affairs, visited Ankara to open a discussion on questions of disputed fishing rights, a possible customs union on formation of free zones and the mutual abolition of visas. In April Menderes, Fuad Koprulu and General Şukru Kanatci, chief of staff, returned the visit. This was followed in June by a visit from King Paul of the Hellenes and Queen Frederika, who received an enthusiastic welcome This royal visit was returned by President Bayar who spent five days in Athens and Salonika at the end of November He was made honorary citizen of Athens and was present at the inauguration of the new Bayar Lycée for Hellenic Turks in Macedonia. Twenty-four teachers went to work in Turkish schools in western Thrace On Aug 5 visas between Turkey and Greece were abolished

There were signs of rapprochement with Yugoslavia, in effect a revival of the prewar association. Dr. Fahreddin Kerim Gokay, governor-mayor of Istanbul, paid a courtesy visit to Belgrade. Yugoslavia concluded a commercial agreement with Turkey, taking 100,000 tons of wheat in exchange for a variety of products At the end of September a Yugoslav military delegation led by General Pavle Jakšić paid a visit to Ankara to discuss co-operation with the Turkish military authorities

Dr Gokay was associated with another notable incident On returning from a visit to Paris through Rome, he was received by Pope Pius XII. This confirmed the rapprochement between the Vatican and Turkey inaugurated three years before by the reception by the pope of the historian Reşit Saffat Atabinen and strengthened by the facilities given by the Turkish authorities for pilgrimage to the House of the Blessed Virgin at Panaya Kapulu, near Ephesus.

With the Soviet Union and Bulgaria the war of nerves continued. Both these countries sent notes protesting that Turkey's association with N.A.T.O. revealed aggressive intentions and was aimed against the U S S.R. and its allies Meanwhile Bulgaria continued to create incidents on the frontier.

Traditional friendship was maintained with France, and relations with Italy became cordial. Friendship with Germany was restored A German ambassador arrived and there was a marked revival of Turco-German trade.

Relations with Egypt, usually friendly, were clouded early in the year by the violent effusions of some Egyptian journalists, but a Cairo newspaper, *Cumhur El Misri*, expressed the wish that the Turkish prime minister would act as mediator in the negotiations with Great Britain. After the change of régime in Egypt relations improved. Towards other Moslem countries Turkey's attitude was always friendly, although it declined to take part in the World Moslem conference

held at Karachi in February. The Libyan minister of defence received a very cordial welcome on his visit to Turkey. Treaties of friendship and commerce were concluded with Pakistan and India.

Economic. The government continued its policy of denationalization and encouragement of private enterprise and foreign investment. By 1952 there was foreign capital in seven major undertakings in Turkey. A notable enterprise was the Seyhan barrage, a £T30 million scheme, in which U S and private native capital was invested

Great progress was being made in agriculture, due largely to the vast sums contributed under the European Recovery programme. The Bank of Agriculture granted no less than £T914 million in loans to farmers. More than 450,000 ac. of land were earmarked for reclamation and large areas were distributed to landless peasants. Re-afforestation, the improvement of cattle, horses and other livestock, soil classification and the meat and fishery industries were receiving active attention from the government.

The harvest was excellent and large quantities of wheat were available for export. The despatch of chrome to the United States expanded, and that of carpets and wool doubled The coal and iron and steel industries were expanding rapidly. Work on the Sariyer dam was progressing and a 6,000-kw power station was started at Elazig

Between 1947 and 1952 the national income rose by 54% and was estimated in 1952 at £T11,000 million. The 1951 budget attained a record figure, namely, revenue £T1,541,714,236, expenditure £T1,742,341,053, the latter being heavily swollen by the necessities of defence.

(MA. BR.)

Education. Schools (1950-51) primary 17,318, teachers 35,770, pupils 1,675,415, secondary 442, teachers 4,546, pupils 78,449; *Lycées* 92, teachers 1,944, pupils 23,573, farming and handicraft 222, teachers 3,085, pupils 31,205, professional 88, teachers 1,257, pupils 21,684 Institutions of higher education (1950-51) 23 (incl univs of Istanbul and Ankara with 1,431 teachers and 21,366 students), teaching staff 2,101, students 27,585 Illiteracy (1946) male 56 3%, female 83 2%

Agriculture. Main crops ('000 metric tons, 1951, 1952 est. in brackets) wheat 5,616 (6,400), barley 2,700 (2,900); oats 350 (380); maize 850 (900), rye 600 (650), potatoes 676, sugar (raw value) 207, tobacco 82, cotton (raw) 155, raisins 55, olives 236, olive oil 43, linseed 25, cottonseed 308, sunflower seed 108 (110); sesame seed 27 (30); soya beans 2, dry beans 79, hemp fibre 10 6, oranges and tangerines 82 Wine production ('000 hl, 1951, 1952 in brackets) 132 (150) Livestock ('000 head, 1951) cattle and buffaloes 11,268, sheep 26,121, horses 1,173, camels 108, mules (1950) 109, asses (1950) 1,633; goats 16,500, turkeys (1950) 1,200, chickens 19,858 Wool (clean basis, '000 metric tons, 1951, 1952 in brackets) 19 (30) Meat ('000 metric tons, 1951). 99 (incl beef and veal, 40)

Industry. Fuel and power ('000 metric tons, 1951, 1952, six months, in brackets) coal 4,728 (5,000), lignite 994 (750), crude oil 19 (9 9), electricity ('000 kwh) 114,000 (120,000) Raw materials ('000 metric tons, 1951; 1952, six months, in brackets)· iron ore (metal content) 219 (156 4), pig iron 154 (85 6), steel ingots and castings 135 (72 9), copper (smelter) 17 5 (1952, five months, 8·7); chrome (1950) 400, manganese ore (1950) 23 2; antimony ore (metal content, 1950) 454, salt 300; sulphur (1949) 3 1; boracite (1950) 7 1. Lumber (sawn wood, '000 cu m , 1949 est.). softwood 308, hardwood 154. Manufactured goods ('000 metric tons 1951, 1952, six months, in brackets) cement 400 (1952, five months, 149), cotton yarn 29 (1952, three months, 8 5), wool yarn 6, paper 24 (28).

Finance and Banking (£T million). Budget (1951 actual) revenue 1,344, expenditure 1,579, (1952-53 est) revenue 1,551, expenditure 1,750 Currency circulation (Aug 1951, Aug 1952 in brackets) 1,038 (1,310) Bank deposits (Dec. 1950; Dec. 1951 in brackets)· 1,122 (1,437) Gold and foreign exchange (million U.S. dollars, Aug. 1951, Aug 1952 in brackets)· 200 (180). Monetary unit Turkish pound or *lira* with an exchange rate of £T 7 84 to the pound sterling and £T 2 80 to the U S dollar

Foreign Trade (£T million, 1951, 1952, six months, in brackets) Imports 1,125 (717 3); exports 879·4 (506 4). Main sources of imports (1951). Germany 24%; U K. 17%; U.S. 12%; France 6%. Main destinations of exports Germany 27%; U.S 21%; U K. 8%, Italy 4%. Main imports machines and vehicles 31%; iron and steel and manufactures 10%; cotton yarn and fabrics 11%; petroleum 8%. Main exports: cotton 25%; tobacco 21%, fruit and nuts 13%, non-ferrous metals and manufactures 10%.

Transport and Communications. Roads (1949): 13,530 mi , incl. 7,900 mi all-weather roads Licensed motor vehicles (Dec 1950) cars 10,071, commercial vehicles 16,386 Railways (1949) 4,882 mi.; passenger-mi (1950) 1,350 million, goods, ton-mi (1950) 1,573 million; goods carried (1950) 7,332,000 tons Shipping (merchant vessels of 100 gross tons and over, July 1951) 230, total tonnage 423,971. Air transport (Turkish state airways, 1947) flights 6,712; mi flown 1,188.109, passengers flown 78,844 Telephones (1951) 65,150. Wireless receiving sets (1950) 320,853

See Malcolm Burr, *Tourist's Guide to Istanbul* (2nd ed , 1952), Ernest Mamboury, *Istanbul Touristique* (1952); Eleanor Bisbee, *The New Turks* (1952)

UBANGI-SHARI: *see* FRENCH EQUATORIAL AFRICA.

UGANDA. British protectorate in east Africa, bounded N. by the Sudan, E. by Kenya, S. by Tanganyika and Ruanda-Urundi, and W. by the Belgian Congo Area: 93,981 sq.mi. Pop · (1948 census) 4,958,520 incl. 3,448 Europeans and 35,215 Indians and Goans, (1951 est.) 5,187,000. Languages: Bantu (Luganda), Nilotic, Nilo-Hamitic and Sudanian, Swahili. Religion: pagan, Moslem; *c* 1 25 million Christians. Capital, Entebbe (pop. *c.* 6,000). Administration· governor; executive council, 6 *ex-officio*, 1 official and 6 unofficial members; legislative council, 6 *ex-officio*, 10 nominated official and 16 unofficial members (4 European, 8 African and 4 Asian); in Buganda, native ruler (*kabaka*) with 3 ministers and council (*lukiko*). Governor, Sir Andrew Cohen.

History. In June 1952 the executive council was enlarged by the appointment of four more unofficial members, of whom one was European, one Indian and two African.

The building of the dam across the Nile at Jinja made good progress, and it was expected that one generating unit would be operating by Sept. 1953 and three more by the middle of 1954. Meanwhile temporary thermal stations were erected and transmission lines completed to Kampala and Tororo. Textile, cement and other industries would be developed with power from this source as would be the mining projects at Kilembe and Tororo. The former, in the west of the protectorate, was based upon an extensive deposit of copper and cobalt. Production would begin in 1955, the copper being smelted on the spot. Meanwhile the Mombasa-Kampala railway was being extended to Kilembe; a considerable area of undeveloped agricultural land would be opened up in the process. In the east, at Tororo, extensive limestone deposits, which included a valuable mineral complex of phosphorus, niobium and other ores, were to be developed. These deposits were close to the railway and at the end of a power-line from the Jinja dam. Legislation was introduced at the end of the year imposing an export duty on coffee, and virtually restricting the opening of new curing works and hulleries to those approved for operation by African growers and co-operatives. A Coffee Industry board was also established. The reorganization of the cotton ginning industry continued.

The government took steps during the year to accelerate the development of technical education; in August at Makerere college a new physics laboratory was opened which had been presented by J. Williamson, the discoverer and owner of the Madui diamond mine in Tanganyika. Community development campaigns continued, in both literacy and agricultural co-operation.

In June two expeditions, one British and one Belgian, started jointly to explore and make a geological map of the Ruwenzori range (the " Mountains of the Moon "). (K. G. B.)

Education. Grant-aided schools (1951): primary, mission-owned African 1,328 (203,788 pupils), Asian 75 (7,353 pupils), European 5 (343 pupils); secondary, African 52 (5,517 pupils), Asian 4 (1,438 pupils); vocational, African 50 (2,147 pupils). Teacher-training centres, 2 government, various missions, output 573 trained students. Makerere college (University College of East Africa), students (1950) 242.

Finance and Trade. Monetary unit: East African shilling (20*s* = £1 sterling) Budget (1952 est): revenue £12,947,501, expenditure £12,103,563. Foreign trade (1951): imports £22,436,000; exports £47,197,000 Principal exports raw cotton, sugar Production (1951) raw cotton 206,182 tons, sugar (9 months) 62,000 tons, gold 273 troy oz, tin 164 tons, tungsten 161 tons, bismuth 5 tons Livestock cattle 2,714,000, sheep 1,035,000, goats 2,415,000.

Transport. Total railway traffic revenue, Kenya and Uganda combined (1951, 1950 in brackets) £8,038,757 (£6,905,427) Goods tonnage: 2,690,310 (2,474,948)

See E S Munger, *Relational Patterns of Uganda* (Chicago, 1952)

UKRAINE. A Soviet Socialist republic within the U.S.S.R., bounded N. by Byelorussia, N.E. and E. by Russia, S. by the Crimea and the Black sea, W. by the Moldavian S.S.R., Rumania, Hungary, Czechoslovakia and Poland. Area: 222,625 sq mi. Pop.: (Jan. 1939 census) 30,960,221 including 20,772,000 Ukrainians, representing 74% of the Ukrainian population of the U.S.S.R. and 69% of the population of the Ukraine; (1950 est.) 40,800,000 Language: Ukrainian, akin to Russian and Polish. Religion: before 1939 all Ukrainians in the U.S.S.R. were Greek Orthodox; by 1947 3·6 million Greek Catholics in the western areas were forced to renounce their religion in favour of the Orthodox Church. Chief towns (1939 census) Kiev (cap., 856,293), Kharkov (833,432); Odessa (604,223); Dnepropetrovsk (500,662); Stalino, formerly Yuzovka (462,369); Lwów or Lviv (1939 est., 318,000), Zaporozhye (289,188); Makeyevka (240,145), Zhdanov, formerly Mariupol (222,427). Chairman of the presidium of the Supreme Soviet, Mikhail Sergheyevich Grechukha; chairman of the council of ministers, Demyan Sergheyevich Korotchenko.

History. From Sept. 24 to 26 the 17th congress of the Communist Party of the Ukraine (K.P.U.) was held at Kiev. Leonid G. Melnikov, first secretary of the central committee, reported that the party membership was 777,832, including 101,642 "candidates". In the whole republic there were 48,352 party cells. In the western, *i.e.*, formerly Polish, Czechoslovak or Rumanian, regions of the Ukraine, between 1949 and 1952 the number of cells increased from 1,128 to 2,581 and that of members from 9,037 to 20,145. In other words, while in the pre-1939 Ukraine there was one Communist for every 41 inhabitants, in the western areas there was only one for every 462 inhabitants. The total population of the Ukraine amounted to 20% of that of the Soviet Union but the membership of the Ukrainian section of the Communist Party of the Soviet Union (K.P.S.S.) was only 12·9%. The congress re-elected Melnikov, A. I. Kirichenko and I. D. Nazarenko secretaries of the central committee of the K.P.U. and appointed 153 delegates to the 19th congress of the K.P.S.S. held in Moscow from Oct. 5 to 14. Only two members of the K.P.U., Melnikov and Korotchenko, were elected to the new presidium. With four others they were also elected members of the 125-strong central committee.

Presenting a picture of the Ukraine's economic development, Melnikov said in his Kiev speech (Sept. 24) that in 1951 the production of coal was 12% higher than in 1940, of iron ore 26% higher, of pig iron 18%, steel 18%, electricity 40%, cement 94%, tractors 124%, cotton textiles 105%, sugar 38%, meat 12% and butter 118%—a great achievement in a country half-ruined by German invasion. Absolute production figures for basic items having been published for prewar years, by use of Melnikov's percentages a table can be composed showing that although Ukrainian production in 1951 was higher than before World War II, much decentralization of Soviet industry was achieved and the part of the Ukraine in the Soviet economy diminished: two-thirds of coal, one-half of pig iron, two-thirds of steel and 84% of electricity were produced in other parts of the U.S.S.R., mainly in the Urals and the Kuznetsk basin.

At the beginning of 1950, before the merger of smaller *kolkhozy* or collective farms into bigger ones, their number was 33,653, by Sept. 1952 there were 16,015. According to a speech by Korotchenko at the Moscow congress (Oct. 8), the 1952 harvest in the Ukraine was good, agricultural production was higher than before World War II and the numbers of communally owned livestock, *i.e.*, in the collective and state farms, increased considerably. As no mention was made of privately owned livestock, which amounted to more than a third of the total in 1940, it was to be presumed that this category was much smaller.

The reconstruction of Kiev, the capital, which was half-destroyed during World War II was progressing. Kreshchatyk, the main thoroughfare, was to acquire during the period 1952-55 a dozen blocks of flats with a total of 31,700 sq m. of living space, seven large office buildings and a palace of culture. In all, to the end of 1952, about 1,277,000 sq m. of housing accommodation had been restored or built in Kiev, but its population was estimated to be only 600,000, two-thirds of the prewar population.

CONTRIBUTION BY UKRAINE TO SOVIET INDUSTRIAL PRODUCTION
('000 metric tons, electricity in million kwh, with percentages of the total Soviet output)

	1913		1940		1951	
Coal	22,760	78%	83,728	50%	93,775	31%
Iron ore	6,388	80%	18,900	75%	23,814	60%?
Pig iron	2,832	68%	9,183	61%	10,836	49%
Steel	2,300	55%	8,622	48%	10,174	33%
Electricity			11,938	25%	16,713	16%
Sugar			1,432	66%	1,976	64%

Speaking in Kiev, Melnikov complained that bourgeois nationalism was still rife among the people. He noted that 1954 would mark the 300th anniversary of the treaty of Pereyaslavl which founded the Russo-Ukrainian union. "The unification of the Ukraine with Russia," said Melnikov, himself a Russian, "saved the Ukrainian people and nation and provided for their flourishing development. The Ukrainian people have a feeling of respect and gratitude for the Great-Russian people and consider them their elder brothers." Aleksander Korneychuk, a Ukrainian writer, addressing the 19th congress of the K.P.S.S., accused the U.S. government of organizing espionage and diversion in the Ukraine and hiring for this purpose "the enemies of the Ukrainian people, the wretches of Petlyura and Bandera." Stepan Bandera, leader of the Organization of Ukrainian Nationalists, with headquarters in Munich, was in fact critical of the policy of the American Council for the Liberation of the Peoples of Russia because the latter had not declared itself for Ukrainian independence.

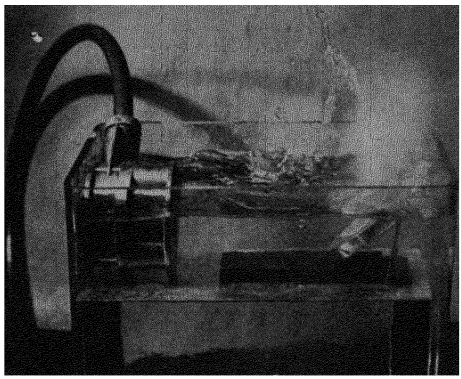
Education. Schools (1951-52). elementary and secondary 30,400, pupils 6·5 million, vocational and technical 560, pupils 340,000, universities and institutions of higher education 158, students 160,000.

Finance. Budget (million roubles, 1951 est; 1952 in brackets) revenue 17,342·7 (17,634·5), expenditure 17,247·5 (17,538·2).

See Oleh Martovych, *Ukrainian Liberation Movement in Modern Times* (Edinburgh, 1951), John Reshetar, *The Ukrainian Revolution* (Princeton, 1952) (K. M. S.)

ULTRASONICS. Investigations into the physical, chemical and biological effects of ultrasonic vibrations were greatly extended during 1952. In spite of this, however, no spectacular advances were made. Research and development work was mainly concentrated on furthering investigations into the fundamental properties of ultrasonic waves in various media and improving previously established techniques and methods of generation.

For the generation of low-power, high-frequency ultrasonic waves, piezo-electric quartz crystals were used in large quantities. For the generation of high-power, low-frequency ultrasonic waves, wider use was made of magneto-strictive transducers composed of iron-colbalt alloy laminations.



An electronic flash photograph shows a fountain of water produced by an intense ultrasonic beam striking a water surface from beneath.

Transducers of this type that were capable of providing several thousand watts of ultrasonic power were constructed. Work on synthetic piezo-electric materials was further stimulated by the growing world shortage of quartz and also by the demand for high-frequency transducers giving higher ultrasonic powers. The material which received most attention was the ceramic, barium titanate. The commercial application of this material was restricted because of its poor heat dissipation. Some interesting experimental work was also carried out on moving-conductor transducers for generating ultrasonic waves in air. It was demonstrated that transducers of this type could be effectively used to precipitate smoke and that they had the inherent advantage over sirens in that they were almost entirely free from spurious noise effects. Another interesting development was the introduction of a commercial ultrasonic emulsifier based on the principle of Pohlmann Whistle. This emulsifier, which could be clamped on the side of existing mixing vessels, was shown to be capable of giving outputs in the region of 400 gal. per hour.

During 1952, increasing use was made of such previously established low-power ultrasonic techniques as echo-sounding, underwater signalling and flaw detection. There was a marked extension of the use of echo-sounding equipment for locating shoals of fish. Later in the year, ultrasonic equipment was also installed for the location of whales. Considerable advances were also made in the application of ultrasonic pulse techniques to the detection of internal flaws in engineering materials and structures. Such techniques were, in fact, adopted as standard, non-destructive testing methods in shipyards, high-pressure boiler shops, steelworks and railway workshops in most parts of the world. The same techniques were also used for measuring the thickness of metals and other structural materials, for example, concrete. Some progress was also made in the use of ultrasonic pulse techniques for aiding the blind. Another interesting development was the use of low-frequency continuous ultrasonic waves for detecting internal air films in rubber products, particularly in tyres. A similar method was developed for measuring the thickness of rubber and similar substances. For thickness measurements on metals, glass and plastics, either in sheet form or when only one side is accessible, increasing use was made of ultrasonic resonance methods. Other important developments in the use of low-power ultrasonic waves included the study of the elastic properties of iron at varying temperatures and the determination of grain size in metals. Also, ultrasonic methods in medicine were extended, both for diagnosis and therapy. Although in Germany increasing use was made of ultrasonic therapy for the treatment of sciatica, lumbago and similar nervous complaints, the medical profession in Britain and the United States showed reluctance to adopt ultrasonic methods clinically on the grounds that insufficient knowledge was available on the biological effects produced.

In 1952 considerable progress was also made in the applications of ultrasonic waves of higher power. Commercially, one of the most successful applications was the ultrasonic soldering of aluminium and its alloys. Besides finding increasing use for the fabrication and repair of light metal structures, this technique found useful application in the foundry for the surface treatment of faulty light-alloy castings and for the modification and repair of aluminium patterns. Methods for the continuous tinning of aluminium wire were also further advanced. The commercial possibilities of ultrasonic methods for drilling and machining hard materials were further demonstrated. Remarkably high drilling rates were achieved in glass, quartz and ceramics with holes of various cross-sectional shapes, both straight and curved. Ultrasonic techniques for cleaning textiles received further attention but developments were not sufficient to justify the industrial use of such methods. Ultrasonic cleaning techniques were, however, effectively used in the production of electric razors for removing particles of lapping compound from the cutting heads. Further progress was made, especially in the United States, in the use of ultrasonic vibrations for precipitating or coagulating dusts carried in furnace gases. The method proved of particular value for removing acid fumes from industrial gases which would normally pollute the atmosphere.

Other successful applications of ultrasonics included the preparation of substitutes for blood plasma and the accelerated ageing of wines. Work on the latter process was mainly confined to Germany. A great deal of work was also carried out on a large number of other high-power applications of ultrasonic waves. Most of this work did not, however, pass beyond the research or development stage. This group of applications included the degassing of metal melts to obtain a more homogeneous structure; the ultrasonic irradiation of melts to promote grain refinement; the emulsification of normally immiscible liquids; the degradation of high polymers, for example, polymethacrylate; and the liberation of enzymes. (C. C. G.)

UNEMPLOYMENT: *see* EMPLOYMENT.

UNION OF SOUTH AFRICA: *see* SOUTH AFRICA, THE UNION OF.

UNION OF SOVIET SOCIALIST REPUBLICS. Federation of Soviet Socialist republics, a state covering parts of eastern Europe and of northern and central Asia. Area: 8,598,678 sq.mi., including 1,969,110 sq.mi. (23%) in Europe. Pop.: (1939 census) 170,467,572; (1946 est.) 193 million including about 133 million (69%) in Europe. In 1946 the Russians constituted about 51·3% of the population, Ukrainians 17·4% and Byelorussians 3·5%. None of the other nationalities, all non-Slavonic and most of them non-European, reached 3% of the total, the most important being the Turkish-speaking Uzbeks (2·85%). Religion: Russians, Ukrainians, Byelorussians and Moldavians are Greek Orthodox; Lithuanians are Roman Catholic; Latvians, Estonians and Karelo-Finns mainly Lutheran; Georgians have their own autocephalous Orthodox Church; Armenians are Christian; the indigenous inhabitants of Azerbaijan, the five central Asian republics and many autonomous territories (Tartar, Bashkir, Dagestan, etc.) are Moslem and their number was estimated in 1939 at 24 million; Buryats and Kalmyks are Lamaist Buddhist. Chief towns (pop., 1939 census): Moscow (cap., 4,137,016);

Leningrad (3,191,304); Kiev (846,293); Kharkov (833,432); Baku (809,347); Gorki (644,116); Odessa (604,223); Tashkent (585,005); Tbilisi (519,175); Rostov-on-Don (510,253); Dnepropetrovsk (500,662). Eight towns had a population of more than 200,000 and 43 had over 100,000. Chairman of the presidium of the Supreme Soviet, Nikolay Mikhailovich Shvernik; chairman of the council of ministers, Iosif Vissarionovich Stalin (*q.v.*).

History. Any faint hopes that might have been aroused by the tone of Yakov A. Malik's proposals for an armistice in Korea, in June 1951, that the Soviet Union was prepared to come to friendlier terms with the west, were dispelled as it was realized that the " cold war " was to be continued—in some respects intensified—and the " iron curtain " maintained. On Nov. 24 A. Y. Vyshinsky, the Soviet foreign minister, flatly rejected as " unsatisfactory and unacceptable " India's plan to break the Korean deadlock over the repatriation of prisoners of war. His speech was made before the United Nations Political committee and seemed to destroy all hopes of negotiation. (*See* KOREAN WAR.)

In Europe a Communist German army was established and the western occupying forces in Berlin were harassed and hampered; western proposals for peace treaties with Germany and with Austria were rejected, as were Swedish protests at the shooting down of Swedish aircraft over the Baltic and French protests at interference with French aircraft flying to Berlin; Soviet diplomats in Stockholm and London were found to be implicated in cases of espionage and of improper communication of secret information, respectively. In spite of Stalin's answer to a question from U.S. newspaper editors, in April, that " the peaceful co-existence of Capitalism and Communism is fully possible, given non-interference in the affairs of other states," the Soviet Union continued to encourage the anti-western movements in the middle east and north Africa, to supply arms to the Koreans and the Chinese in North Korea and to give aid to the Communist rebels in Malaya. A vehement campaign against the alleged waging of germ warfare by U.N. forces in Korea was carried to the United Nations—by Soviet sympathizers—and into the lecture halls and pulpits of the west. At home anti-western propaganda was maintained, but the Soviet public was encouraged by a slow but appreciable increase in the supply of consumer goods and by price cuts; by the progress of the great hydro-electric and irrigation schemes (of which the opening of the Volga-Don canal was an earnest) and by the announcement of a new Five-Year plan.



Shoppers in Moscow on April 1, when for the fifth successive year retail prices of food and other products were reduced.

Foreign Policy. At the Lenin memorial meeting in Moscow on Jan. 21, the main speech at which had come to be regarded as setting the Soviet Union's propaganda theme for the year, P. N. Pospelov, director of the Marx-Engels-Lenin institute, elaborated in Stalin's presence on " the crisis of the entire colonial system of imperialism " and " the awakening of the peoples of Asia as evidence of the triumph of creative Marxism ". No force, he said, could now stop this accelerated development of history. The speech echoed Stalin's unexpected and unprecedented New Year message to the Japanese people which referred to " those who had fallen under the misfortune of foreign occupation ", and it was echoed in its turn by a spate of sympathy in Soviet newspaper comment for all anti-western nationalist movements, from Morocco to Malaya.

It was not surprising, therefore, to find that the Chinese delegation to Moscow in September should have been headed by Chou En-Lai, the prime minister, and that the discussions should have lasted for a month. The closeness of the two great Communist powers, the apparent cordiality

UNION OF SOVIET SOCIALIST REPUBLICS

Republic	*Capital*	*Area* (sq.mi.)	*Population* (1940 est.)	*Chairman of the Presidium of the Supreme Soviet*	*Chairman of the Council of Ministers*	*First Secretary of the Communist Party*
Russian S.F.S.R.	Moscow	6,533,584	108,800,000*	M. P. Tarasov	A. M. Puzanov	—
Ukraine (*q.v.*)	Kiiv (Kiev)	222,625	40,525,000†	M. S. Grechukha	D. S. Korotchenko	L. G. Melnikov
Byelorussia (*q.v.*)	Minsk	80,154	9,000,000	V. I. Kozlov	A. E. Kleshchev	N. S. Patolichev
Uzbekistan	Tashkent	157,336	6,282,400	Sh. R. Rashidov	N. A. Mukhitdinov	A. I. Niyazov
Kazakhstan	Alma-Ata	1,063,242	6,146,000	D. K. Kerimbayev	N. D. Undasynov	Zh. Shayakhmetov
Georgia	Tbilisi (Tiflis)	29,421	3,542,300	Z. N. Chkhubianishvili	Z. N. Ketskhoveli	A. I. Mgeladze
Azerbaijan	Baku	33,089	3,209,700	N. G. Gheydarov	T. I. Kuliyev	M. D. Baghirov
Lithuania (*q.v.*)	Vilnius (Wilno)	25,174	3,000,000‡	J. I. Paleckis	M. A. Gedvilas	A. J. Sniečkus
Moldavia	Chişinau (Kishynev)	13,050	2,700,000§	I. S. Koditsa	G. Y. Rud	L. I. Brezhnev
Latvia (*q.v.*)	Riga	24,903	1,950,000	K. M. Ozolins	V. T. Lacis	J. E. Kalnbernzins
Kirghizia	Frunze	76,023	1,459,300	T. Kulatov	A. Suyerkulov	I. R. Razzakov
Tadzhikistan	Stalinabad	55,058	1,485,100	N. Dodkhudoyev	Dzhafar Rasulov	B. G. Gafurov
Armenia	Erivan	11,506	1,281,600	M. P. Papian	S. K. Karapetian	G. A. Arutinov
Turkmenistan	Ashkhabad	187,181	1,252,000	A. Saryev	B. Ovyezov	I. S. Babayev
Estonia (*q.v.*)	Tallinn (Reval)	17,413‖	1,117,300	A. M. Jakobson	A. A. Müürisepp	I. G. Käbin
Karelo-Finnish S.S.R.	Petrozavodsk	68,919	606,300§	O. W. Kuusinen	P. S. Prokkonen	A. N. Yegorov
		8,598,678	192,357,000			

SOURCE. Areas and populations are taken from the *Bolshaya Sovietskaya Entsiklopedia: S.S.S.R.* (Moscow, 1948). While all the areas are postwar, that is, including territorial aggrandisements in the west and east, population figures are in general those of the 1939 census, except for republics which were either increased by the 1939-45 annexations or formed after 1940. The order, as in the original, is according to the number of population. The names of chairmen of the presidia and of the councils of ministers, as well as those of the first secretaries of the party, are as at Dec. 31, 1952.

* According to the 1939 census the population of the Russian S.F.S.R. was 109,278,614. Its reduction was explained by the fact that the Karelian A.S.S.R. (469,145 inhabitants in 1939) formed with the areas ceded by Finland in 1940 a Karelo-Finnish S.S.R. † Excluding the population of Subcarpathian Ruthenia (725,000) which was incorporated into the Ukrainian S.S.R. in 1945. ‡ Excluding the population of the Klaipeda (Memel) territory which was incorporated with the Lithuanian S.S.R in 1945. § 1941 Soviet estimate. ‖ Estonian sources before 1940 gave the area of Estonia as 18,358 sq.mi.

and the detail into which the discussions must have gone were more significant even than those decisions that were published: the return of the main Manchurian strategic railway to Chinese administration and the Soviet retention of the naval base at Port Arthur. Solidarity with China and a claim to the moral leadership of the eastern world against the west were more firmly stated by the Soviet Union in the course of 1952 than ever before.

In Europe the Soviet Union continued its evasions over the problems of Germany and Austria. The western powers' note on Austria in March, proposing a "short treaty" draft, went unanswered until after five months and two reminders: as expected, it proved unacceptable. The exchange of notes on Germany (*q.v.*) was equally inconclusive.

Meanwhile, G. V. Kozlov, one of the Soviet Union's leading political theorists, writing in the official review, *Problems of Economics*, elaborated on "the mounting antagonisms between the capitalist countries, above all between the United States and Great Britain." The view was widely canvassed in London and New York, and in messages from U.S. correspondents in Moscow, that the appointment in June of Andrey A. Gromyko, deputy foreign minister, to succeed the far less eminent Gheorghy N. Zarubin as Soviet ambassador in London betokened a friendlier approach to Great Britain and a wish to explore every opportunity of detaching its foreign policy from that of the United States.

The whole trend of Soviet propaganda was to modify the violence previously shown towards all western countries indiscriminately and to represent the United States as alone responsible for the existing tension. Thus the charges of germ warfare in Korea were pinned firmly on to U.S. units, and it was equally typical that in the Security council the Soviet Union should have vetoed the resolution for an inquiry by the International Red Cross into the allegations.

The Soviet-sponsored "peace campaign" of previous years took a new turn when the Berlin meeting called for an international economic conference in Moscow. The conference was held in April and proposals were put forward for barter deals between the Soviet Union, China and the satellite countries on the one hand, and the western world on the other. None of the western delegations was in any way official, however, and no deals were concluded.

An official trade agreement was reached in July between Great Britain and the Soviet Union that owed nothing to the Moscow conference, when the British government agreed to an exchange of British cured herring for canned salmon and crab.

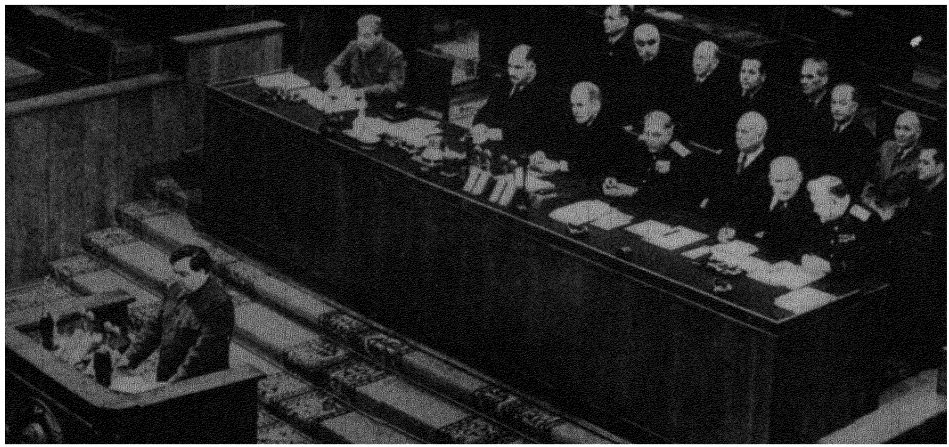
Venezuela broke off diplomatic relations with the Soviet Union on June 13, alleging that the Soviet embassy in Caracas had become "a permanent centre of clandestine propaganda" designed to foment internal disorder. This left Argentina and Uruguay as the only South American states in diplomatic relationship with the Soviet Union. George Kennan, appointed United States ambassador earlier in the year, was recalled in October. This was in answer to the Soviet government's declaration that he was *persona non grata*, made after Kennan's statement to journalists in Berlin, where he was on leave, that his "isolation in Moscow was worse than that which he had experienced as an internee in Nazi Germany". The U.S. embassy in Moscow was left under a chargé d'affaires.

The Party and the Government. Stalin, as secretary-general of the central committee of the Communist Party of the Soviet Union, signed the announcement in the Soviet press on Aug. 20 that the 19th congress of the party would be held in Moscow on Oct. 5. The selection of G. M. Malenkov, a secretary of the central committee, to present the central committee's report was widely held in the west to indicate that he had been chosen as Stalin's successor (Stalin was 74 in December) in preference to V. M. Molotov or L. P. Beria.

Although, according to the party rules, party congresses were supposed to be held not less than once every three years, such a congress had not been held since 1939 and, before that, 1934. The chief items in the agenda were the reorganization



The Gorky regional drama theatre in Stalingrad, one of a series of photographs taken in 1952 showing reconstruction in the city. It was stated that more than 1·3 million sq. ft. of housing was provided there during the year.



G. M. Malenkov addressing the 19th congress of the Communist party held in Moscow, Oct. 5-14. Seated behind are left to right (front row) Stalin, L. M. Kaganovich, V. M. Molotov, K. E. Voroshilov, N. S. Khrushchev, L. P. Beria and N. A. Bulganin; (second row) A. B. Aristov, M. D. Baghirov, O. V. Kuusinen, V. M. Andrianov, A. I. Niyazov, D. S. Korotchenko, Zh. Shayakhmetov and N. S. Patolichev.

of the party and the fifth Five-Year plan. The main change in the party structure was the abolition of the Politburo, the party's supreme policy-making body, and of the Orgburo, the committee dealing with the internal organization of the party, and their supersession by a presidium, which would absorb their functions.

Whilst it would appear that such changes might be merely a matter of tidying up internal organization it was noteworthy that the main address on the changes in the party's rules, delivered by Nikita Khrushchev, a secretary of the central committee, laid special emphasis on the "shortcomings and unhealthy symptoms that appear in the life and work of party organizations".

> Not a few party members (he said) take a formal, passive attitude towards the carrying out of party decisions. This is a great evil against which the party must fight resolutely. Members are obliged to be active fighters for the fulfilment of party decisions. Another evil which exists in our party is that some Communists incorrectly consider that there are two party disciplines, one for the rank and file members and another for the leaders.

The insistence in the new party rules on the "correct selection of cadres" and on the necessity for a period of probationary membership is significant in the light of Krushchev's statement that "in many party, state and economic organizations selection is made on the basis of friendly relations, personal attachments and kinship". Finally, his charge that "there have been fairly widespread manifestations of political carelessness and slackness, and cases of disclosure of party and state secrets" seemed to foreshadow an intensification of the security policework, both within the party and among the ordinary citizens.

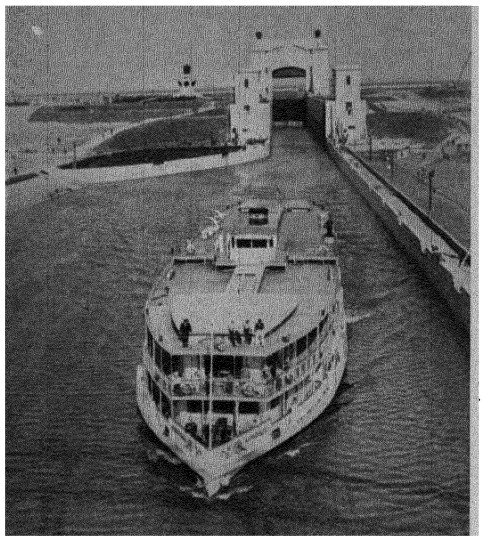
On the closing day (Oct. 14) a new central committee of 125 full members and 110 candidates was elected. Two days later the central committee elected the new presidium of 25 members and 11 candidates, as well as a new secretariat of 10. The only member of the former Politburo not elected to the new presidium was A. A. Andreyev. Out of 14 deputy chairmen of the council of ministers only two were not members of the new presidium (Andreyev and A. D. Krutikov).

The adjective *bolshevik* disappeared from the title of the party which was renamed the Communist Party of the Soviet Union (Kommunisticheskaya Partia Sovietskogo Soyuza). On Oct. 1 the party comprised 6,013,259 members and 868,886 candidates; although the Russians constituted only a half of the total population of the U.S.S.R., their strength within the party was about three-fourths. The previous rules described the party as "a section of the Third International, a shock detachment of the working class of the U.S.S.R."; the new rules defined it as "a voluntary militant union of like-minded communists consisting of people from the working class, the working peasants and working intelligentsia."

The 19th congress appointed a special commission of 11 members, under the chairmanship of Stalin, with the mission of revising the original party programme enunciated in 1919. The commission was to be guided in its task by Stalin's disjointed remarks entitled *The Economic Problems of*



Marshal Stalin seen hugging a young girl. She had presented a bouquet of flowers to him during the 1952 May Day celebrations.



A river steamer leaving one of the locks on the 63-mi. V.I. Lenin Volga-Don canal which was opened on July 27.

Socialism in the U.S.S.R. and published three days before the opening of the congress.

Stalin addressed the congress only on the closing day when he thanked the representatives of 44 Communist parties of the world for their trust and support of the Soviet Union. Reciprocally, these " shock brigades " of the world revolutionary movement that had not yet come to power could rely on Soviet support.

The Economic Position. As every year, a state loan of Rb. 30,000,000 million was launched in May and oversubscribed in a week. The bonds were redeemable at par over a period of 20 years, but lottery prizes on the bonds, drawn each year, were equivalent to a rate of interest of 4%.

The new Five-Year plan, adopted by the party congress in October, was deemed to have been under way since the expiry of the fourth Five-Year plan at the end of 1950. It aimed at a 70% increase in total production by 1955, covering such figures as 76% more cast iron, 62% more steel, 64% more rolled metal, 43% more coal and 85% more oil. Hydro-electric capacity was to be trebled and power house capacity doubled; there must be twice the output of heavy forge and press machinery.

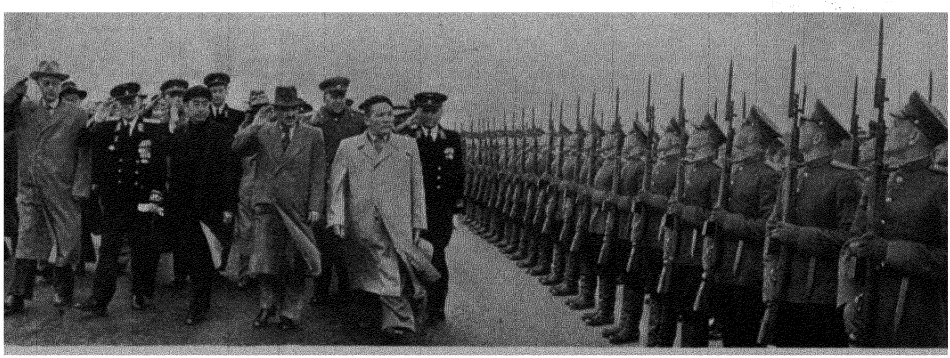
The success of the previous plan, and development during the previous year, notably in the construction of hydro-electric plants, suggested that these targets were not beyond reach. The fourth Five-Year plan was stated to have been fulfilled ahead of time—in four years and three months—with an increase in production of 75% above the 1940 level. It was notable, however, that the timber industry came in for the usual criticisms as " lagging behind the nation's needs " and that not only had the output of building materials to be doubled but they had to be of better quality. Brick and slate production had, in fact, to be rather more than doubled and the production of polished glass to be increased four times.

Very general increases were called for over the whole of agriculture—of the order of 40%-70% for wheat and other grains, cotton, flax, beet sugar, potatoes and tobacco, and twice as much hay and four times more root crops. Closely related to these figures was the intention to produce 215,000 tractors and 25,000 combine harvesters, compared with a prewar farm machinery fleet of only 31,000.

The new plan called for an acceleration of the gradual increase in consumer goods and in amenities generally. More goods in the shops, of better quality, and at prices that would give people an increase of 35% in their purchasing power was the way the draft plan put it. Among the specified targets were 32% more cotton goods, 34% more shoes, 70% more lump sugar, three times as much tinned dairy products, 80% more restaurants and 25% more theatres. The plan ordered " several times more " refrigerators, washing machines, vacuum cleaners and sewing machines—all goods that had been appearing in small quantities in the stores of the big cities during 1952.

Meanwhile, the fifth consecutive annual reduction in retail prices, in April, ranging between 10% and 20% over most commodities, and notably food, resulted by the end of June in an increase of 11% in retail sales by state co-operatives and in the collective farm markets.

By an organizational change reported in June Soviet economic planning ceased to be centralized in the State Planning committee (*Gosplan*) but became divided between that body and a relatively new organization, the State Committee for Material-Technical Supplies for the National Economy (*Gossnab*). Gosplan became confined to planning



Y. Tsedenbal, prime minister of Mongolia (right front) at Central airport, Moscow, Aug. 28, with (left to right) P. N. Kumykin, Soviet minister of foreign trade, A. Y. Vyshinsky, Chou En-lai, prime minister of China, and A. I. Mikoyan.

the over-all volume of Soviet production, while Gossnab took over the planning of all materials and capital equipment distribution throughout the Soviet economy.

(C. RY.)

Education. Schools (1951) primary, secondary and lower technical 220,000, pupils 37,000,000, teachers 1,600,000, universities 31 and institutions of higher education 849, students 840,000 and 407,000 taking correspondence courses In the Russian S F S R there were 119,000 primary and secondary schools with a total enrolment of 18,000,000 pupils and a teaching staff of 760,000

Agriculture. Main crops (million metric tons)

	1913	1938	1940	1950	1952	1955 (plan)
Grain*	80 1	90 0	119 0	124 7	131 0	186 7
Sugar-beet	10 9	16 7	21 8	24 3	.	40 0
Potatoes	23 3	65 6	84 2			147 8
Cotton .	0 7	2 7	2 7	3 8		6 3

* From 1933 figures given for all Soviet grain crops represented not the actual amount harvested but a "biological" estimate determined in the field prior to harvest Crop available for use is probably 20% less than the above given estimates

Livestock (million head, including those on collective farms, state farms and privately owned)

	1913	1938	1940	1950	1951	1955 (plan)
Cattle	60 6	63 2	71 0	57 2	58 8	68 6
Pigs	20 9	30 6	36 1	24 1	26 7	36 2
Sheep and goats	121 2	102 5	108 5	99 0	107 5	160 4
Horses	35 8	17 5	20 6	13 7	14 5	16 4

Industry. Heavy industry production (million metric tons, electricity in '000 million kwh)

	1937	1940	1950	1951	1952	1955 (plan)
Coal and lignite	127 0	166 0	260 0	281 0	301 0	371 8
Crude petroleum	28 5	31·0	37 8	42 3	47 4	69 9
Electric power	36 4	48 2	90 3	103 0	117 0	162 5
Pig iron	14 5	14 9	19 4	22 1	25 2	34 1
Crude steel	17 7	18 3	27 3	31 3	34 4	44 2
Copper ('000 tons)	97 5	161	255		.	455

Building materials production

	1937	1940	1946	1950	1955 (plan)
Cement (million tons)	5 5	5 8	3 3	10 3	22 7
Roofing slate (million sheets)	186 9	205 0	140 0	440 0	1,114 4
Window glass (million sq m)	60*	44 4	46 7	84 3	336 2
Marketable timber (million cu m)	111 3	119	80	162	252 7

* 1938

Textile and footwear production (in million metres, for shoes, in million pairs)

	1937	1940	1946	1950	1955 (plan)
Cotton fabrics	3,442	3,886	1,878	3,815	6,142
Woollen fabrics	105	120	79	167	257
Silk fabrics	58 9	69 5		125	--
Leather shoes .	164	205	78	205	317

Foodstuffs production (in '000 metric tons)

	1937	1940	1946	1950	1955 (plan)
Butter . .	185	207	185	325	559
Vegetable oil	495	724	312	775	1,372
Fish (catch) .	1,600	1,400	1,100	1,778	2,809
Sugar	2,421	2,150	465	2,515	4,477

Finance. Budget estimates ('000 roubles)

	1950	1951	1952
Revenue . .	433,167,416	458,716,644	509,911,608
Expenditure	427,937,525	451,502,680	476,920,588

The external value of the rouble, high and nominal £1 = Rb 11 20, U S. $1 = Rb 4 00.

Foreign Trade. (Million U S. dollars, f o b , percentage of the world trade in brackets):

	1938	1949	1950
Imports	338 (1 5)	943 (1 5)	1,049 (1 8)
Exports . .	365 (1 6)	1,024 (1 8)	1,141 (1 9)

Main sources of imports (1938; 1950 in brackets) European people's democracies (Bulgaria, Czechoslovakia, Hungary, Poland and Rumania) 4·1% (60·6%), Germany, Democratic and Federal 14 2% (14 5%); United Kingdom 16 3% (3%); United States 21 9% (0 09%) Main destinations of exports (1938, 1950 in brackets)· European people's democracies 7% (71·3%), Germany 14·7% (8·3%); United Kingdom 33·1% (7·5%); United States 7·5% (3 5%)

Transport and Communications. Railways (1950 est) 112,530 km ; the railways accounted for 83% of all goods traffic Shipping (1950): 437 ships totalling 1,824,000 deadweight tons. (K. M. S.)

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UNITARIAN CHURCH. In 1952 further progress was made in the rehabilitation of churches destroyed or seriously damaged in World War II The church at Hackney was restored, the rebuilding of the chapel at Stand commenced, and approval was given for the churches at Yarmouth and High street, Portsmouth, to be rebuilt on their old sites The church hall at Hull was rebuilt The Lewisham building was completed and opened in March. The church at Marple, Cheshire, purchased two shops and converted them into a church and small hall with the necessary service rooms A Sunday school was opened and services of worship started on the estate at Speke, Liverpool

The outstanding event of the summer was the holding of the 14th congress of the International Association for Liberal Christianity and Religious Freedom at Oxford when over 260 delegates attended from 15 countries. The subject was "Authority and Freedom in the Modern World", and among the speakers were· James Chuter Ede, Prof L J van Holk of Leyden, Victor Murray, Prof Thomas Siegfried of Marburg, Prof. J. J. Adams of Chicago and the Rev Georges Marchal of Paris. For the first time in its 50 years' history a layman, Percival Brundage of New Jersey, was elected president of the I A R F Ministers from abroad preached in 18 pulpits on the Sunday before the congress. The International Union of Liberal Christian Women also held a conference at Oxford at the same time as the I A.R F. The International Religious fellowship held a conference at Blackboys, Sussex. Guest speakers came from America, Germany, the Netherlands and Switzerland.

The secretary of the assembly paid a goodwill visit to the American Unitarian association and spoke at its annual meetings in Boston He also spoke in New York, Brooklyn, Chicago, Brockton, Bridgwater, Concord (Massachusetts, Worcester (Massachusetts), Buffalo and Boston and took the opportunity to visit Canadian Unitarian churches in Hamilton, Montreal, Ottawa and Toronto which are in fellowship with both the American and British Unitarian movements Plans were made for a young minister from the United States to spend two years in charge of a London church as the beginning of a scheme for exchange ministries intended to develop greater knowledge of the two movements and goodwill between them.

Increased activity and membership were reported in the Sunday schools and the Youth movement; the number of one-day schools for teachers and youth leaders again showed an increase upon the previous year.

A feature of the annual meetings was that the Essex hall lecture was given by Rabbi Leslie Edgar on the subject "Co-operation between World Religions". Rabbi Edgar was only the second Jewish lecturer in the long history of this foundation. (J. KY)

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UNITED KINGDOM: *see* GREAT BRITAIN AND NORTHERN IRELAND, UNITED KINGDOM OF

UNITED NATIONS. During 1952, relations between the Soviet bloc and the "free world" continued to be hostile and non-co-operative As a result the United Nations was able to achieve little in dealing with problems that required agreement between them. The United Nations nevertheless was able to make some progress in those areas of primary or exclusive concern to the "free world" and particularly in promoting the economic, social and political development of countries outside the sphere of Communist control.

Membership and Representation. There was no change in the membership of the United Nations during 1952. The following 60 states were members:

Afghanistan	Denmark	Israel	Poland
Argentina	Dominican Rep	Lebanon	Saudi Arabia
Australia	Ecuador	Liberia	Sweden
Belgium	Egypt	Luxembourg	Syria
Bolivia	El Salvador	Mexico	Thailand
Brazil	Ethiopia	Netherlands	Turkey
Burma	France	New Zealand	Ukraine
Byelorussia	Greece	Nicaragua	Un of S Africa
Canada	Guatemala	Norway	U S S R
Chile	Haiti	Pakistan	United Kingdom
China	Honduras	Panama	United States
Colombia	Iceland	Paraguay	Uruguay
Costa Rica	India	Persia	Venezuela
Cuba	Indonesia	Peru	Yemen
Czechoslovakia	Iraq	Philippines	Yugoslavia

The question of the admission of new members into the United Nations continued to be a leading subject of controversy. The inability of the permanent members of the Security council to reach an agreement on this question has resulted in the continued failure of the organization to admit new members. When in Feb. 1952 the Security council resumed consideration of the admission of Italy, this step was blocked by a Soviet veto. Conversely, on Sept. 8 the Soviet proposal, that all 14 applicants previously examined by the council (Albania, Austria, Bulgaria, Ceylon, Finland, Hungary, Ireland, Italy, Jordan, Libya, Mongolia, Nepal, Portugal and Rumania) should be admitted *en bloc*, was voted down. On Sept. 17 the application of Japan was vetoed by the U.S.S.R , and two days later the applications of Vietnam, Cambodia and Laos were vetoed by Yakov Malik.

On Oct. 25 the general assembly rejected, for the third successive year, the claim of the central people's (Communist) government of Peking to represent China in the U.N. and approved the credentials of the Nationalist delegation from Formosa for the duration of the assembly's seventh session.

Organization and Meetings. The sixth session of the general assembly convened in the Palais de Chaillot in Paris on Nov. 6, 1951, under the presidency of Luis Padilla Nervo of Mexico, and was concluded on Feb. 5, 1952

The seventh session of the general assembly convened in the new hall at permanent headquarters in New York city on Oct. 14, 1952. Lester B. Pearson of Canada was elected president. Following the customary general debate, the assembly adopted an agenda of 73 items and allocated them to its six main committees and the *ad hoc* Political committee for consideration.

The Security council continued to suffer during 1952 from the loss of prestige and effectiveness resulting from the continuing deadlock among its permanent members. The membership of the council during the year included the five permanent members (China [Nationalist], France, Great Britain, United States and U.S.S.R) and six non-permanent members (Brazil, Chile, Greece, Netherlands, Pakistan and Turkey). During its seventh session, the general assembly elected Colombia, Denmark and Lebanon to replace Brazil, the Netherlands and Turkey for two-year terms ending Dec. 31, 1954.

The Economic and Social council decided to hold only one regular session during 1952, thus departing from its previous practice of two regular sessions a year. During 1952 the council's membership was as follows: with terms ending Dec. 31, 1952—Canada, Czechoslovakia, Mexico, Pakistan, Persia and the United States; with terms ending Dec. 31, 1953—Great Britain, Philippines, Poland, Sweden, U.S.S R., and Uruguay; and with terms ending Dec 31, 1954—Argentina, Belgium, China, Cuba, Egypt and France. During its seventh session the general assembly elected the following states to membership on the council for a three-year term ending Dec. 31, 1955: Australia, India, Turkey, United States, Venezuela and Yugoslavia.

The Trusteeship council held two sessions during the year, the 10th from Feb. 27 to April 1 and the 11th from June 3 to July 24, both in New York Sir Alan Burns (U.K.) served as president during the 10th while Awni Khalidy (Iraq) presided over the 11th. The membership of the council during 1952 was as follows: members administering trust territories—Australia, Belgium, France, Great Britain, New Zealand and U S.; members by virtue of their permanent seats on the Security council—China and the U S.S.R.; and members elected by the general assembly—Dominican Republic, El Salvador, Iraq and Thailand. At the seventh session of the general assembly El Salvador was re-elected and Syria was elected to replace Iraq for a three-year term.

Administration and Finance. On Nov 10, 1952, Secretary-General Trygve Lie announced his resignation to take effect as soon as a successor was chosen When Lie's first term expired in 1950, the Security council was unable to recommend another person for the position, as the charter requires, because of the inability of the permanent members of the Security council to agree. Lie's term was renewed for a three-year period which was due to expire early in 1954

A major problem of internal administration facing the secretary-general during 1952 was that of action to be taken with respect to staff members of American nationality against whom charges had been made by the U.S. government and investigatory agencies of Communist membership or Communist-inspired activity. At the beginning of November the secretary-general appointed a committee of three jurists, Sir Edwin Herbert (U K.), William D. Dewitt (U S.) and Paul Veldekens (Belgium), to advise him in dealing with these and similar cases. In their report published on Dec. 2, the jurists found that the United States had the right to be reassured that the United Nations was not protecting from prosecution people who were plotting or teaching the forcible overthrow of the U.S government.

The secretary-general's budget estimates for 1953 provided for a total expenditure of $47,765,200 or a decrease of $331,850 from 1952 estimates. U.N. income was estimated at $6,112,500 leaving $41,652,700 to be raised by contributions of members. The Advisory Committee on Administrative and Budgetary Questions recommended a reduction of $990,900 in the secretary-general's estimate.

Political Problems. *Korea.* During 1952 fighting in Korea continued on a limited and sporadic basis along a line in the general region, but for the most part north of the 38th parallel. Truce negotiations at Panmunjom became completely deadlocked on the prisoner-of-war issue with no immediate prospect of agreement. The U.N. Commission for the Unification and Rehabilitation of Korea was primarily concerned with observing and reporting on political developments in the Republic of Korea. The relief and reconstruction of Korea continued for the greater part of the period to be the exclusive responsibility of the United Nations command with the U.N. Korean Reconstruction agency (U.N.K.R.A.)

acting in an advisory and consultative capacity under an arrangement originally entered into under which U.N.K.R.A. was to assume responsibility within six months after the cessation of hostilities. The prolonged deadlock in armistice negotiations and the consequent continuation of hostilities led to a revision of this arrangement by which U.N.K.R.A. took over a portion of the responsibility for reconstruction. On Oct. 2, J. Donald Kingsley, agent-general for U.N.K.R.A., announced that the agency was prepared to begin large-scale operations in Korea by spending up to $70 million on relief and reconstruction during the year ending June 30, 1953. (For an account of the progress of the war and of the truce negotiations in Korea during 1952, *see* KOREAN WAR.)

When the general assembly met on Oct. 14, the Korean question was included on its agenda and referred to the Political committee. In the course of committee discussion Dean Acheson, U.S. secretary of state, introduced a draft resolution, supported by 20 members, calling for approval of the principle of voluntary repatriation of prisoners and the communication of the general assembly's position by its president to the authorities of Communist China and North Korea, while Andrey Vyshinsky introduced a draft resolution which, without mentioning the prisoner issue, provided for the establishment of a commission, composed in part of " neutrals ", to achieve a cease-fire and a political settlement in accordance with the wishes of the Koreans. V. K. Krishna Menon (India) proposed an honourable way towards a settlement in Korea but insisted that the detaining side had no right to use force in disposing of prisoners. On Dec. 3 the 12 abstentions, and adopted by 54 votes the Indian resolution. On Dec. 5 Lester B. Pearson, president of the assembly, transmitted the compromise resolution to the governments of Peking and Pyongyang. On Dec. 14 Chou En-lai rejected it and so did Pak Hen Yen, the North Korean minister of foreign affairs.

Tunisia and Morocco. Having failed in Nov. and Dec. 1951 in their efforts to place the Moroccan question on the agenda of the sixth session of the general assembly, the Arab-Asian bloc turned, in March 1952, to the Security council in an effort to bring the Tunisian problem before that organ. As in the case of Morocco, affairs in Tunisia had reached a crisis stage in which widespread anti-French, nationalist disturbances were being met by vigorous police action on the part of the French authorities. Again, as in the Moroccan case, negotiations on administrative and political reforms were ostensibly being conducted by French and Tunisian representatives.

The Security council discussed the question in April and though the subject at hand was the procedural one of whether the council should put the question on its agenda, heated debate ranged over the substance of the dispute. The French delegate insisted that the situation was an internal one and maintained that the negotiations then in progress would be hampered by council consideration. The Pakistan representative doubted the integrity of the negotiations and pointed to the council's unbroken record of admitting every item for discussion. On April 14 the council, by a vote of 3 to 5 with 4 abstentions, decided not to include the question on its



The Security council chamber where, on Sept. 22, a mural was unveiled by Oscar Torp, Norwegian prime minister. The mural, a gift from Norway, was by Per Krohg; decoration and furnishing of the chamber by Arnstein Arneberg (designer of the new Oslo town hall).

The Arab-Asian bloc then requested the secretary-general to call a special session of the general assembly to consider the matter. However in July the secretary-general announced that the request had failed to receive the necessary majority of member states In September, however, the Arab-Asian bloc again submitted the Tunisia-Moroccan questions for inclusion on the agenda of the seventh general assembly, and the assembly's general committee recommended favourable action (*See* FRENCH UNION)

Regulation of Armaments The sixth session of the general assembly in January established a 12-power Disarmament commission to replace the Atomic Energy and Conventional Armaments commissions. Operating as a subsidiary organ of the Security council, the new body was given the task of drawing up a draft treaty or treaties for the regulation and reduction of armaments and the international control and prohibition of atomic energy and weapons as well as other weapons of mass destruction. Although the Soviet bloc disagreed with the resolution establishing the Disarmament commission, the U S S R. nevertheless consented to participate in its work.

The commission considered work programmes submitted by the U.S., Soviet and French delegates. Over Soviet opposition the commission adopted, in March, the French programme which included: (1) the problem of disclosure and verification of all armed forces and armaments, including atomic ones; (2) regulation and control of armed forces and armaments, especially atomic weapons and weapons of mass destruction; and (3) the procedure and time-table necessary to effect these objectives.

It soon became evident, however, that the new commission was facing the same problems that its predecessors had failed to solve. In the matter of disclosure of information on armed forces and weapons, the western concept of progressive disclosure ran counter to Soviet insistence upon full and simultaneous disclosure of both atomic and non-atomic weapons. With respect to reduction of armaments, the Soviet government advocated a flat one-third cut while the western powers maintained that a " balanced " reduction was required. Finally and most important, both sides were almost as far apart as ever on the question of prohibition and control, especially with regard to atomic weapons. The Soviet Union adhered to the view that prohibition must precede control, and defined control as inspection and verification by an international authority in a manner which did not interfere in the domestic affairs of states The western powers insisted, on the other hand, that prohibition was only realistic after an effective system of controls had been installed and that such a system to be effective must include ownership and management by an international authority of atomic installations as well as an unhampered right of inspection.

In May the three western powers defined what they meant by balanced reduction of armed forces by submitting a proposal that the armed forces of China, the Soviet Union and the United States be limited to 1 million—1·5 million, that France and Great Britain limit theirs to between 700,000 and 800,000 and that other powers limit theirs to not more than 1% of their population. The western powers felt that if the Soviet Union could accept this or a related basis for the reduction of armed forces, discussion could then proceed to the question of the reduction, control and prohibition of armaments. The Soviet delegate, however, turned down both the proposal and the method since the proposal did not distinguish between land, sea and air forces, while the method reversed the order held necessary by the Soviet Union.

In August the three western powers submitted a new proposal designed to meet Soviet criticism of their plan for a balanced reduction of armed forces. The proposal called for a " big five " conference to consider the distribution by principal categories of the armed forces considered necessary, the types and quantities of armaments necessary to support these forces, and the elimination of all armed forces and armaments, including atomic weapons and weapons of mass destruction, not expressly permitted. It was further proposed that regional conferences be subsequently held to reach similar agreements covering other states and that the results of these conferences be embodied in a draft treaty. However the Soviet delegate rejected this proposal because of the time lag between the limitation on armed forces and the prohibition of atomic weapons.

Bacteriological Warfare. In addition to the wide divergence of viewpoints mentioned above, the progress of the Disarmament commission was further hampered by protracted and heated discussion caused by the Soviet accusation that the United States was employing bacteriological weapons in Korea This charge was first raised at the commission's second meeting in March and in subsequent meetings was categorically denied by the U.S. delegate who proposed an investigation of the charges by the International Red Cross, but this was rejected by the Soviet delegate

In June the Soviet delegate proposed that the Security council appeal to all states which had not adhered to the Geneva protocol of 1925 on the prohibition of the use of chemical and bacterial weapons to do so at once. (The United States was the principal nation which had not ratified the treaty.) The U.S. delegate maintained that the treaty was an obsolete paper promise and ineffective as a deterrent to the use of those weapons and that the sincerity of the United States on this question was being demonstrated in the Disarmament commission where the U S. delegate was supporting efforts to establish an effective system of international control over all weapons of mass destruction. This view was generally supported by other members of the council and the Soviet proposal was rejected in late June by a vote of one to none with ten abstentions. On the other hand, two U.S. proposals, one requesting the International Red Cross to investigate the charges, and a second condemning the fabrication of false charges, were vetoed by the Soviet delegate.

Economic and Social Co-operation. United Nations activities in this field were of a wide and varied nature. The character of the activities ranged from research and publication to field operations.

Co-ordination of Activities. One of the continuing problems with which the principal organs of the United Nations dealt during the year 1952 was that of the better co-ordination of the policies and activities of the United Nations and the specialized agencies in order to prevent overlapping and achieve concentration on tasks of primary importance. During its sixth session in February, the general assembly approved the system of priorities which had been adopted by the Economic and Social council as a co-ordinating device. During its 14th session the Economic and Social council approved a revised list of major programmes which were to enjoy priority, along with a number of contributory programmes. The major programmes were as follows: (1) increased food production and distribution; (2) increased production in fields other than food; (3) measures for promoting domestic full employment and economic stability within an expanding economy; (4) acceleration of welfare, social security and basic public health programmes; (5) development of education and science; and (6) formulation and wider observance of human rights.

Technical Assistance. An ever increasing share of the time and efforts of the United Nations and the specialized agencies was devoted to technical assistance. A part of this work was financed from the regular U.N. budget and was administered by the U.N. Technical Assistance administration. An increasing portion of this work was being done under the

expanded programme of technical assistance, under a special account established in 1950, and under the direction of the Technical Assistance board and the Technical Assistance committee of the Economic and Social council. The council, during its 14th session, voted to raise the target for contributions to finance the expanded programme from $20 million for 1952 to $25 million for 1953.

Economic Development. In the field of economic assistance to underdeveloped nations, the problem of meeting the needs and demands of underdeveloped countries for foreign capital to help finance their economic development continued to absorb much of the interest and activities of the Economic and Social council and other bodies. Inequalities in standards of living, in available capital and in production throughout the world remained as serious as ever. These problems were further aggravated by economic dislocations resulting from the rearmament programmes of the western powers as well as the growing disinclination of the United States, the chief capital exporting nation, to make capital grants for other than strategic purposes.

The search for a solution had developed largely along three lines. The first consisted of efforts to facilitate the flow of private capital to underdeveloped areas. Of chief interest in this connection was the proposal to create an International Finance corporation to make equity investments or loans to private enterprises in underdeveloped countries. It was believed that the example set by the corporation would help to dissipate the lack of confidence which was felt to be the chief deterrent to the resumption of large-scale private international investment. This proposal was considered by a group of experts appointed by the secretary-general, by the Economic Employment and Development commission and by the Economic and Social council which referred the problem to the International Bank for Reconstruction and Development. The bank reported favourably on the proposal to the Economic and Social council at its 14th session but that organ could not come to an agreement on what action should be taken and referred the matter back to the bank for further study. At the same session the council also asked its Fiscal commission to study the question of tax incentives as a means of stimulating private foreign investment.

The second approach was embodied in a resolution adopted by the sixth session of the general assembly requesting the Economic and Social council to submit a detailed plan for establishing a special fund for grants-in-aid and low-interest, long-term loans to underdeveloped nations. The assembly resolution was partly the result of recommendations made in 1951 by a group of experts appointed by the secretary-general. It barely passed the assembly by a vote of 30 to 16 with 11 abstentions, most of the industrialized countries voting in the negative. The Economic and Social council considered the assembly's proposal at its 14th session and finally decided to refer the matter to a special committee of nine experts who were to submit detailed recommendations to the council's 15th session.

Specialized Agencies. An important part of the work in the field of international economic and social co-operation was performed by the specialized agencies, international organizations set up on the basis of their own constitutions for specialized purposes and brought into relation with the U.N. by agreements concluded by the appropriate organs of the U.N. and the particular specialized agency in question. The constitutions of two additional specialized agencies had not yet entered into force because of the absence of the necessary ratifications. The convention establishing the Inter-Governmental Maritime Consultative organization (I.M.C.O.) had been ratified by 10 states. Ratification by 21 states, including the principal maritime powers, was required. The constitution of the International Trade organization (I.T.O.) had not been ratified by any signatory. The 52-member Interim commission continued to function, however. During 1952 the following specialized agencies were in actual operation:

International Labour Organization (*q.v.*): headquarters at Geneva; David A. Morse, director-general; 65 members.

Food and Agricultural Organization: headquarters in Rome; Norris E. Dodd, director-general; 67 members.

International Monetary Fund (*q.v.*): headquarters in Washington, D.C.; Ivar Rooth, managing director; 51 members.

International Bank for Reconstruction and Development (*q.v.*): headquarters in Washington, D.C., Eugene R. Black, president; 51 members.

International Civil Aviation Organization: headquarters in Montreal; Edward Warner, president of the council; 57 members.

United Nations Educational, Scientific and Cultural Organization (U.N.E.S.C.O.): headquarters in Paris; director-generals in 1952: Jaime Torres Bodet and (*ad interim*, from Nov. 22) John W. Taylor. At the seventh general conference held in Paris (Nov. 12-Dec. 11), Nepal and Libya were unanimously admitted and Spain by 44 votes to 4 with 7 abstentions. As Poland resigned on Dec. 6 and Hungary on Dec. 30 the membership at the end of the year was 64.

International Telecommunications Union: headquarters at Geneva; Leon Mulatier, secretary-general, 89 members (including colonial areas).

Universal Postal Union: headquarters in Berne; Fritz Hess, director of the international bureau; 92 members (including colonial areas).

World Meteorological Organization: headquarters at Geneva; G. Swoboda, chief of the secretariat; 77 members.

World Health Organization: headquarters at Geneva, Brock Chisholm, director-general, 78 members plus one associate member (Southern Rhodesia). W.H.O.-assisted malaria control projects operated in 20 countries during 1952 and demonstration and training centres for the control of tuberculosis were operating in Ecuador, El Salvador, Jamaica, Pakistan, Turkey, Burma, Ceylon, India and Thailand, while new projects were started in Egypt, Syria, India and Indonesia. In the field of venereal diseases and treponematoses, control programmes by means of penicillin treatment, assisted by W.H.O., were operating during the year in Haiti, Thailand, Indonesia, Philippines, India, Laos, Liberia, Iraq and Yugoslavia. Maternal and child health projects launched with the assistance of W.H.O. included the creation of the first children's hospital in Bolivia, as well as demonstration and training centres in Afghanistan, India, Burma, Thailand, Cambodia, Japan, Brazil, Colombia, Chile, Peru, Paraguay, Pakistan, Lebanon and Syria. In order to create greater understanding of the problems of mental health, W.H.O. has sent visiting consultants to many countries (six in 1952) and organized long-term fellowships to train mental health specialists. In the field of environmental sanitation a new division for environmental sanitation was created at W.H.O. headquarters in Geneva during the year which dealt not only with problems such as sewage disposal and pure water supply but also with insect and rodent control, housing and town planning, milk and food sanitation and the health implications of economic and industrial development.

Aid to Non-self-governing Peoples. The committee on Information from Non-Self-Governing Territories (formerly the Special Committee on Information Transmitted under Article 73[e] of the Charter) devoted much of its 1952 session to examining and making recommendations on information submitted by the administering powers on social developments in the non-self-governing territories. Social problems and dislocations resulting from the impact of western knowledge, science and techniques upon village and tribal societies were examined. The committee also dealt with the question posed by the obligation of member nations having non-self-governing territories to supply information to the U.N. on economic, social and education matters in these territories until they achieve "a full measure of self-government". This problem had been accentuated by the steady decline in the number of territories reporting, the administering power in each case claiming that self-government had been achieved. In January the sixth session of the general assembly submitted a list of factors to serve as guides to the administering powers in determining this question. In addition it created an *ad hoc* committee to study the question and report to the seventh session of the general assembly.

In accordance with an assembly request, the council at its tenth session established a standing committee on petitions to handle petitions dealing with specific complaints. In response to another assembly request, the council reviewed the methods

and functioning of its visiting missions. In compliance with a third assembly resolution, the council's standing committee on administrative unions reviewed the problems posed by the need to balance the administrative convenience of the administering powers with the obligations of those powers to the trust territories incurred under the charter and trust agreements. Finally, the council deferred consideration of an assembly recommendation on indigenous participation in the council's work until its 11th session at which time it passed a resolution expressing the hope that the administering authorities would include in their delegations to the council inhabitants of their trust territories.

In addition to these matters, the Trusteeship council at its tenth session considered the annual reports of the administering authorities for the trust territories of Western Samoa, New Guinea, Nauru and the Pacific Islands, and petitions from trust territories in Africa and New Guinea.

The 11th session of the Trusteeship council was devoted in large part to a detailed review of conditions and progress in seven African trust territories. Reports by the administering powers on Somaliland, Ruanda-Urundi, Tanganyika, the two Togolands and the two Cameroons were considered, and observations and recommendations were made to the general assembly. In addition, arrangements were completed for a visiting mission to the four west African trust territories. This mission, in addition to its regular duties, was instructed to make a special study of the Ewe unification problem, as requested by the general assembly. The Ewe problem, which had increased in importance, was the result of the desires of the Ewe people (about 800,000) for political and administrative unity, a desire which was hampered by their division into three administrative areas: the two trust territories of British and French Togoland and the British Gold Coast dependency. The mission was instructed to report back on this subject to the 12th session of the council in November. (*See* also TRUST TERRITORIES) (L. M. GH)

UNITED STATES OF AMERICA. Federal republic in North America composed of 48 separate and (theoretically) sovereign states; fifth largest country of the world in area, fourth in population, but foremost in industrial production and financial resources; bounded N. by Canada, S. by Mexico, E by the Atlantic ocean and W. by the Pacific ocean Area of continental United States: 3,022,387 sq.mi. (incl. 47,662 sq.mi. of inland water) Territories and outlying possessions are:

	Area (sq mi)	*Population* (1950)		*Area* (sq mi)	*Population* (1950)
Alaska	571,065	128,643	Panama Canal Zone	362	52,822
Samoa	76	18,937	Puerto Rico	3,423	2,210,703
Guam	203	59,498	Virgin Islands	132	26,665
Hawaii	6,441	499,794			

Pop. (continental United States, 1950 census): 150,697,361, an increase of 19,028,086 (14·5%) over 1940; 89 7% white, 9·9% Negro and 0 4% other non-white; foreign-born white population 10,437,000 (decrease of 11·1% on 1940); American Indians (1940) 333,969; Japanese 126,947; Chinese 77,504. Mother tongue (1940): English 78 6%; German 4 2%, Italian 3·2%; Polish 2·0%, Spanish 1·6%; Yiddish 1 5%, Swedish 0 7%; Norwegian 0·6%; Russian 0·5%; other or non-reported 7 1%.

In 1951 there were in the United States 53 religious bodies of more than 50,000 members, and a total of 88,673,000 members. Though "Protestants" as a group claimed 52 million, the Roman Catholic Church, with an estimated total of 29,407,500, was far ahead of any single denomination. In 1948 the nine Baptist bodies numbered 15,230,000 (incl. *c.* 4,000,000 Negroes), four Methodist bodies 10,337,700 (incl. *c.* 1,770,000 Negroes); seven Lutheran bodies 5,098,500; four Presbyterian bodies 3,127,000; Protestant Episcopal Church 2,160,200. The largest non-Christian congregation was Jewish (about 5 million).

Chief towns (pop., 1950 census, preliminary figures):

Washington, D C., cap	802,178	Houston	594,321
New York	7,835,099	Buffalo	577,393
Chicago	3,606,436	New Orleans	567,257
Philadelphia	2,064,794	Minneapolis	517,277
Los Angeles	1,957,692	Cincinnati	500,510
Detroit	1,838,517	Seattle	462,440
Baltimore	940,205	Kansas City	453,290
Cleveland	905,636	Newark	437,857
St. Louis	852,623	Dallas	432,927
Boston	790,836	Indianapolis	424,683
San Francisco	760,753	Denver	412,856
Pittsburgh	673,763	San Antonio	406,811
Milwaukee	632,651	Memphis	394,012

President of the United States, Harry S. Truman (*q.v.*); vice-president, Alben W. Barkley. At Dec. 31, 1952, the cabinet was as follows: secretary of state, Dean G. Acheson; secretary of defence, Robert A Lovett; secretary of the treasury, John W. Snyder; attorney-general, James P. McGranery; postmaster general, Jesse M. Donaldson; secretary of the interior, Oscar L. Chapman; secretary of agriculture, Charles F. Brannan; secretary of commerce, Charles Sawyer; and secretary of labour, Maurice J. Tobin.

THE STATES OF THE UNITED STATES OF AMERICA

State	*Population* 1950 Census	Increase* over 1940	*Land Area* (sq mi)	*Capital City*
Alabama (Ala)	3,061,743	228,782	51,078	Montgomery
Arizona (Ariz.)	749,587	250,326	113,575	Phoenix
Arkansas (Ark)	1,909,511	—39,876	52,675	Little Rock
California (Calif)	10,586,223	3,678,836	156,740	Sacramento
Colorado (Colo)	1,325,089	201,793	103,922	Denver
Connecticut (Conn)	2,007,280	298,038	4,899	Hartford
Delaware (Del)	318,085	51,580	1,978	Dover
Florida (Fla)	2,771,305	873,891	54,262	Tallahassee
Georgia (Ga)	3,444,578	320,855	58,483	Atlanta
Idaho (Ida)	588,637	63,764	82,769	Boise
Illinois (Ill)	8,712,176	814,935	55,935	Springfield
Indiana (Ind)	3,934,224	506,428	36,205	Indianapolis
Iowa (Ia)	2,621,073	82,805	56,045	Des Moines
Kansas (Kan)	1,905,299	104,271	82,108	Topeka
Kentucky (Ky)	2,944,806	99,179	39,864	Frankfort
Louisiana (La)	2,683,516	319,636	45,162	Baton Rouge
Maine (Me)	913,774	66,548	31,040	Augusta
Maryland (Md)	2,343,001	521,757	9,881	Annapolis
Massachusetts (Mass)	4,690,514	373,793	7,867	Boston
Michigan (Mich)	6,371,766	1,115,660	57,022	Lansing
Minnesota (Minn)	2,982,483	190,183	80,009	St Paul
Mississippi (Miss.)	2,178,914	—4,882	47,248	Jackson
Missouri (Mo.)	3,954,653	169,989	69,226	Jefferson City
Montana (Mont)	591,024	31,568	145,878	Helena
Nebraska (Neb)	1,325,510	9,676	76,663	Lincoln
Nevada (Nev)	160,083	49,836	109,789	Carson City
New Hampshire (N H.)	533,242	41,718	9,017	Concord
New Jersey (N J)	4,835,329	675,164	7,522	Trenton
New Mexico (N M)	681,187	149,369	121,511	Santa Fé
New York (N Y)	14,830,192	1,351,050	47,944	Albany
North Carolina (N.C)	4,061,929	490,306	49,097	Raleigh
North Dakota (N D.)	619,636	—22,299	70,057	Bismarck
Ohio (O)	7,946,627	1,039,015	41,000	Columbus
Oklahoma (Okla)	2,233,351	—103,083	69,031	Oklahoma City
Oregon (Ore)	1,521,341	431,657	96,315	Salem
Pennsylvania (Pa.)	10,498,012	597,832	45,045	Harrisburg
Rhode Island (R I.)	791,896	78,550	1,057	Providence
South Carolina (S.C)	2,117,027	217,223	30,305	Columbia
South Dakota (S D)	652,740	9,779	76,536	Pierre
Tennessee (Tenn)	3,291,718	375,877	41,797	Nashville
Texas (Tex.)	7,711,194	1,296,370	263,513	Austin
Utah	688,862	138,552	82,346	Salt Lake City
Vermont (Vt)	377,747	18,516	9,278	Montpelier
Virginia (Va)	3,318,680	640,907	39,893	Richmond
Washington (Wash)	2,378,963	642,772	66,786	Olympia
West Virginia (W. Va.)	2,005,552	103,578	24,080	Charleston
Wisconsin (Wis.)	3,434,575	296,988	54,705	Madison
Wyoming (Wyo.)	290,529	39,787	97,506	Cheyenne
District of Columbia (D.C.)	802,178	139,087	61	—

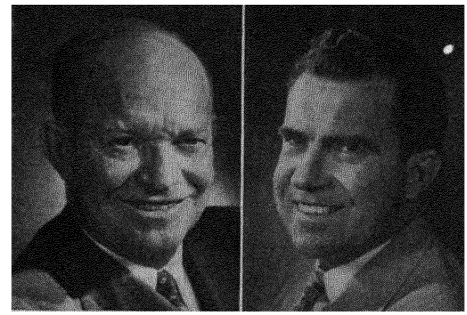
* A minus sign (—) denotes decrease

History. *Foreign Affairs.* On Jan. 4, 1952, Winston Churchill arrived in the United States primarily to " re-establish the close and intimate relationship " he had had with President Roosevelt in wartime and " to seek a common policy and approach on the grave problems facing the western alliance." Churchill made a bow to the United Nations, but emphasized in his public addresses the North Atlantic Treaty organization (N.A.T.O.). He addressed the U.S. congress on Jan. 17. On Jan. 28 the congress granted $300 million to Great Britain " to support its defence programme and contribute to maintaining the strength and stability which are essential to that programme." Despite Churchill's assurances that " We welcome your patience in the armistice negotiations (in Korea) and our two countries are agreed that if the truce we seek is reached only to be broken our response will be prompt, resolute and effective," on his return to Britain, in answer to Labour party criticism, he said it meant no change in British policy.

Dean Acheson supported a suggestion made by General Dwight D. Eisenhower on Jan. 21 to the effect that the western European nations call a constitutional convention " to examine and actually cope with problems of greater political and economic unity." Meanwhile, the meeting at Lisbon of the N.A.T.O. council went forward, and Acheson, in a national radio broadcast on Feb. 29, reported agreement on five basic matters in this ninth meeting of the foreign ministers of the western European powers: (1) the forces to be made available to the N.A.T.O. command during 1952; (2) the bases and facilities to be built and maintained for these forces; (3) the creation of a European Defence community (E.D.C.) by six nations, including the German Federal Republic; (4) the means by which German Federal Republic might be admitted to a place of equality and responsibility in the European community could be achieved; and (5) the reorganization and strengthening of the N.A.T.O. structure. On May 27, in Paris, agreements creating the E.D.C. and binding it to the N.A.T.O. were signed. This was hailed by Acheson as a great step toward peace in Europe, and when on June 11 he defended before the Senate foreign relations committee the agreements on the qualified German rearmament, he found no opposition. It was notable that Republican as well as Democratic leaders were favourable to European integration. (*See* also EUROPEAN DEFENCE COMMUNITY.)

That the policies of the administration in Europe and elsewhere were not to go unchallenged was signalized on Jan. 27 when Herbert Hoover addressed a nation-wide audience by radio and television. His position was that inasmuch as European nations were lagging in contribution to their own defence, the United States should withdraw most of its ground forces from Europe and build on the western hemisphere as the " bastion of liberty ". Senator Robert A. Taft said on June 1 that the policy of President Truman had been " the most disastrous " in American history and that the " bipartisan foreign policy was a fraud ". Taft declared he was not an isolationist, that he would not withdraw from Europe or from Korea, nor would he withdraw from the United Nations, but do his best " to amend the charter so that action is based on international law and the adjudication of an impartial tribunal, and the veto power eliminated." He reiterated the position, so often stated by Hoover, that control of the sea and priority in the air, not the possession of overwhelming land forces, should be the basic military policy of the United States. General Omar N. Bradley, chairman of the joint chiefs of staff, on March 20 attacked the theory of defence of Hoover and Taft as overemphasizing the strength of air and naval power.

In the midst of the presidential campaign, a conference on Pacific problems was held in Honolulu—attended by representatives of New Zealand and Australia, and led by Acheson.



The president and vice-president of the United States from Jan. 20, 1953. Dwight D. Eisenhower, (left), and Richard M. Nixon.

Great Britain was not asked to send representatives, nor were France, the Netherlands or the Philippines. On Sept. 11 Acheson gave a full-length defence of the foreign policy of the administration in which he denounced the idea that it was merely " containment " of Communism. The insistence by the Soviet Union, on Oct. 3, that George F. Kennan, the U.S. ambassador, be recalled from Moscow, led to a formal defence of Kennan by the state department, but he returned to the United States.

Throughout the year the American people continued to view with deep misgiving the participation of the United States in the war in Korea. The widespread acceptance in 1950 and even in 1951 of duty within the United Nations gave way to an uncertain sense of obligation in that the United States appeared unable to bring about a successful termination of the war and yet was unwilling to withdraw its forces. British and U.S. policies on the extent of the war seemed nearer together than in 1951.

On May 15 General Mark W. Clark (*q.v.*) succeeded General Matthew B. Ridgway (*q.v.*) as commander in the far east. General Ridgway reported in Washington the " significant build up of the Soviet Union's far eastern military strength." General Clark let it be known that he would advise bombing China if the Communist air force attacked in strength in Korea. (*See* also KOREAN WAR.)

The stalemate in Korea had profound effect upon public opinion in the United States. The administration maintained its position on war, united effort and continued negotiation. Opponents said mistakes had been made (1) in a land war in Korea; (2) in failing to follow General MacArthur's leadership; (3) in not naming the U.S.S.R. the " aggressor "; and (4) in working with Great Britain in the far east. The result of this argument within the nation was a weakening of general foreign policy and a weakening of belief in the United Nations.

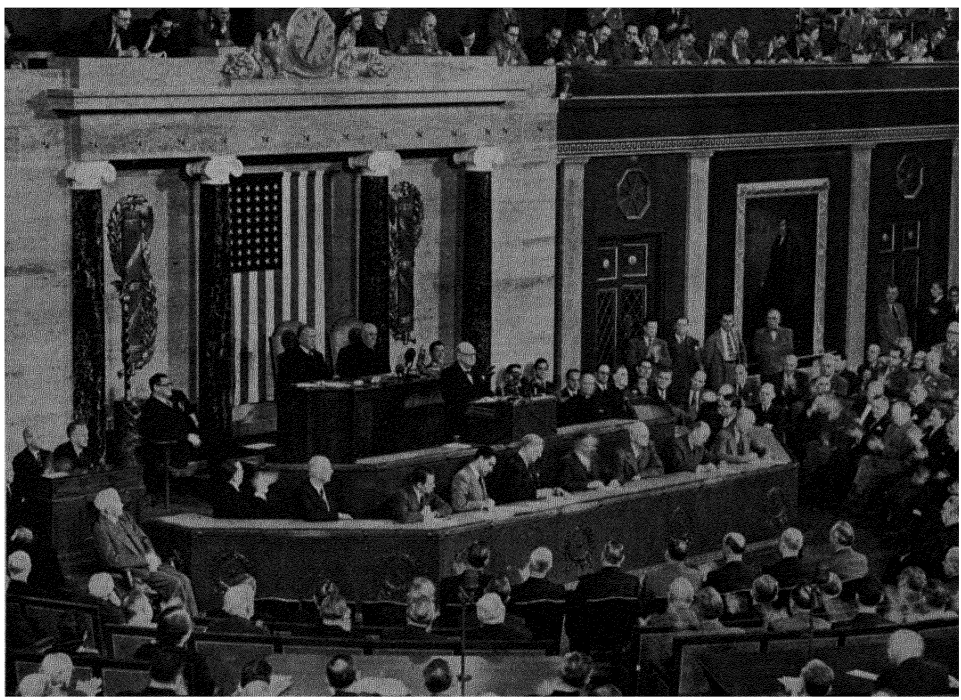
Meanwhile, the universal military training legislation before congress was thought inadequate in an atomic age. Although its advocates felt that " its enactment may shape the destiny of this nation and possibly the peace of the world for the rest of this century," the matter was nevertheless shelved on March 4. However, to enable release of 1,080,000 men and yet keep an army of 3,700,000 in readiness, the draft continued and plans were made to take 610,000 men for training between July 1, 1952, and July 1, 1953.

Communism. The discussion of Communism in the United States continued throughout the year and was emphasized by three developments: (1) the activity of Senator Joseph McCarthy; (2) the trial of 15 Communists in Los Angeles; and (3) the position taken by loyalty boards. A group of 38 Republican senators signed a petition of no-confidence in Philip C. Jessup as delegate of the United States in the U.N.

assembly. President Truman stood against the use of State Department files by congressional investigating committees. Professor Owen Lattimore spent 11 days before the Senate internal security committee late in February and in early March. On July 2 the Senate investigating committee reported on the conclusion of an 18-month inquiry into the Institute of Pacific Relations, declaring Lattimore " a conscious articulate instrument of Soviet conspiracy " and recommending perjury charges. In early December the Department of Justice moved to indict Lattimore. Meanwhile, General Walter Bedell Smith, head of the Central Intelligence agency, stated his belief that Communists were undoubtedly within this secret body, as well as in other security organizations of the federal government. On Dec. 2 a federal grand jury reported that it had found a " definite, planned pattern " in which high officials of the U.S. government had surrounded themselves with disloyal persons who were later shifted to key posts in the U.N. organization. (*See* also COMMUNISM.)

Corruption. Late in January the judiciary committee of the House of Representatives, without a dissenting vote, ordered a full-scale investigation of the Department of Justice. On Feb. 1, the president appointed Newbold Morris, of New York, special assistant to James Howard McGrath, the attorney-general, to investigate the charges. In accepting, Morris said he would conduct a non-partisan investigation " to clean up the spoils system in government." Morris developed his plan despite heavy criticism of his powers and of his record. He proceeded to issue a questionnaire; McGrath denied his power, the president upheld Morris and McGrath dismissed Morris. Then Truman, with whom the attorney-general had long been associated in politics, accepted the resignation of McGrath and appointed James P. McGranery, a federal judge, as attorney-general. The matter of investigation was dropped.

Industrial Unrest. The first six months of the year were marked by a struggle in the steel industry. On Dec. 31, 1951, it had been announced that the members of the United Steel Workers of America, a member of the Congress of Industrial Organizations (C.I.O.), were prepared to strike on the issue of an increase in wages, and early in April this strike was threatened. On April 8 President Truman seized the steel industry to prevent the nation-wide walkout. The management sought injunctions against seizure. In late April David A. Pine, a judge of the federal district court, ruled that the president's seizure was unconstitutional and ordered the return of the plants to private management. The steel workers began the threatened walkout, but the U.S. Court of Appeals granted a stay of the order restoring the steel plants to the companies and at President Truman's request the strike was called off, pending the decision of the Supreme court in this case. On June 2 the Supreme court ruled that the president's seizure of the steel industry was unconstitutional. A 53-day strike of the steel workers followed the return of the plants to private management. The president appealed to the congress for a law permitting seizure in a national emergency. The Senate rejected this appeal and urged use of the Taft-Hartley law. The president rejected this proposal. So dangerous to the national defence was the stoppage of work that the



Winston Churchill addressing a joint session of Congress on Jan. 17. Behind him are Alben Barkley, vice-president of the United States (left), and Sam Rayburn, speaker of the House of Representatives. Churchill had previously addressed Congress in 1941 and 1943.

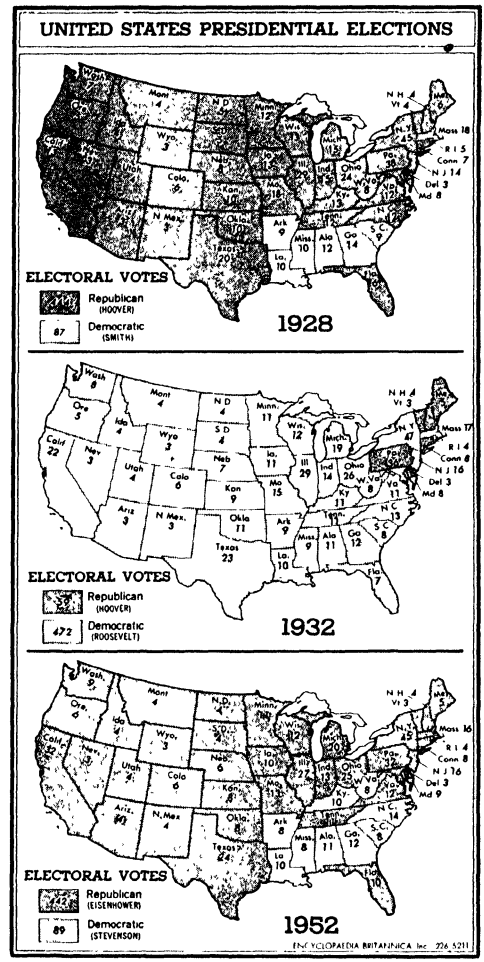
president threatened to seize certain mills under the Selective Service act. Finally, just before the close of the Democratic national convention, the president summoned the leaders of labour and management to the White House, and an agreement was signed in his presence by Philip Murray of the United Steel Workers and Benjamin Fairless, president of the U.S. Steel corporation. It was a total victory for neither. The strike at its various stages had been marked by three significant developments: (1) serious interference with defence production; (2) decisions of far-reaching importance taken by both the president and Supreme court; (3) limitation of the power of the Wage Stabilization board.

In May the three-year-old railway dispute about wages had been brought to an end when three operating unions, Brotherhood of Locomotive Engineers, Order of Railway Conductors and Brotherhood of Locomotive Firemen and Enginemen, accepted the terms worked out by the representative of the president. The settlement, which provided substantial wage increases, was accepted reluctantly by the unions. They had protested against government seizure and labour injunctions. The railways, which had been under nominal operation by the army since their seizure in Aug. 1950, were returned to private management. (*See* also STRIKES AND LOCK-OUTS; TRADE UNIONS; WAGES AND HOURS.)

Immigration Policy. The McCarran-Walter Immigration and Nationality bill was passed by the Senate on June 11 after passing the House by a vote of 203 to 53. On June 25 President Truman vetoed the bill as discriminatory and crippling to U.S. foreign policy. The bill, 300 pages in length, was the result of three years of study by congressional committees in an attempt to codify the immigration laws that had accumulated during 30 years. Despite " improvements " noted by the president, he claimed that the bill would not only continue an " outdated national origins quota system ", but would actually place the rights of some citizens in jeopardy. The House of Representatives, nevertheless, on June 26 decided by 278 votes to 113 to pass the bill over the president's veto, and the following day the Senate overrode the president's veto by a 57 to 26 vote. The new law provided for the annual admission of 154,658 persons, 308 more than could previously be admitted. Racial barriers to immigration were literally removed by a small quota (2,000) admissible from Asiatic countries, and the ban to naturalization of people of Asiatic birth, now resident in the United States, was wiped out. Foreigners married to women citizens of the United States might henceforth enter the country without reference to quotas, as might the foreign brides of servicemen, and certain foreign members of families established in the country might be exempt from literacy tests for entry. But provisions for the admission, exclusion and deportation of aliens dangerous to the national security were strengthened by the law, and a system of selective immigration instituted whereby top priority would be given those having superior education or skills needed in the country.

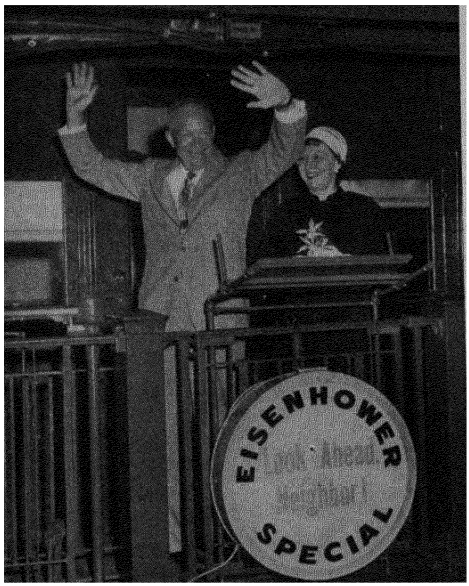
Economic Developments. As the year opened, prosperous conditions were noted throughout the business structure; yet inflation seemed certain to continue, with costs remaining high and profits and purchasing power equally certain to decline because of the impending tax burden. In presenting plans for tax revision, President Truman in his report to the congress on Jan. 16 wrote:

> As 1952 opens, we face a period during which the burden of the defence programme will increase greatly—both in absolute terms and relative to the total size and strength of the economy. This increasing burden, while indispensable to our security, will place an additional strain upon our manpower, our physical plant, our natural resources and our standard of living.. It will inescapably cause government expenditures to rise greatly, and, even with the additional taxes I am recommending, it is estimated that there will be a large deficit this year and a larger one next year.



The president, in a message to the congress on Jan. 21, presented his budget estimates calling for $85,000 million for the fiscal year 1952-53. Of this, 76% was for " major national security programmes ", of which 60% was for military services. A total of $5,000 million was asked for the atomic energy programme. (*See* also BUDGET, NATIONAL.)

Opposition to the president's programme was expressed not only by Republican leaders, but also by representatives of the Democratic party. Senator Paul Douglas of Illinois saw " catastrophe " in the growing tendency to accept " easy money " views. Senator Harry F. Byrd of Virginia in particular attacked the dangers of continued inflation, and offered an alternative budget of $76,000 million as a possible way to escape deficit spending without injuring the " essential government functions or the programme of military security ". It was reported on July 1 that in the fiscal year ending June 30, 1951, the U.S. treasury showed a deficit of $4,000 million. By midyear, employment was reported at the record figure of 62,500,000.



General Dwight Eisenhower the Republican presidential candidate, accompanied by Mrs. Eisenhower, setting out from New York on an election campaign trip. In all he made 270 speeches.

Presidential Election. The election of Dwight D. Eisenhower (*q.v.*) to the presidency on Nov. 4 reflected one of the "tidal sweeps" of United States political history. Abrupt changes had been provided in the election of Abraham Lincoln in 1860, of Warren G. Harding in 1920 and of Franklin D. Roosevelt in 1932; yet each of these upheavals had been a party triumph, and the leader had been less important than the movement of the masses in the direction he seemed to point. In 1952 the leader was of primary importance, and this fact was the most significant aspect of the election.

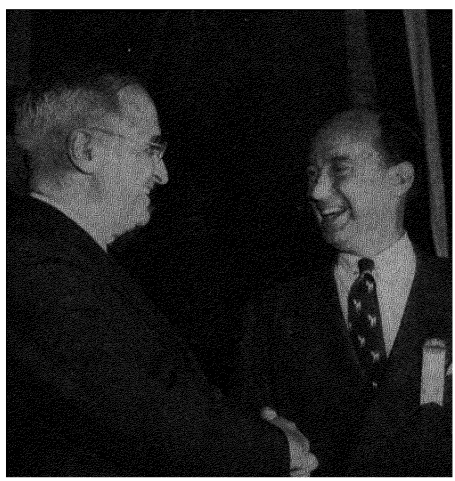
Pressure of problems and need of immediate action were reflected in the swift moves made by the outgoing and the incoming administration to achieve a transition of power at an earlier date than ever before in the history of the United States, that is, on Jan. 20, 1953. However, it was repeatedly pointed out that the representatives of President-elect Eisenhower were in Washington during the "interregnum" as "observers" only. In addition to pressing problems in foreign relations, finance, foreign trade and taxes, two major questions presented themselves throughout the campaign and became increasingly critical as the year ended: (1) How would Eisenhower, as president and Republican party leader, deal with the basic divisions on foreign policy within the Republican membership of the Senate and House? (2) How would Eisenhower deal with the schisms within the United Nations on matters involving European aid, the Korean war, and the continued Soviet policy of obstruction of the majority of the members of the United Nations?

Another question of vital importance was this: what would become of the Democratic party? It was a question in any political discussion despite the fact that the Democrats had polled 45% of the popular vote for president and had heavy minority representation in both Senate and House. The question arose because it appeared that party organization had disintegrated in the course of the campaign. The southern Democrats still held important committee assignments in the congress. Although Adlai Stevenson (*q.v.*) became titular leader of his party, as admitted by President Truman, only among "liberals" and "independents" was Stevenson generally accepted as the leader for the next four years. It seemed unlikely that Truman would disappear as a party leader. Moreover, it seemed probable that Stevenson would support many policies of the new administration. There was some expression of belief that as Eisenhower's programme developed, a realignment of power would appear within both the Democratic and Republican parties.

The meeting of Truman and Eisenhower on Nov. 18 had precedent only in the meetings of Hoover and Roosevelt in Nov. 1932 and Jan. 1933, when effort had been made to achieve co-operation on both foreign and domestic policies. This earlier effort had not been productive, but representatives designated by Eisenhower (Henry Cabot Lodge, Jr., and Joseph M. Dodge) were brought into conference with representatives of the president. This had been the president's suggestion. It was pointed out that this was the first time in American history that specific arrangements for an orderly and informed transfer of power had been made.

On Nov. 20 it was announced that President-elect Eisenhower had invited John Foster Dulles (as secretary of state), Charles E. Wilson, of General Motors (as secretary of defence), and Douglas McKay, governor of Oregon (as secretary of the interior), to become members of his cabinet. The next day came the news of invitations to George Humphrey, of Cleveland, to be secretary of the treasury, Herbert Brownell, Jr., to be attorney-general and Harold E. Stassen to be director of the Mutual Security agency. By Dec. 2 the proposed cabinet was completed with the addition of Ezra Taft Benson as secretary of agriculture, Martin P. Durkin as secretary of labour, Arthur E. Summerfield as postmaster-general and Sinclair Weeks as secretary of commerce. Never before had a president-elect made appointments so long before his inauguration. (*See* also ELECTIONS; POLITICAL PARTIES, U.S.)

The Visit to Korea. On Nov. 29 Eisenhower left New York



President Truman (left) congratulating Adlai E. Stevenson on his selection as Democratic candidate for the presidency.



Senator P. McCarran (right) watching sailors being questioned following the introduction of the McCarran-Walter act on Dec. 24.

City for a visit to Korea, as he had said he would. The time and route of this trip were unknown to the public until details were published when, on Dec. 5, he returned by plane as far as Guam. At that time it was revealed that he had flown to Korea by way of San Francisco, Honolulu, Midway and Iwo Jima, accompanied by C. E. Wilson, H. Brownell and General Omar Bradley, chairman of the joint chiefs of staff. Arriving at Seoul on Dec. 2, Eisenhower conferred with U.S. army, navy and air force commanders in the far east and paid a visit to President Syngman Rhee. Visiting combat units near the front, Eisenhower reviewed troops of 15 nations participating in action in Korea. On the voyage from Guam to Hawaii in the U.S.S. "Helena", the president-elect was in consultation with four of the men chosen to be members of his cabinet—Dulles, Humphrey, McKay and Brownell. Upon his return to New York, Eisenhower said:

All of us have long realized that there can be no simple formula for bringing a swift, victorious end to this war. But at the very least that knowledge prepares us for whatever tough tasks lie ahead. Such spiritual preparedness, in our embattled world, is as necessary as physical armament. A free citizenry expecting its soldiers honourably to face the enemy, must itself honestly face reality . . . Finally, we must all recognize, in all our thinking and our planning, that the Korean war is but the most dramatic and most painful phase, for us at this moment, of our world-wide struggle against Communist aggression. This journey marks not the end but the beginning of a new effort to conclude honourably this phase of the global struggle . . . I believe that if we think clearly enough, plan carefully enough, and work tirelessly enough, we can both save freedom and secure peace . . . we have learned something to make this expedition a sort of starting place from where we are going to plan the programmes we are going to adopt. And we expect them to be positive programmes . . . just because one side wants peace doesn't make peace. We must go ahead and do things that induce the others to want peace also.

Shortly after his return, Eisenhower met General Douglas MacArthur who said on Dec. 5 that he had a "solution" for the Korean war.

On Dec. 15 the members of the electoral college met in the respective state capitals. The ceremony of the casting of the vote was the subject of an elaborate television programme in New York state. The state reports were sent on to be opened by the congress at its session in January. (E. E. R.)

Education. Each of the 48 states of the union has a system of free, secular and public education comprising elementary schools, junior high schools and high schools, with courses covering 12 years. Attendance is compulsory, generally up to the age of 16. There are also private (mainly Roman Catholic) elementary and secondary schools. Data in Tables I and II relate to the continental U.S.

TABLE I. ELEMENTARY AND SECONDARY SCHOOL ENROLMENT

	1939-40	Sept. 1951*	Sept. 1952*
Elementary	20,995,469	24,468,000	26,064,000
Secondary	7,059,212	6,168,000	6,263,000

* U.S. Office of Education estimates.

Schools (1948): public elementary 146,760, secondary 25,484; private elementary 10,071, secondary 3,292. Total number of teachers in public schools 860,678; private schools 108,998. Total enrolment in vocational schools (1949): 3,094,646.

TABLE II. INSTITUTIONS OF HIGHER EDUCATION

	1939-40	1950-51	1951-52	1952-53
Total resident students	1,494,203	2,295,000*	2,116,000*	2,150,000*

* U.S. Office of Education estimates.

The above figures cover 1,609 institutions (public and private) in 1939, 1,768 in 1945, 1,836 in 1950 and 1,806 in 1951. Of 164 universities the largest are New York (45,186 students in 1951-52), California (34,883), Columbia (New York, 27,278), Boston, Massachusetts (25,364), Illinois (Urbana, 22,044) and Rutgers, incl. New Jersey College for Women (New Jersey, 21,000).

Agriculture. TABLE III. AGRICULTURAL PRODUCTION ('000 metric tons)

	1934-38	1949	1950	1951	1952
Wheat	19,476	31,059	27,744	26,875	35,351
Barley	4,495	5,154	6,608	5,545	4,845
Rye	1,028	476	540	543	400
Oats	13,973	19,297	20,473	19,108	18,371
Rice	956	1,848	1,755	1,987	2,195
Maize	53,066	85,841	77,671	74,715	8,396
Potatoes	10,024	11,201	11,961	8,864	9,505
Cotton, ginned	2,755	3,463	2,143	...	...
Tobacco	590	895	808	1,056	...

TABLE IV. LIVESTOCK ('000 head, on farms)

	1939	1948	1950	1951	1952
Cattle	66,029	78,298	80,052	84,179	88,062
Pigs	50,012	55,028	60,502	65,028	63,903
Sheep	51,595	34,827	30,743	31,505	31,725
Horses	10,629	6,598	5,274	4,763	4,370
Mules	4,163	2,541	2,149	1,990	1,923
Poultry (chickens)	418,591	461,550	480,834	466,686	453,498

Fisheries (1951, incl. Alaska): total catch 2,344,900 metric tons.

TABLE V. MAIN FOODSTUFFS PRODUCTION ('000 metric tons)

	1937	1948	1949	1950	1951
Meat	7,340*	9,728	9,847	10,028	9,938
Milk	46,226	52,403	54,089	54,683	52,428
Butter	736·8	584·4	640·8	632·8	550·8
Cheese†	294·0	498·0	544·8	531·6	535·6
Sugar, raw value	...	1,676	1,897	2,337	1,821

* 1935-39 average. † Excluding cottage and full skim cheddar cheese.

Industry. Employment in non-agricultural establishments in June 1952 was 46,322,000 compared with 46,567,000 in June 1951. Unemployment in June 1952 was 1,818,000, which was 162,000 fewer than in June 1951.

TABLE VI. PRODUCTION OF FUEL AND POWER

	1949	1950	1951	1952*
Coal ('000 metric tons)	435,960	508,380	522,996	456,576
Gas (million cu.m.) natural	88,008	105,132	120,192	128,784
Gas (million cu.m.) m'factured	15,948	16,016	14,892	15,408
Electricity (million kwh.)	291,096	329,136	370,236	391,872
Crude petroleum ('000 m. tons)	252,324	270,348	307,464	308,616

* Annual estimate.

TABLE VII. PRODUCTION OF METALS ('000 metric tons)

	1948	1949	1950	1951	1952*
Pig iron	55,200	49,176	59,340	63,948	51,660
Steel	80,412	70,740	87,852	95,376	77,676
Copper†	771·6	700·8	853·2	874·8	943·2
Zinc†	715·2	739·2	769·2	805·2	...
Lead‡	464·4	492·0	518·4	441·6	463·2
Aluminium†	565·2	547·2	651·6	759·6	848·4

* Annual estimate. † Primary (virgin) metal only. ‡ Some secondary metal included.

TABLE VIII. MANUFACTURING INDUSTRIES

	1949	1950	1951	1952*
Cement ('000 metric tons)	35,424	38,004	41,244	40,800
Building bricks (million units)	5,520	6,324	6,468	5,760
Rubber, synthetic ('000 metric tons)	399·6	483·6	859·2	825·6
Woven cotton fabrics (million m.)	7,692	9,156	9,216	8,460
Wool yarn ('000 metric tons)	192·0	367·2	319·2	297·6
Rayon ('000 m.t.) filament yarn	363·6	433·2	434·4	360·0
Rayon ('000 m.t.) staple fibre	88·8	139·2	152·4	142·8
Motor vehicles ('000 units) cars	5,119·4	6,665·8	5,336·8	4,039·2
Motor vehicles ('000 units) commercial	1,134·2	1,337·2	1,428·4	1,132·4

* Annual estimate.

Industrial production index (1948 = 100): (1951; Oct. 1951 and Oct. 1952 in brackets) general 115 (116; 120); mines 106 (114; 108); manufacturing 116 (116; 122).

Finance and Banking. Fiscal year ends on June 30. (*See* also BUDGET, NATIONAL.)

TABLE IX U S FEDERAL REVENUE AND EXPENDITURE ($ million)

	1939-40*	1950-51*	1951-52*	1952-53†	1953-54†
Revenue	5,387 1	48,143	62,128	68,697	68,665
Expenditure	9,127·4	44,633	66,145	74,593	78,587
Surplus (+) or deficit (—)	—3,740 3	+3,510	—4,017	+5,896	—9,900

* Actual. † Estimated

(In this paragraph all figures are $ million) Total gross direct debt: (Nov. 1952) 267,483 (Dec. 1939) 41,961. Currency circulation: (Nov. 1952) 30,228 (Dec 1939) 7,598. Gold stock (Nov. 1952) 23,504 (Dec 1951) 22,621 (Dec 1939) 17,644 Deposit money: (Oct. 1952) 98,600 (Dec 1939) 29,800 National income at factor cost in current prices (1952) 290,500; (1949) 216,700, (1939) 72,500 Consumers' expenditure on goods and services (1952) 215,500 (1939) 67,466

Foreign Trade. TABLE X FOREIGN TRADE (million dollars)

	1936-40	1941-45	1950	1951	1952
Exports (incl re-exports)	3,219·6	10,051·2	10,275·1	15,020 4	15,168
Imports	2,482·0	3,507 5	8,852 2	10,961 6	10,782
Excess of exports	737·6	6,543·7	1,422 9	4,058 8	4,386

Main destinations of exports (1951) Europe 27%; Latin America 25%, Canada 17%, Asia 15% Main sources of imports (1951). Latin America 32%, Canada 21%, Asia 19%; Europe 18%. Index numbers of quantum of the external trade (1948 = 100), showing the changes after allowing for variations in prices, stood in 1950 at 119 for imports and at 90 for exports, in Oct 1951 at 115 and 109 respectively.

Transport and Communications. Railways (1949) number of operating companies 481, total first track 224,511 mi Rolling stock (1949) 43,272, goods waggons 1,778,811, passenger coaches 38,006. Rail transport (millions, monthly average 1951, in brackets Aug. 1952) passenger-km 4,642 (5,041), goods, metric ton-km 78,669 (79,039), goods carried (in metric tons) 212 (210). Roads (1949)· 3,003,000 mi ; incl. 1,617,000 mi. surfaced Motor vehicles registered (Dec. 1951)· cars 42,525,217, buses 143,290, trucks 8,657,931 Air transport (monthly averages, 1951, in brackets Aug 1952). 1,765 (2,418) million passenger-km. and 47 8 (50 9) million ton-km of goods (*See* also AVIATION, CIVIL) Merchant marine (vessels of 100 gross tons or over) 4,716 sea-going, total tonnage 25,364, Great Lakes 444, total tonnage 2,338,059 (*See* also SHIPPING, MERCHANT MARINE.) Number of telephones (1951) 43,003,832. Broadcasting (Dec 31, 1951) transmitting stations 3,161. Radio receiving sets (1952) 105 3 million in 43,866,120 homes, or 98% of all homes

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UNITED STATES TERRITORIES AND POSSESSIONS: *see* ALASKA, HAWAII; PACIFIC ISLANDS, U.S.; PUERTO RICO; VIRGIN ISLANDS.

UNIVERSITIES AND COLLEGES.

International. In Jan. 1952 the Indian government announced that it had given £30,000 towards an international students' centre in London. Lewis Douglas, former United States ambassador to Great Britain, announced at an English-Speaking union dinner in New York on Nov. 24 that an American King George VI memorial appeal had been launched by the union: the resultant fund would be used to enable Commonwealth students to study in the U.S.

In February H. M. Keyes was appointed secretary-general of the International Association of Universities and director of its secretariat, the International Universities bureau, in Paris. In July distinguished American scholars came specially from the United States to lecture at the first Fulbright conference on American studies held in Britain, at Cambridge university. Over 60 British university teachers nominated by their universities or colleges attended the first session, during July 9-30.

United Kingdom. The most important event of the year was the achievement of full university status by Hartley University college, which in May 1952 became by royal charter the University of Southampton. In two of the remaining university colleges there was a change of headship: at Exeter Sir Thomas Taylor was appointed to succeed John Murray who retired in 1951 (F. H. Newman had been acting principal in the interim); and at the University College of North Staffordshire, Professor Sir John Lennard-Jones was appointed to succeed Lord Lindsay of Birker, principal of the college since its foundation, who died in March (*see* OBITUARIES). Professor H. F. Humphreys was appointed vice-chancellor and principal of Birmingham university for one year, pending the arrival of R. S. Aitken, vice-chancellor of Otago university, New Zealand, appointed as permanent successor to Sir Raymond Priestley, who retired in July. In September Lord Eustace Percy retired from the posts of vice-chancellor of Durham university and rector of King's college, Newcastle-on-Tyne. C.I.C. Bosanquet was appointed rector of King's college and later vice-chancellor.

In May the Royal Commission on University Education in Dundee reported against the foundation of a university in that city. It recommended that a college, with its own council, should be created to include all parts of St. Andrews university now located in Dundee, and that a similar college should be formed at St. Andrews itself, the councils of both being responsible to a reconstituted university court. At St. Andrews emphasis was to be on linguistic and literary studies, at Dundee on social sciences.

A further step towards the provision of university education in York (see *Britannica Book of the Year 1952*) was a bequest by William Borthwick, to amount eventually to £60,000, for the development of academic studies in the city. The bequest (announced in August) would enable St. Anthony's hall, the repository of diocesan archives, to be turned into an institute of historical research. In April the British government and the Nuffield foundation announced their decision to provide Manchester university with a steerable radio telescope; it would be the largest so far constructed.

Walter Lippman accepted the invitation of the Sulgrave Manor board to become the first holder since 1940 of the George Watson lectureship in American history, literature and institutions. He lectured in Oxford, Cambridge and London in May on "Public Opinion and Foreign Policy in the United States." In the same month the Newman association celebrated with a series of lectures the centenary of Cardinal Newman's *Discourses on the Scope and Nature of University Education.*

Sir James Irvine, vice-chancellor and principal of St. Andrews university, died in June (*see* OBITUARIES); and Sir F. J. Wylie, first warden of Rhodes house, Oxford, in October. When E. Allison Peers, who as Gilmour professor of Spanish since 1920 made Liverpool university the foremost centre of Hispanic studies in England, died in December it was disclosed that he was "Bruce Truscot", author of *Redbrick University* (*see* OBITUARIES).

In October St. Augustine's college, Canterbury, founded in 1848 to train missionaries, was reopened as a clergy training college for the whole Anglican communion.

Commonwealth. *Anglo-Egyptian Sudan.* In November Gordon Memorial college (incorporated into the University College of Khartoum in 1951) celebrated the 50th anniversary of its foundation. University college, Khartoum, was in November closed indefinitely, following a decision by the college union to go on strike as protest against the agreements signed between General Neguib and the Sudanese political parties.

Australia. In January the Great (Wilson) hall at Melbourne university was destroyed by fire. An appeal was launched for funds to rebuild it.

At the first graduation ceremony of the New South Wales University of Technology, Sydney (March), 57 graduates were admitted to degrees in engineering and science. A scheme for providing fellowships for British students, tenable in Victoria, was announced in July and was intended as a gesture to the British people for their part in saving civilization in World War II. Described as " Rhodes scholarships in reverse ", the fellowships had been provided by public subscription in Victoria.

In October Sir Douglas Copland, vice-chancellor of the Australian National university, Canberra, was appointed Australian high commissioner in Canada.

Canada. Two important developments in Canada were the opening in September by the prime minister, L. S. St. Laurent, of the new law building at the University of British Columbia, Vancouver; and the laying of the corner stone of the new building of the Memorial University of Newfoundland (October) by Lord Rothermere, who was installed as chancellor on the same occasion. R. Gushuo, chairman of the local fisheries board, was installed as vice-chancellor and president. The university was to devote special attention to the fisheries industry.

In February Laval university, Quebec, began celebrating its centenary. The oldest French and Roman Catholic seat of learning in North America, it started as a college founded by the Quebec seminary.

In July J. McCulley was appointed warden of Hart house, the principal student residence of Toronto university. The university suffered a loss in the death in November, at the age of 58, of H. A. Innis, its senior professor of political economy, dean of its school of graduate studies and a leading authority on the social sciences.

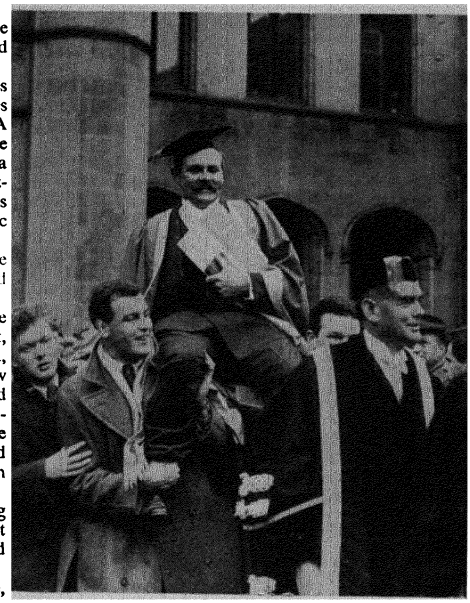
Ceylon. In October 800 undergraduates of the University of Ceylon took up residence in the new buildings at Peradeniya, near Kandy. The new buildings would ultimately accommodate 3,500 students.

Hong Kong. The report of a committee on higher education, published in September, rejected the idea of a separate Chinese university, but recommended the provision in the university of degree courses in Chinese in arts, commerce and science. It also recommended the establishment of a department of extra-mural studies, an institute of education, and an institute of far eastern studies.

India. The Indian government's draft bill for the co-ordination and determination of university standards was widely felt to be an attack on the autonomy of the universities. The Ministry of Education issued an emphatic disclaimer of any such intention in August, but in September the Inter-University board asked the government to withdraw the bill, and instead to set up a university grants committee and to recognize the board by statute as the body responsible for co-ordinating and maintaining standards. In the same month 26 eminent educationists and scientists wrote to the government deploring the deterioration in university students' knowledge of English, and urging it to maintain adequate standards even when English ceased to be the medium of instruction. For the first time an Indian universities' debating team toured the United Kingdom.

Kenya. It was announced in September that a college in memory of the Mahatma Gandhi was being planned. It would be degree-granting, and with Makerere college and the Royal Technical college being built at Nairobi would ultimately form the basis of an east African university.

Malaya. The appointment of Sir Sydney Caine as vice-chancellor of the University of Malaya was announced in June. Departments of Malay studies and Chinese language and literature were added to the university, which also decided to establish a students' health service. A housing estate was built for students.



James Keith O'Neill Edwards, D.F.C., M.A. (Jimmy Edwards, the comedian), being carried after his installation on Jan. 25 as rector of Aberdeen university.

New Zealand. The appointment of G. A. Currie as vice-chancellor of the University of New Zealand was announced in May. He had been vice-chancellor of the University of Western Australia since 1940.

From the academic year 1952-53 principals of schools entitled to accredit their pupils for university entry could accredit them only in the subjects in which they had entered for the university entrance examination. Since 1944 principals had been allowed to accredit pupils who had had at least four years' secondary education and were considered " fit to undertake university studies ".

Nigeria. In July it was stated in the Eastern region House of Assembly that 20,000 applications had been received for scholarships under the recently announced regional scheme for awarding university, advanced technical, and trade scholarships up to the value of £100,000 a year.

Lord Tedder, vice-chancellor of Cambridge university, opened the new buildings of University college, Ibadan, in November. At the ceremony it was announced that the grant of £1·5 million for capital expenditure made in 1947 from the Colonial Welfare and Development fund had been increased to £1·7 million. In August the Nigerian government increased its annual grant from £100,000 to £220,000 and created an " expendable endowment fund " of £1·5 million. For the building of the University College Teaching hospital £2·25 million was voted. There were 368 students at the college.

Pakistan. In June 1952 Karachi university was established. It was to comprise all the colleges in the city and a number of halls of residence. Undergraduate teaching would be undertaken by the colleges, postgraduate by the university.

(*Continued on page 619.*)

Universities and University Colleges of the British Isles, Academic Year 1952-53

(with numbers of students in Oct. 1952)

University or University college	Founded	Principal Officers (with Academic Title[1])	Full-time Students Men	Women
ENGLAND				
Birmingham, Univ. of	1900	Anthony Eden, *Ch* H F. Humphreys, *V Ch & Pr*	2,393	668
Bristol, University of	1909	Winston Churchill, *Ch* Sir Philip Morris, *V Ch*	1,754	817
Cambridge Univ. of	12th c	Lord Tedder, *Ch.* Prof Sir L Whitby, *V.Ch.*	7,135	704[3]
Christ's college	1506	Prof B W Downs, *M.*	458	
Clare college	1326	Sir Henry Thirkill, *M.*	380	
Corpus Christi college	1352	Sir George Thomson, *M.*	221	
Downing college	1800	Prof Sir L Whitby, *M.*	365	
Emmanuel college	1584	E. Welbourne, *M*	450	
Fitzwilliam house	1869	W S Thatcher, *C*	405	
Girton college	1869	Mary Cartwright, *Mi*		347
Gonville & Caius coll	1348	Sir James Chadwick, *M.*	397	
Jesus college	1496	E M W Tillyard, *M.*	314	
King's college	1441	Sir John Sheppard, *Pv*	333	
Magdalene college	1542	H U Willink, *M.*	260	
Newnham college	1871	Dame Myra Curtis, *Pr*		291
Pembroke college	1347	S C Roberts, *M*	368	
Peterhouse	1284	P. C. Vellacott, *M*	203	
Queen's college	1448	J. A Venn, *P.*	403	
St Catharine's college	1473	D Portway, *M*	420	
St John's college	1511	J. M Wordie, *M.*	610	
Selwyn college	1882	Rev W Telfer, *M*	303	
Sidney Sussex college	1596	T Knox-Shaw, *M*	220	
Trinity college	1546	E D Adrian, *M*	712	
Trinity hall	1350	Prof H R Dean, *M*	313	
Durham, University of	1832	G M Trevelyan, *Ch* C I C Bosanquet, *V.Ch*	3,368	875
The Durham colleges	—	Sir James Duff, *W*	879	251
Bede college	1841	Canon G Brigstocke, *Pr*	205[2]	
Hatfield college	1846	E. B Birley, *M.*	188	
Neville's Cross coll.	1921	Netty Lunan, *Pr*		112[4]
St Aidan's society	1895	Ethleen Scott, *Pr*		69
St. Chad's college	1904	Rev T. S. Wetherall, *Pr.*	49	
St. Cuthbert's soc	1871	E. H. U. de Groot, *Pr.*	199	
St. Hilda's college	1858	Nina Joachim, *Pr.*		134[5]
St John's college	1909	Canon R Williams, *Pr.*	102	
St. Mary's college	1899	Margaret Fergusson, *Pr*		115
University college	1833	A.Macfarlane-Grieve, *M.*	241	
King's coll ,Newcastle	1937[6]	C I C. Bosanquet, *R.*	2,489	624
Exeter, Univ. Coll. of the S.W. of England[7]	1901	Sir Thomas Taylor, *Pr*	580	387
Hull, Univ. Coll. of[7]	1928	J H. Nicholson, *Pr*	535	252
Leeds, University of	1904	Princess Royal, *Ch.* C. R Morris, *V Ch*	2,401	759
Leicester, Univ. Coll.[7]	1918	C H. Wilson, *Pr*	468	252
Liverpool, University of	1903	Marquess of Salisbury, *Ch* Sir James Mountford, *V Ch*	2,217	664
London, University of	1836	Earl of Athlone, *Ch* Prof. H H Bellot, *V.Ch.* D. W Logan, *Pr.*	11,374[8]	4,256[8]
University Institutes				
Brown Animal Sanatory institution	1871	*(destroyed in World War II and not yet reopened)*		
Courtauld Inst. of Art	1932	Prof. A. F. Blunt, *Di*	32	37
Institute of Education	1902	G B Jeffery, *Di*	387	376
Sch. of Slavonic & East European Studies	1932	G H. Bolsover, *Di*	43	21

Students of the following institutes were mostly part-time researchers or postgraduate members of other colls or univs Institutes of Advanced Legal Studies (founded 1947, Prof Sir David Hughes Parry, *Di.*), Archaeology (1934, Prof V G Childe, *Di.*), Commonwealth Studies (1949, Prof Sir Keith Hancock, *Di*), Germanic Languages and Literatures (1950, Prof. L. A. Willoughby, *Di*) and Historical Research (1920, Prof J. G. Edwards, *Di*), and Warburg institute (1944, Prof. H. Frankfort, *Di*).

Schools (constituent colleges)				
Bedford college	1849	Norah Penston, *Pr.*	18[9]	689
Birkbeck college[10]	1823	J. F. Lockwood, *M.*	1,054[10]	478[10]
Imperial college	1907	Sir Roderic Hill, *R.*	1,600	47
City & Guilds coll.	1885	Prof. A. Pippard, *D.*	800	4
R. Coll. of Science	1845	Prof. R. Linstead, *D.*	641	43
R. Sch. of Mines	1851	Prof. D. Williams, *D.*	159	
King's college[11]	1829	P. S. Noble, *Pr.*	1,267	403
King's Coll of Household & Social Science, *reincorporated Jan. 1953 as* Queen Elizabeth college, *v. infra.*				
King's College Theological department[11]	1829	Canon E. S. Abbott, *D.*	156	47
London College of Divinity	1863	Rev. F. D. Coggan, *Pr.*	49	
London, Univ. of *(cont.)*				
London Sch of Economics & Political Science	1895	Sir Alexander Carr-Saunders, *Di*	1,698	534
New college	1673	Rev. Sydney Cave, *Pr*	38	2
Queen Elizabeth coll	1908	Margaret Sargeaunt, *Pr*		222[12]
Queen Mary college	1887	Sir Thomas Creed, *Pr.*	671	248
Richmond college	1843	Rev. Prof. F. B Clogg, *Pr*	63	
Royal Holloway coll	1883	Edith Batho, *Pr.*	22[9]	335
School of Oriental & African Studies	1916	Prof Sir Ralph Turner, *Di*	192	34
University college	1826	B. Ifor Evans, *Pv*	1,935	647
Westfield college	1882	Kathleen Chesney, *Pr*		270
Wye college	1894	D Skilbeck, *Pr*	121	61
Goldsmiths' college[13]	1905	A J Price, *W*	266[13]	438[13]
Medical Schools[14]				
British Postgraduate Medical Federation	1945	Prof. Sir Francis Fraser, *Di*	937[15]	
Institute of Cancer Research	1951	Prof A Haddow, *acting D*	—	
Inst. of Child Health	1946	G. H Newns, *D*	80[15]	
Inst of Dental Surg.	1947	Prof F. C Wilkinson, *D*	51[15]	
Institute of Laryngology & Otology	1946	C Gill-Carey, *D*	45[15]	
Inst of Neurology	1947	M Critchley, *D.*	63[15]	
Inst. of Obstetrics & Gynaecology	1948	C D. Read, *Di and D*	54[15]	
Institute of Ophthalmology	1947	R. C. Davenport, *D*	82[15]	
Inst of Orthopaedics	1946	H J Burrows, *D*	20[15]	
Inst of Psychiatry	1924	D L Davies, *D.*	138[15]	
Postgraduate Med School of London	1931	C E Newman, *D*	193[15]	
Charing Cross Hosp. Medical school	1834	E C. Warner, *D*	227	57
Guy's Hosp Med sch	1769	E R Boland, *D*	830	90
King's Coll. Hosp Medical school	1831	V. F Hall, *D*	207	93
Lister Institute of Preventive Medicine	1891	A A Miles, *Di*	11	4
London Hospital Medical college	1781	H B May, *D*	552	64
London Sch of Hygiene & Tropical Med.	1924	A. Topping, *D.*	89	13
Middlesex Hospital Medical school	1835	Sir Harold Boldero, *D.*	378	75
Royal Dental Hosp. Sch of Dent. Surgery	1858	H. L Hardwick, *D.*	201	28
Royal Free Hospital School of Medicine	1874	Katharine Lloyd-Williams, *D.*	60	408
Royal Veterinary coll.	1791	Prof.J.B.Buxton, *Pr.& D.*	339	17
St Bartholomew's Hosp. Med coll.	pre-1662	E. G. Tuckwell, *D.*	525	139
St. George's Hosp. Medical school	c.1770	M F Nicholls, *D*	144	15
St. Mary's Hospital Medical school	1854	A. G. Cross, *D.*	388	79
St. Thomas's Hosp. Medical school	1553	Prof. W. G Barnard, *D.*	426	58
School of Pharmacy	1842	Prof. H. Berry, *D.*	71	38
University College Hosp. Med school	1828	J. C. Hawksley, *D.*	262	49
Westminster Med. sch.	1834	H. E. Harding, *D.*	180	20
Manchester, Victoria University of	1880	Lord Woolton, *Ch* Sir John Stopford, *V.Ch.*	3,009	1,046
College of Technology	1824	D. Cardwell, *acting Pr.*	849[16]	48[16]
N. Staffs., Univ. Coll. of[17]	1949	Sir J. Lennard-Jones, *Pr.*	271	145
Nottingham, Univ. of	1948	Lord Trent, *Ch.* B. L. Hallward, *V.Ch.*	1,444	578
Oxford, University of	12th c.	Earl of Halifax, *Ch.* Sir Maurice Bowra, *V.Ch.*	5,864	1,096
All Souls college	1438	J. H A. Sparrow, *W.*	(49 fellows)	
Balliol college	1263-68	Sir David Keir, *M.*	347	
Brasenose college	1509	H. M. Last, *Pr.*	313	
Campion hall	1896	Rev. T. Corbishley, *M.*	34	
Christ Church	1546	V. Rev. John Lowe, *D.*	324	
Corpus Christi college	1517	W. F. R. Hardie, *P.*	135	
Exeter college	1314	E. A. Barber, *R.*	253	
Hertford college	1874	N. R. Murphy, *Pr.*	168	
Jesus college	1571	J. T. Christie, *Pr.*	238	
Keble college	1870	Canon H. Carpenter, *W*	293	

Universities and University Colleges of the British Isles, Academic Year 1952-53 *(continued)*

University or University college	*Founded*	*Principal Officers (with Academic Title[1])*	*Full-time Students Men*	*Women*
Oxford, Univ. of *(cont.)*				
Lady Margaret hall	1878	Lucy Sutherland, *Pr*		218
Lincoln college	1427	K A H Murray, *R*	240	
Magdalen college	1458	T S R Boase, *P*	273	
Merton college	1264	G R G Mure, *W.*	214	
New college	1379	A. H. Smith, *W*	302	
Nuffield college	1937	A. Loveday, *W*	19	3
Oriel college	1326	G. N Clark, *Pv.*	230	
Pembroke college	1624	Rev. F. H Dudden, *M*	190	
The Queen's college	1340	J W Jones, *Pv*	248	
St. Anne's college	1879	Hon Eleanor Plumer, *Pr*		276
St Anthony's college	1950	F W D Deakin, *W.*	32	
St Benet's hall .	1897	Rev F G Sitwell, *M*	17	
St Catherine's society	1868	A L C Bullock, *C.*	360	
St Edmund hall	pre-1238	Canon J N D Kelly, *Pr*	246	
St Hilda's college	1893	Julia Mann, *Pr*		200
St. Hugh's college	1886	Evelyn Proctor, *Pr*		184
St John's college	1555	A L Poole, *P*	234	
St Peter's hall	1928	Canon R W Howard, *M*	156	
Somerville college	1879	Janet Vaughan, *Pr*		215
Trinity college	1555	J. R H Weaver, *P*	204	
University college	1249	A L Goodhart, *M*	285	
Wadham college .	1612	Sir Maurice Bowra, *W*	280	
Worcester college	1714	J C Masterman, *Pv*	229	
Reading, University of	1926	Viscount Templewood, *Ch*	611	498
		J F. Wolfenden, *V Ch*		
Sheffield, University of	1905	Earl of Halifax, *Ch.*	1,607	378
		J. M Whittaker, *V Ch*		
Southampton, Univ. of	1952	Duke of Wellington, *Ch*	619	316
		D G James, *V Ch*		
SCOTLAND				
Aberdeen, University of	1494	Thomas Johnson, *Ch.*	1,314	529
		T M Taylor, *V Ch & Pr*		
		J K O'N. Edwards, *R*		
Edinburgh, University of	1583	Duke of Edinburgh, *Ch.*	3,561[10]	1,402[10]
		Sir Edward Appleton, *V Ch & Pr*		
		Sir Alexander Fleming, *R*		
New college	1846	V Rev J. Baillie, *Pr.*	153	9
Glasgow, University of	1451	Lord Boyd-Orr, *Ch.*	4,704	1,282
		Sir Hector Hetherington, *V Ch & Pr*		
		J MacCormick, *R*		
Royal Tech college	1796	D. S. Anderson, *Di*	1,048[19]	87[19]
St. Andrews, Univ. of	1411	Duke of Hamilton, *Ch*	1,165	672
		(vacant), *V Ch & Pr*		
		Lord Crawford and Balcarres *R*		
St. Mary's college	1537	V. Rev G S Duncan, *Pr.*	39	1
United college	1747	(vacant), *Pr.*	565	503
Univ. coll., Dundee	1881	D N Wimberley, *Pr*	406	113
Advanced Med and Dent Schs, Dundee	1898	Prof W J Tulloch, *D*	155	55
WALES				
Lampeter, St. David's College[20]	1822	Canon H K Archdall, *Pr*	147	
Wales, University of	1893	Duke of Edinburgh, *Ch*	3,282	1,333
		J S Fulton, *V Ch*		
Aberystwyth, Univ Coll of Wales	1872	(vacant), *Pr*	745	322
Bangor, Univ Coll of North Wales	1884	Sir David Emrys Evans, *Pr*	623	245
Cardiff, Univ Coll of S Wales and Monmouth	1883	A Steel, *Pr*	1,052	479
Cardiff, Welsh National Sch of Medicine	1931	R M F Picken, *Pv*	180	79
Swansea, Univ Coll	1920	J S Fulton, *Pr*	682	208
NORTHERN IRELAND				
Belfast, The Queen's University of	1908	Viscount Alanbrooke, *Ch*	1,970	614
		E Ashby, *P & V Ch*		
REPUBLIC OF IRELAND				
Dublin, University of, Trinity College	1592	Earl of Iveagh, *Ch*	1,602	628
		Earl of Rosse, *V Ch*		
		A J McConnell, *Pv*		
National University of Ireland	1909	Eamon de Valera, *Ch*	4,160[21]	1,210[21]
		A O'Rahilly, *V Ch*		
Cork, Univ college	1845	A O'Rahilly, *P*	827	275
Dublin, Univ college	1909	Michael Tierney, *P*	2,367[18]	707[18]
Galway, Univ college	1849	Mgr P de Brún, *P.*	627[18]	289[18]

Notes [1] *C* censor, *Ch* chancellor, *D* dean, *Di* director, *M* master; *Mi* mistress, *P* president, *Pr* principal, *Pv* provost, *R* rector, *V Ch* vice-chancellor, *W* warden [2] Incl 66 at Hughes hall (founded 1885, Eleanor M Verini, *Pr*), recognized institution [3] Incl 105 training-coll students [4] Incl 94 training-coll students [5] Incl 85 training-coll students [6] Incorporating Coll of Medicine (1834) and Armstrong coll (1871) [7] Prepares students for London external degrees [8] June 1952 (Oct 1952 est 11,350 men, 4,250 women), also 2,385 m and 282 w students of univ status were at non-univ instns having recognized teachers (medical and scientific research instns 4, music academies 3, polytechnics and tech colls 7, teachers' training colls [incl Goldsmiths] 2, others 2), also 30,722 home and overseas external students, incl degree students at Exeter, Hull, Leicester and Southampton univ colls, totals for univ insts and schools exclude 353 associate students (June 1952), *see* note 14 below. [9] Men postgraduates working under specialist supervisors at women's colls [10] Coll for evening and part-time studies, totals include 48 m and 18 w full-time postgraduates [11] King's College and King's College Theological department are separate corporations united for some purposes the principal and dean are also officers of the unified college [12] Incl 76 non-degree students [13] Administered by a London univ delegacy totals include 42 m and 50 w univ. students, 160 m and 312 w training-coll students, 64 m and 76 w art students [14] Totals for hospital med schools include associate students (viz., clinical students from other univs. and those reading for royal college qualifications) [15] Students attending for research, seminars, short courses, etc., Michaelmas term 1952, federation total includes 211 at associated instns (Insts of Basic Medical Sciences, Cardiology, Dermatology, Diseases of the Chest, Urology), there were also 669 part-time students. [16] Incl 682 m and 16 w. Manchester univ. students, and 167 m and 32 w non-degree students [17] Confers B A [18] June 1952 figures [19] June 1952, totals include 591 m and 54 w Glasgow univ students and 457 m and 33 w college associateship and diploma students [20] Confers B A. and B D [21] Oct 1952 est., total incl. 500 m at St Patrick's coll., Maynooth, Co Kildare (founded 1795, Mgr E J Kissane, *P*), a recognized coll

(Continued from page 617)

South Africa. In October Pretoria university forbade its representatives to attend an inter-university students' conference if any universities sent non-European delegates. D. F. Malan, the prime minister, in December rebuked those universities which allowed the entry of non-European students and told them to reconsider their policy, which was not that of the Union.

West Indies. W. W. Grave, registrary of Cambridge university, was appointed principal of the University College of the West Indies, in succession to Sir Thomas Taylor.

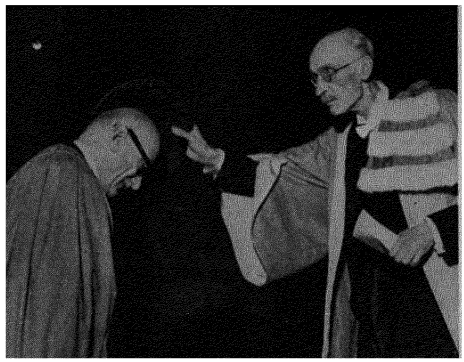
Europe. *Austria.* In June 1952 Innsbruck university celebrated the 275th anniversary of its foundation. Student organizations announced in September a six-months' boycott of enrolments at universities and technical colleges in protest against the raising of examination and laboratory fees. The boycott ended in October, the Ministry of Education making concessions by which two-thirds of the students would pay the same fees as before.

Finland. Concern was expressed at the growing proportion of women students at Helsinki university. In the 1930s the proportion was 33%; it had now grown to 50%. Another cause for alarm was the fall in the number of working-class students because of increased living expenses and fees.

German Federal Republic. In June Marburg university received 325 books, the gift of Alan Coatsworth of Toronto, to form the nucleus of a Canadian library. Marburg and Toronto universities were to exchange students and to establish close relations in other ways. An inquiry made in 1951 revealed that 60% of the 108,000 university students in the Federal Republic were working to support themselves About 10,000 were entirely dependent upon their earnings

German Democratic Republic. In June professors and lecturers at Rostock university protested to the prime minister of the Democratic Republic against the government's university reforms, especially against the substitution of a ten months' study period for the two-term year, and the incorporation of Communist social science in examinations. At Halle university students absented themselves from compulsory lectures in social science and Russian. In November about 400 students at the Humboldt university in east Berlin were told that their authority to study there had been withdrawn. They were all resident in west Berlin.

Netherlands. In April Albert Schweitzer house, the first international student hall of residence in the Netherlands, was opened in Amsterdam. This was the first time Dr. Schweitzer had allowed his name to be given to any foundation.



The French foreign minister, Robert Schuman, receiving the honorary degree of doctor of laws from Sir William Wright Smith, deputy vice-chancellor of the University of Edinburgh, on July 3.

Yugoslavia. From January the maintenance grants to university students were paid wherever possible to the students' families instead of to the students themselves. Grants were at the rate of 3,000 dinars (£3 11*s.* 0*d.*) a month. Families whose head was not employed in the state sector of the economy, or any of whose members supplemented the family income by private earnings, were not eligible for students' grants.

Asia. *China.* In April the president and two professors at the Anglo-American Yenching university, Peking, were reported to have been dismissed for ideological "failings". Among the faults attributed to them was maintenance of contact with American and other ex-colleagues. The university was later absorbed into the Peking National university. It was announced in September that the reorganization of the universities had been completed. Under this reorganization all universities founded and maintained by foreign Christian organizations disappeared, mainly as a result of absorption into other institutions. The number of genuine universities was reduced to make way for an increased number of technical colleges. A system of centralized enrolment was established, 89 examination centres being set up.

United States. In Sept. 1952 it was reported that enrolments at Chicago university were down by 27% on the previous year. Other universities showed similar decreases. The main cause of this was believed to be the drafting of young men into the armed forces. Later a count covering 1,900 universities and colleges showed that at 2,148,000 enrolments were up 1·5% on 1951.

Harvard university, in collaboration with 21 eastern seaboard colleges, launched a new teacher training programme: the university offered fellowships to enable graduates of the co-operating colleges to spend a year in the Harvard Graduate School of Education training for elementary or high school work. J. B. Conant, president of the university, proposed in March "an academic alliance between the universities of United States and the English-speaking nations of the British Commonwealth." The proposal was favourably received. A point of interest concerning the Harvard student body was the inclusion of Walter Carrington, a Negro, as one of the three elected "Marshals of the Harvard class, 1952." This is among the highest honours bestowed upon senior students.

In Dec. 1951 the Rockefeller foundation included among its grants $7 million to Emory university, Georgia, to endow its graduate school, $1·5 million to endow and develop the graduate school of Vanderbilt university, Nashville, Tennessee, and $1·5 million to Tuskegee institute, a Negro college in Alabama. President Truman sent to congress in Jan. 1952 a budget which contained, for the first time in United States history, a request for funds to provide scholarships and loans for needy students. The amount asked was $30 million to be used to make about 35,000 grants. A Student Aid bill embodying these proposals was later drafted. Congressional action was hoped for in 1953. In July, 1952, a new "G.I. bill" (the Veterans' Readjustment Assistance act, 1952) was passed granting to ex-servicemen of the Korean war 1½ days of education or training for each day of active service from June 27, 1950, up to a maximum of 36 calendar months. It provided for monthly financial grants, to be paid direct to the student, and required the Veterans' administration to work through the federal Office of Education in dealing with state and local agencies. In October the final reports of the commission, headed by John D. Millett of Columbia university, on the financing of higher education in the United States showed that since 1940 the cost of maintaining a university or college had tripled. While urging universities to solicit largely increased sums from industry, corporations, and state governments the commission firmly rejected the idea of more federal aid. (*See* also CAMBRIDGE UNIVERSITY; LONDON UNIVERSITY; OXFORD UNIVERSITY.) (H. C. D.)

URUGUAY. Republic in southeastern South America, bounded N. by Brazil; S. by Rio de la Plata; E. by the Atlantic ocean and W. by Argentina. Area: 72,172 sq.mi. Pop. (1950 est.): 2,365,000, mostly of European extraction. Language: Spanish. Religion: mostly Roman Catholic. Chief towns (pop., 1950 est.): Montevideo (cap., 850,000); Paysandú (50,000); Salto (48,000). Chairman of the governing council, Andrés Martínez Trueba.

History. During 1952 Uruguay acquired the distinction of becoming the only country in South America that was not ruled by a dictator or a former dictator. Its political life remained stable and its economy, although affected by high living costs and inflation, was under control so that it did not have any adverse effects on the life of the nation. Wool and meat, the most important products for export, continued to bring high prices and their demand remained stable. The decline of Argentine production helped Uruguayan foreign trade. The government adopted a policy of strict control on local prices which helped to ease living costs.

A step towards further democratization of the government and ensuring against the emergence of a strong executive with authoritarian ideas was taken when the presidency was abolished. In its place a governing council (*ejecutivo colegiado*) was adopted. The new council, made up of nine members, six representing the majority Colorado party and three the minority party, took office on March 1. Andrés Martínez Trueba, the outgoing president, was elected chairman of the new council, which was to hold office for three years to complete the current term. Thereafter the term would be for four years and members would not be eligible for re-election. The council would perform the executive functions of the government and would have a cabinet of nine ministers to assist it.

Relations with Argentina remained strained throughout the year. The establishment of the Argentine Exile association in Montevideo, a group of political refugees from the Perón régime dedicated to maintaining close association among themselves and promoting political activity, constituted another hindrance in the relations between the two countries. (J. McA.)

Education. Schools (1950): urban 546, pupils 157,033; rural 1,176, pupils 55,476, total teachers 6,744; private schools 191, pupils 36,884. The University of Montevideo had 11,948 students.

Agriculture. Main crops (1951-52, metric tons): wheat 472,571; oats 39,762; malt barley 10,203; ordinary barley 7,926; rice 46,104; linseed 119,946; maize (1950-51) 278,467 Livestock ('000, 1951): sheep 23,409; cattle 8,154; milk cows 512; horses 667; pigs 259

Finance (million pesos). Budget (1951 actual; 1952 est in brackets). revenue 357 5 (456 1), expenditure 367 0 (456·2). Internal public debt (May 31, 1952): 786·2; external 112 6. Gold reserves (July 1952): U.S. $211 million. Monetary unit: *peso*, with an official exchange rate of 4·80 to the pound sterling and 1 71 to the U S. dollar

Foreign Trade. Exports in 1951 totalled U S $236,330,000; imports (excl. gold valued at $63,627,000) $309,389,000 Chief exports wool 41%; beef and mutton 16%; hides, skins and leather 10% Leading imports: raw materials 30%, vehicles 16%; machinery 15%; fuel and lubricants 9% Main destinations of exports U S 43%, British Commonwealth 20%, Belgium 5%. Main sources of imports: U S 38%, British Commonwealth 16%, Brazil 7%, France 6% Wool exports in 1951-52 were 103,041 bales, of which 59,807 bales went to the U S., 15,630 bales to the U.K. and 4,875 bales to Germany. Meat exports in 1951 included 62,202 metric tons of frozen beef, 12,633 tons of canned beef and 4,857 tons of frozen mutton

Transport and Communications. Railways (1948) 1,874 mi., in 1951 they carried 10,899,000 passengers and 1,883,645 metric tons of freight. Highways (1948) 26,000 mi of which 3,051 mi. were paved national roads. On Dec 31, 1949, there were 56,500 cars and *c* 20,000 lorries. Merchant marine (June 30, 1951) 44 steamers and motor ships (100 tons and over) aggregating 70,222 gross tons. (J. W. Mw.)

U.S.S.R.: *see* UNION OF SOVIET SOCIALIST REPUBLICS.

VAN HOUTTE, JEAN, Belgian statesman (b. Ghent, March 17, 1907), graduated at the University of Ghent and in 1928 began to practise law at Ghent and, later, in Brussels. In 1931 he was appointed lecturer and in 1936 professor of economics at the French-speaking University of Liège; in the same year he assumed a similar position at the Flemish-speaking University of Ghent. In 1944 he became *chef de cabinet* of the minister of the interior and in 1947 he was elected chairman of the Belgian Institute of Public Finance. He was elected to the Senate in June 1949 and re-elected in June 1950. In Aug. 1950 he was appointed minister of finance in the Social Christian cabinet of Joseph Pholien. On Jan. 15, 1952, he became the head of a similar but probably less conservative government. On Feb. 12 his government was defeated by 7 votes in the Chamber of Representatives over an opposition interpellation criticizing King Baudouin's non-attendance at the funeral of King George VI. On April 16 he had talks with General Dwight D. Eisenhower on the occasion of the latter's farewell visit to Belgium as supreme commander, Allied forces in Europe. On June 23 he attended the inauguration, in the Antwerp port area, of a new petroleum refinery built by the Belgium company Petrofina and the Anglo-Iranian Oil company.

VARNISHES: *see* PAINTS AND VARNISHES.

VATICAN CITY STATE. 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-Outside-the-Walls and St. Mary Major which belong to the Vatican City state. Pop. (1952 census): 1,025. Governor (until March 21): Marchese Camillo Serafini; (vacant at the end of 1952).

History. Other than the apostolic letters and allocutions of Pope Pius XII himself (*q.v.*), notable documents emanating from the Vatican in 1952 included the decree on sacred art published by the Holy Office on June 30 and the apostolic constitution *Exsul Familiae* (Aug. 1), reorganizing the various institutions existing under the Holy See to provide spiritual care and assistance for emigrants and refugees all over the world. The Holy Office in May condemned the works of Alberto Moravia and André Gide, and in July certain books about the Italian stigmatist Padre Pio da Pietrelcina.

In February the pope sent the internuncio at The Hague to represent him at the funeral of King George VI. The decision of Japan to resume full diplomatic relations with the Holy See was announced on Jan. 23; the pope broadcast a message to Japan on Easter Sunday, and the appointment of an internuncio was announced on April 28. The Austrian legation to the Holy See was raised in March to the rank of an embassy. The appointment of the nuncio to France to represent the Holy See as a permanent observer at U.N.E.S.C.O. was announced in June. A commission of cardinals discussing the future of the Sovereign Order of Malta had reached no conclusions by the end of the year; it had been established in Nov. 1951 on the death of Prince Chigi Albani della Rovere, grand master of the order for 20 years previously. Prince Chigi had also been perpetual marshal of the Holy Roman Church and custodian of the Conclave, in which hereditary offices the pope confirmed his son, Prince Sigismondo Chigi, in February.

The death occurred on March 21 of the Marchese Camillo Serafini, governor of the Vatican City state since the conclusion of the Lateran treaty in 1929, and in April of Mgr. Ludwig Kaas who, as secretary of the Congregation for the Fabric of St. Peter's, had directed the excavations which led to the identification of the site of St. Peter's tomb. The College of Cardinals lost by death Cardinal Giovanni-Battista Nasalli-Rocca di Corneliano, archbishop of Bologna, in March; Cardinal Alessio Ascalesi, archbishop of Naples, in May; and Cardinal Michael Faulhaber, archbishop of Munich, in June.

Those received in audience by the pope included King Talal I of Jordan (Jan. 18); Moshe Sharett, foreign minister of Israel (March 27); and the Duke and Duchess of Windsor (Aug. 2). There were no canonizations during the year, but four beatifications were completed: those of Rosa Venerini (May 4); Raffaella Maria (May 18); Maria-Bertilla Boscardin (June 8); and Antonio-Maria Pucci (June 22). The body of the Blessed Pius X was translated on Feb 17 to its permanent shrine in St. Peter's; the mass and office of the Blessed Pius X were published in July; and in October preparations for the canonization were announced. A new edition of the *Rituale*, the first since 1925, was published in March. The fourth centenary of the German college in Rome was celebrated in October and the first centenary of the (British) Beda college in November.

On Nov. 29th the pope announced the names of 24 prelates whom he would raise to the Sacred College early in 1953: these were Mgr. Carlo Agostini, patriarch of Venice: Mgr. Celso Costantini, secretary of the Congregation of Propaganda, Mgr. Alvaro da Silva, archbishop of San Salvador de Bahia, Brazil; Mgr. Gaetano Cicognani, nuncio in Spain; Mgr. Angelo Roncalli, nuncio in France; Mgr. Valerio Valeri, assessor of the Congregation for the Eastern Church; Mgr. Pietro Ciriaci, nuncio in Portugal; Mgr. Francesco Borgongini Duca, nuncio in Italy; Mgr. Maurice Feltin, archbishop of Paris; Mgr. Marcello Mimmi, archbishop of Naples; Mgr. Carlo-Maria de la Torre, archbishop of Quito, Ecuador; Mgr. Aloysius Stepinac, archbishop of Zagreb; Mgr. François-Xavier Grente, archbishop-bishop of Le Mans; Mgr. Giuseppe Siri, archbishop of Genoa; Mgr. John D'Alton, archbishop of Armagh; Mgr. James McIntyre, archbishop of Los Angeles; Mgr. Giacomo Lercaro, archbishop of Bologna; Mgr. Stefan Wyszyński, archbishop of Gniezno and Warsaw; Mgr. Beniamin de Arriba y Castro, archbishop of Tarragona; Mgr. Fernando Quiroga y Palacios, archbishop of Santiago de Compostela; Mgr. Paul-Emile Léger, archbishop of Montreal; Mgr. Crisanto Luque, archbishop of Bogota, Colombia; Mgr. Josef Wendel, archbishop of Munich and Freising; and Mgr. Alfredo Ottaviani, assessor of the Holy Office. The first-named of these, the patriarch of Venice, died on Dec. 28.

On Dec. 29 the pope nominated Mgr. Valerian Gracias, archbishop of Bombay, in place of Mgr. Agostini. (M. Dk.)

VEGETABLE OILS AND ANIMAL FATS.

Preliminary figures for western European butter production in 1952 indicated an overall decline; cow numbers decreased in the Netherlands and Denmark while output in France and Germany was adversely affected by drought and foot-and-mouth disease. There was a recovery in pig numbers, following the decline in 1951, and prospects for lard production were therefore satisfactory. The dominating feature of the western European vegetable oil economy throughout 1952 was the existence of large stocks of oil built up after the outbreak of hostilities in Korea. The end of the stockpiling boom and the consequent decline in European imports of oils and oilseeds led to the emergence of a buyers' market in most types of oil and seed and to a sharp decline in free market prices. An important secondary cause of the improved supply position was the record production of olive oil in the Mediterranean basin during the 1951-52 season, large stocks of the oil were carried over into the 1952-53 season when output was much lower, due to the normal biennial variation in the yields of olive trees. Western Europe's domestic production of rapeseed was below the 1951 level.

The downward trend in European import demand caused a general decline in exports from the main supply areas of southeast Asia. Although exports of copra and coconut oil from Ceylon showed a further advance over the high level of 1951, shipments from Indonesia and the Philippines fell sharply. The higher production on oil palm estates in Indonesia resulted, however, in increased shipments of palm oil and kernels from this source. Exports of groundnut kernels and oil from India were much less than in 1951, due partly to the relatively poor crop in 1951-52 and partly to unremunerative world prices. Both India and Pakistan had good rapeseed crops but the Indian linseed crop was well below average. Malayan copra and palm oil production fell and the slight increase in coconut oil exports was more than offset by the sharp rise in net imports of copra.

Exports of groundnuts from Nigeria showed a marked improvement following record purchases, during the 1951-52 season, of 418,000 tons of shelled nuts. Preliminary reports on the 1952-53 crop indicated that purchases would again be considerable. Nigerian shipments of palm oil and palm kernels continued to decline during the greater part of the year, but official purchases of these crops were greater than in 1951 despite the fact that lower grades of oil were no longer purchased by the Oil Palm Marketing board. A general improvement in quality was considered essential in view of the imminent partial return of British West African oils and oilseeds to the competitive international market; provision for this was made in new long-term contracts with the U.K. Ministry of Food. Exports of palm kernels from Sierra Leone and groundnuts from Gambia were well maintained.

Production and exports of palm oil in the Belgian Congo showed a further rise despite the marked decline in prices paid to producers. Diminished returns did, however, cause a general fall in oil and seed shipments from the French territories in West Africa, despite the good groundnut crop in the 1951-52 season. The 1951-52 groundnut and sunflower crops in South Africa were adversely affected by drought but production of castor seed, for which there was a continued strong demand on the international market, was believed to have shown a further increase.

The 1951-52 dairying season in Australia was disastrously affected by drought but, eventually, good rains led to improved expectations for 1952-53. In New Zealand there was another excellent season and prospects for 1953 were very favourable.

Output of whale and sperm oil in the 1951-52 antarctic season was 413,000 tons, a record postwar volume. Low prices during the year caused a decline in whaling in other sea areas. (H. F. C. G.)

United States. Production in the United States of vegetable oils and fats was indicated at 11,815 million lb. for the year beginning Oct. 1, 1952—a decline of about 400 million lb. from the very high levels of 1950 and 1951, but far above the pre-World War II average of 8,696 million lb. Consumption of the edible types by U.S. civilians in 1952 was indicated at 43·7 lb. *per capita*, about 5% more than in 1951 but only 98% as much as the prewar average.

Butter production declined about 35 million lb. compared with 1951 and consumption dropped to 8·7 lb. *per capita* for U.S. civilians. Lard and rendered pork fat production declined by nearly 10% because of smaller pig crops. Margarine used in 1952 was estimated at 7 7 lb. *per capita*, or 18% more than in 1951.

Of the 8,702 million lb. of edible fats and oils, including butter, distributed in 1951-52, 81·9% went to U.S. civilians, 15·6% to export markets and smaller amounts to the U.S. military and possessions. (J. K. R.)

See Commonwealth Economic Committee, *Vegetable Oils and Oilseeds* (H M S O., London, 1952).

VEGETABLES.

United Kingdom. The recorded area of vegetables in open ground as at June 4, 1952, was 403,400 ac., indicating that the decline from the peak of 656,000 ac. in 1948 had been steadied during the year. Notable movements in crop acreages were: brussels sprouts up 10%, cabbages and savoys down 11%, beetroot up 19%, canning peas up 14%. As compared with 1939 figures, increases were evenly distributed over several crops, but there had been a ninefold increase for tomatoes and a fivefold increase for dry peas and processing peas. Acreages of major crops in 1952 were: brussels sprouts, 45,200; cabbages and savoys, 40,700; broccoli and cauliflower, 21,500; carrots, 27,300; beetroot, 8,800; dry bulb onions, 4,100; broad beans, 5,200; runner beans, 8,300; green peas, 38,600; processing peas, 26,400; dry peas, 121,300; lettuce, 6,500; rhubarb, 7,700, tomatoes, 1,800. Prices of most products averaged about 15% above those of 1951, largely on account of temporary upward movements—a feature which had been absent for the last few years.

The volume of imports of fresh vegetables to Aug. 31 (excluding tomatoes), was 7,628,000 cwt., as compared with 8,254,000 cwt. in 1951. The biggest reduction was of new potatoes. Before the suspension of open general licences (which began on July 1 for potatoes), deliveries of many products had been higher than in 1951, except for Italian produce. Onion imports, for example, totalled 1 million cwt. in July. During the suspensory period imports of new potatoes and tomatoes from the Channel Islands also exceeded 1951 levels. Otherwise, June imports were 44% lower in volume, July imports 77% higher, August imports 46% lower. Individual crop totals to Aug. 31 were: (in '000 cwt.) new potatoes, 2,807·7; onions, 3,561·2; broccoli and cauliflower, 566·6; carrots, 270·0; lettuce, 138·6; cabbage, 31·9; brussels sprouts, 22·9; cucumbers, 37·7; green peas, 3·2.

The glasshouse area in England and Wales as at July 1 was 4,619 ac., an increase of 68 ac. during the year. Utilization figures showed that some growers had taken up tomatoes and cucumbers again after trying flowers and foliage crops. Tomato acreage was lower than in 1949 or 1950. Individual crop acreages (1951 figures in brackets) were: tomatoes, 3,172 (3,129); cucumbers, 479 (451); flowers and foliage crops, 551 (576); grapes, 36; peaches and nectarines, 20; other crops, 148; unused, 256. The total area was 42% higher than in 1939. The winter use of glass, including Dutch lights, frames and cloches was largely for lettuce (31%) and flowers (39%). In all there

were 777 ac. of lettuce (houses, 518; frames, etc., 259), 984 ac. of decorative crops (houses, 871; frames, etc., 113), 38 ac. of mushrooms in houses, and 28 ac. of strawberries under cloches. The unused area on Jan. 1 was 57% of the whole.

United States. Aggregate sowings of truck crops for the fresh market, at 1,800,000 ac., were about 2% above 1951 level, though still about 5% below the 1941-50 average. Gains were recorded in the spring, summer and autumn harvest areas, but yields were lower than in 1951 and over-all production was down about 5%. Winter season supplies fell by 7%, spring season by 2% and summer season by 5%. Comparative estimates for the most important summer and autumn crops are shown in the table.

U S VEGETABLE CROPS, ESTIMATES FOR 1952
(Acres in '000s; production in '000 cwt.)

	Summer harvest				Autumn harvest			
	1951		1952		1951		1952	
	Ac	Prodn	Ac	Prodn.	Ac.	Prodn	Ac.	Prodn
Lima beans	5 8	10 2	5·3	8 0	0 4	0 7	0 3	0 4
Cabbage	29 2	241 1	28 3	210·9	59 5	562 6	61 9	552 2
Lettuce	33 3	281 9	38·7	351 5	37 8	231 9	44·9	241 6
Tomatoes	81 8	383 1	79 7	346 4	33 8	130 9	42 2	123 9
Water-melon	204 1	739 7	210 1	662 5	—	—	—	-
Sweet corn	65 0	125 3	66 0	117 4	—	—	-	—
Celery	5 0	101·5	5·3	100 2	16 3	108 8	16 4	104 0
Carrots	5 5	48·7	5 9	51 8	22 2	277 0	24 7	304 1
Onions	69·5	813 6	64 7	790 0	—	—	—	-

Demand remained strong and prices of many fresh products averaged about 10% higher than in 1951. Tomatoes were a notably good trade, lettuce was not.

After the record production of truck crops for processing in 1951, a reduction in goals for 1952 was recommended by the Department of Agriculture. Adjustments—increases for cabbage, beet and sweet corn, reductions for snap beans, tomatoes (in California) and lima beans—entailed a 2% reduction in acreage, but, as yields were not expected to equal those of 1951, a 15% reduction in supplies actually harvested. On Aug. 31 estimates showed that the over-all goal was realized, partly on account of shortfalls for beet and tomatoes. Crop totals were: (in short tons) lima beans, 83,870, snap beans, 243,600; beet, 120,800, sweet corn, 1,399,900; green peas, 445,380; tomatoes, 3,062,800.

Much attention continued to be given, under the terms of the Research and Marketing act, 1946, to improving efficiency of marketing. Current trends were away from processing (canning or freezing) and towards improved packaging of fresh produce on the farm, with subsequent cold-storage transport. (*See* also AGRICULTURE; MARKET GARDENING; ROOT CROPS.) (R. R. W. F.)

VELASCO IBARRA, JOSÉ MARÍA, Ecuadorian statesman (b. Quito, Ecuador, March 19, 1893), he was educated at the universities of Quito and Paris. Entering politics, he was elected to the Chamber of Deputies and was its president in 1933. He was inaugurated as president of the republic on Sept. 1, 1934, but was ousted from the office on Aug. 20, 1935, by an army revolt. He returned to Ecuador in Jan. 1940 to lead an abortive *coup d'état* against the government, then returned to his Colombian exile for another four years. In 1944 he was again a candidate for the presidency, conducting his campaign from Colombia as leader of the Alianza Democrática. This time successful, he returned to Quito, took over as provisional president after another uprising, and was proclaimed constitutional president on Aug. 10, 1944. A new constitution was adopted under his administration in 1945 but was suspended the following year, and Velasco Ibarra assumed the role of dictator. On Aug. 23, 1947, he was ousted again by a military coup and again exiled—to Argentina. In 1952 Velasco Ibarra once more announced his candidacy for president, with the support of the National Revolutionary party. He returned from Argentina in March, ran as an Independent Liberal, and was elected president on June 1, 1952, by the biggest ballot in Ecuador's history, with 153,934 votes against 118,180 to Ruperto Alarçon Falconi, a Conservative.

VENEREAL DISEASES. It was gratifying to record that since the end of World War II the clinic figures for early syphilis in Great Britain, in the Commonwealth and also in Europe reached a level well below that of 1939. It was noted however, that the fall was not so steep in some of the large seaports and at two London dockside clinics dealing largely with seamen infected abroad. In 1952 the reservoirs of infectious syphilis in Great Britain stood at a record low level although reports issued by the Ministry of Health emphasized that there was a constant importation of infection from overseas by visiting seamen and homeless immigrants from the British colonies. It was also shown that there was a considerable increase in the numbers of African, West Indian and Asiatic patients attending urban clinics. The clinic figure for early syphilis in England and Wales which was 2,272 cases for the year 1951 was only 564 for the first six months of 1952

There was also a dramatic decline in the number of cases of congenital syphilis. Ante-natal serological examinations on mothers were more frequently carried out and it was to be assumed that when these were more general there would be a further reduction in this preventable form of the disease. In the first half of 1952 there were only 64 infants under one year reported as being thus infected.

The fall in the number of deaths from general paralysis of the insane and tabes dorsalis (both manifestations of late, untreated syphilis) was maintained although it was noted that deaths from aortic aneurism in women had increased from 191 in 1950 to 224 in 1951.

The incidence of gonorrhoea in Great Britain remained approximately at the level of the previous year there having been 9,210 cases in the first half of 1952 as compared with 18,064 for the whole of 1951. In the two years previous to this the figures had been 20,504 (1950) and 24,487 (1949) There was a fall in the number of reported cases of chancroid and lymphogranuloma inguinale, most cases being diagnosed in clinics dealing with seamen.

There was a slight rise in the numbers attending clinics for treatment of conditions, mostly venereally acquired, other than syphilis, gonorrhoea, chancroid or lymphogranuloma inguinale. A large number of men were suffering from non-gonococcal urethral discharges generally known as non-gonococcal urethritis. Such was the increase of this disease and the corresponding attention it received (it was the venereal disease with the highest incidence in many parts of the world) that the Ministry of Health granted it a category of its own in its annual reports. It was considered that many patients who in reality were suffering from this disease were wrongly diagnosed in some clinics as suffering from gonorrhoea and that the organisms seen in smears of the urethral discharge were normal saprophytic flora. It was maintained that, had thorough cleansing of the organ preceded the taking of the smear, no organisms would have been identified by ordinary staining methods.

An increasing number of articles on non-gonococcal urethritis appeared in medical journals by various European workers: S. Battaglini and L. Ricciardi in Italy; A. Siboulet, P. Durel and M. J. Brisou in France; R. Knoblauch in Germany; K. Hurme in Finland; B. F. Petchersky and R. F. Bordo in the U.S.S.R.; M. Ruiter and H. M. M. Wentholt in Holland; B. Melen and B. Linnros in Sweden.

The numbers attending clinics in Great Britain merely for reassurance showed an increase over previous years thus demonstrating that the public awareness of the dangers of

venereal disease, awakened by publicity campaigns during the war years, remained undiminished.

Social work in British V.D. clinics was shared by hospital almoners and health visitors of the medical officers of health. In addition the Venereologists Group committee in Great Britain circularized physicians in charge of treatment centres (approximately 290) with recommendations (which were also forwarded to the British Federation Against Venereal Diseases) that social workers should be an integral part of the V.D. service and that every clinic should have at least one such worker attached to it. The committee also recommended that the social workers' duties should include the interviewing of patients, the securing the attendance of contacts (*i.e.*, persons known or believed to be sources of venereal infection) and the re-attendance of patients who had prematurely discontinued attending for treatment.

In France there was an interesting attempt to determine whether the closing of the brothels soon after the end of World War II had had any effect on the incidence of venereal disease. P. Durel, however, stated that there could be no satisfactory answer to this question as the shutting of the "tolerated houses" in 1946 had coincided with the introduction of penicillin treatment on a nation-wide scale: the marked and continuing decrease in the incidence of syphilis and gonorrhoea could, in all probability, be attributed to the rapidity with which sufferers were rendered non-infectious. A. Siboulet stated that the Seine *département* with its 5 million inhabitants occupied a special place in the incidence of the diseases since about 45% of all cases of gonorrhoea and 36% of syphilis in France were reported there. In general, however, the incidence of syphilis and gonorrhoea in France maintained the steady decline noted in previous years: syphilis 2,733, gonorrhoea 17,888 in 1950, syphilis 1,998, gonorrhoea 14,664 in 1951. (A. H. H.)

United States. Syphilis cases reported totalled 168,000 in the United States in the fiscal year 1952. About 12,000 of this total were cases in the early infectious lesion stage of the disease; 38,000 were cases in the early latent stage; 101,000 in the late and late latent stages; 9,000 congenital cases; and 8 000 cases with stage not stated. In each of these stages the 1952 figure was lower than that for 1951.

Reported cases of gonorrhoea, numbering 245,000 for 1952, were less than the total reported for the preceding year, but the trend of gonorrhoea morbidity had not been so sharply downward as was the case for syphilis.

There were also 3,800 cases of chancroid and about 1,000 cases each of granuloma inguinale and lymphogranuloma venereum reported during the year.

The rate of first admissions to all mental hospitals for psychoses resulting from syphilis decreased from 6·3 per 100,000 population in the calendar year 1938 to 3·1 in 1949.

Of the 2,063,000 persons examined in public venereal disease clinics in 1952, 272,000 were admitted for treatment. Staff members of health departments made 422,000 case-finding investigations to identify and bring to examination persons believed to be in danger of having a venereal disease. As a result of these investigations, 46,000 cases of syphilis and 58,000 cases of gonorrhoea were brought to treatment.

Many health departments were closing their facilities for treating venereal disease on an in-patient basis in 1952. As a result of research activities in developing new, more effective penicillin preparations and in testing their clinical effectiveness it had become possible to treat most patients without hospitalization. A new kind of venereal disease control facility was introduced in 1952, to provide essential control services on an out-patient basis at venereal disease clinics in which full-time diagnostic, treatment and case-finding services were available. At the close of the fiscal year 1952, 11 centres were operating in 7 states. (T. J. B.)

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VENEZUELA. Federal republic of 20 states, 2 territories, a federal district and island dependencies, on the north coast of South America. Area: 352,143 sq.mi. Pop. (1950 census): 4,985,716, excl. indigenous tribes estimated at 105,000; population mostly *mestizo*, Negro and mulatto. Language: Spanish. Religion: mainly Roman Catholic. Chief towns (pop., 1950 census): Caracas (cap., 487,903 with 695,095 in its metropolitan area); Maracaibo (232,488); Barquisimeto (105,080); Valencia (88,000); Maracay (66,000); San Cristóbal (56,000). Presidents in 1952: Germán Suárez Flámerich, chairman of the governing *junta*, and (from Dec. 2) Colonel Marcos Pérez Jiménez, provisional president.

History. Elections to a 104-member Constituent Assembly, which was to prepare a new constitution, began with voting on Nov. 30. The pro-government Independent Electoral front (Frente Electoral Independiente, or F.E.I.) was so certain of victory that two opposition parties, the Republican Democrats (U.R.D.) and the Christian Democrats (C.O P.E.I.) were allowed to take part in the elections. As the counting of votes, which took place the next day, revealed a lead for the opposition, the work of polling commissions was suspended. On Dec. 2 it was announced that two of the three-man *junta*, Flámerich and Colonel Luís Felipe Llovera Páez, had resigned and that Colonel Pérez Jiménez, its third member, had been proclaimed provisional president by a decision of the armed forces. It was said that he had promised to respect the results of the voting. Official returns were published on Dec. 15. The F.E.I., which was said to have polled 788,031 votes against the combined opposition vote of 938,696, was allocated 61 seats; the U.R.D. was given 29 seats and the C.O.P.E.I. 14 seats.

In August the trade negotiations between Venezuela and the United States begun in 1950 were concluded. The United States agreed to lower the duty on Venezuelan oil, within the terms of the Trade Agreements act. The quota was removed. Venezuela made a number of rate reductions. Iron ore from Venezuela, actively exported since 1950, likewise remained on the free list of the United States.

The definition of the Venezuelan-Brazilian frontier proceeded in consequence of the final ascertainment of the headwaters of the Orinoco. The deepening of the Orinoco main channel as well as the channel into Lake Maracaibo, calculated to assure the interior development of the republic, got under way in 1951. The Central university in Caracas was not reopened in 1952. The universities of the Andes (Mérida) and Zulia (Maracaibo) functioned throughout the school year. (C. McG.; X.)

Education. Schools (1949-50): public primary 5,977, pupils 491,799; secondary and special (Jan. 1952), public and private 175, pupils 32,548, teachers 2,407; teachers' training colleges 42, students 3,005,

teachers 400. In 1950-51 the Caracas Central university had 4,747 students, Los Andes 866, Zulia 840 and the Instituto Padagogico 448.

Agriculture. Coffee production (1951-52): 721,569 bags of 132 lb each Exports (1951) coffee 313,550 bags, cacao 15,500 short tons Livestock (1950)· cattle 5,359,654; pigs 1,292,808.

Industry. Mineral production (1951). crude petroleum 622,194,695 bbl ; refined oil 113,800,000 bbl. (1950, 90,099,847 bbl); exports of refined products 84,700,000 bbl. (1950, 67,222,878 bbl), natural gas 19,113·183 million cu.m.; diamonds 63,745 carats, gold (troy ounces) 2,860; iron ore 1,241,150 short tons. Manufactured goods (short tons, 1951)· cement 685,070; soap 16,033, sugar 49,791, cigarettes (units) 2,043·5 million; beer (litres) 107,396,000. Electricity (million kwh) 617 727.

Finance. (Million bolivares) Budget (1950-51, actual) revenue 2,111·6, expenditure 2,134 4; (1951-52 est) balanced at 1,951, (1952-53 est) balanced at 2,300 No external debt. Currency circulation (Aug 31, 1952) 772; demand deposits 914. Gold reserves (U S $) 373 million. Monetary unit *bolvar*, with an official exchange rate of 3 35 to the U S. dollar and 9 42 to the pound sterling

Foreign Trade (1951, million bolivares). Exports 4,533 6, imports 2,150·3 Chief exports· crude petroleum and petroleum products 96%; coffee 1%, cacao 1% Chief imports machinery and equipment 29%, foodstuffs and beverages 19%; metals and manufactures 17% Main sources of supply U S. 68%; U K. 7%, Canada 4%; Germany 4% Main destinations of exports Netherlands Antilles and the U S.

Transport and Communications. Railways (1950) 700 mi. Highways (1950) 3,750 mi all-weather, 1,600 mi unimproved dry-weather Shipping (merchant vessels of 100 tons and over, June 30, 1951) 97, gross tonnage 166,562

VETERINARY MEDICINE. The outstanding achievement during 1952 was the final eradication of tuberculosis in cattle in Denmark, following many years of rigorous tuberculin testing and removal of reactors. An interesting corollary to the elimination of bovine tuberculosis in Denmark was the gradual reduction of tuberculosis in children so that the accommodation in Danish tuberculosis sanatoria was no longer required for Danish patients and arrangements were made to treat in them patients from other countries.

In western Europe there was a major epidemic of foot-and-mouth disease due to virus strains of unusual virulence. The epidemic, which commenced in the eastern portion of the north European plain in the late summer of 1951, spread slowly east and south to the Atlantic sea-board of France, where it was rampant a year later. Coinciding with the gradual southwesterly spread of the epidemic on the south and east side of the North sea and English channel, the British Isles had a series of outbreaks, many from primary foci of infection believed to have been set up by birds moving out of the epidemic areas of continental Europe to the coastal areas of eastern and southwestern England. The secondary spread from these numerous primary foci produced one of the most serious epidemics of the disease which the British Isles had experienced for several decades. The spread of the disease in England was controlled by the energetic enforcement of a "slaughter policy". On the European continent where the endemic nature of the disease made slaughter impracticable, renewed efforts were made to develop a more suitable and cheaper vaccine. As the result of these efforts, the Foot and Mouth Research institute at Pirbright, England, was designated an international centre for research into the disease and particularly for the development of the new system of vaccine production developed in Holland and Denmark in which ox tongues obtained from the slaughter houses were used. The disease also occurred in the prairie provinces of Canada whither it is believed the infection was taken on the personal belongings of an emigrant who left a country district of central Europe when the epidemic was severe there. The occurrence of foot-and-mouth disease in Canada for the first time for many years caused the United States to prohibit the importation of Canadian livestock products. The United States was once again free of the disease, as the epidemic which originated in northern Mexico four or five years before was eradicated. The importance to the livestock production of the world of the control of foot-and-mouth disease was recognized by special efforts by the Food and Agriculture organization to co-ordinate research and control in Europe and by the announcement that the United States was to establish a special institute for research into the disease.

On the problem of infertility in high-producing dairy cattle, more evidence was published during the year to suggest that nutritional factors were important. Investigation of the causes of low solids in milk was continued and additional evidence was obtained that this might be largely determined by feeding and management and that inherited factors were not so important as had been previously thought. In the practice of artificial insemination of dairy cattle the addition of streptomycin to semen as an anti-bacterial agent was found to give a marked improvement in the conception rate. Marked progress had been made in the preservation of sperm by deep freezing. Sperm had been maintained for many months in a condition which permits them to become active when they return to normal temperatures, and recently arrangements had been made for the transport of bovine semen in this way from Great Britain to various parts of the Commonwealth

Studies of sheep husbandry and lambing problems in New Zealand indicated that deaths in new-born lambs were a serious economic loss. In Australia a low lambing percentage, *i.e.*, the number of lambs reared per ewe to the time of "marking" at about one month old, was found to be widespread under pastoral conditions. The organism responsible for the infectious enzootic abortion isolated by Scottish workers was shown to be sensitive to the newer antibiotics.

Studies on the virus pneumonia of pigs at Cambridge, England, showed that this infection was widespread in the British Isles, as the virus persisted in "carrier" animals for long periods, it was responsible for much sporadic illness and chronic unthriftiness. Isolation and removal of carriers appeared to control the disease. The acute fatal disease of pigs known as bowel oedema continued to occur in the United Kingdom and Ireland; Irish workers brought forward evidence that the disease was due to a virus.

The epidemic of fowl pest in western Europe abated and encouraging results were obtained in the United States with a new attenuated vaccine. Several new drugs were introduced for use against histomoniasis of turkeys and coccidosis of chickens, but the control of these diseases in the field remained closely linked to management practices.

The epidemic of severe Rift Valley fever subsided in South Africa and the disease became endemic; human cases were reported, including several in which the virus caused unusual damage to the eye.

Further evaluation of new drugs active against trypanosomiasis of African cattle showed that dimidium bromide produced serious toxic damage, especially to the liver. Further recognition that parasitic infestation could be responsible for nervous disorders, recently reported in work on paralytic disease of horses and goats common in Japan and Ceylon, was the finding in the United States of a neurofilaria whose migrations in the spinal cord and brain of sheep caused paralysis. (W. R. W.; H. B. P.)

VIETNAM: *see* INDOCHINA.

VIRGIN ISLANDS. An organized but unincorporated territory of the United States, 40 mi. E. of Puerto Rico. The three largest islands, with a total area of 133 sq.mi., are St. Croix (pop. 12,103, 1950 census); St. Thomas (13,813) and St. John (749). Language: mainly English. Religion: Christian. Chief towns: Charlotte Amalie, the capital, on St. Thomas (11,469), Christiansted (4,112) and Frederiksted (1,961) on St. Croix. Governor, Morris F. de Castro.

History. The Knud-Hansen Memorial hospital (116 beds) at Charlotte Amalie and the Charles Harwood Memorial

hospital (60 beds) at Christiansted were under construction during 1952, together with a 12-bed clinic and public health facility at Frederiksted. Robert Rose, U.S. assistant secretary of the interior, attended the ceremonies of laying the cornerstone at Charlotte Amalie and Christiansted. It was expected that these modern hospitals would be completed early in 1953. A low-cost housing project was under way in St. Thomas to provide 240 housing units, financed by the Public Housing Administration of the federal government. A similar project was also under way in Christiansted. Installation of modern telephone communication facilities had been almost completed. (M. F. DE C.)

Education. Schools enrolment (1952) total 5,423, incl 2,219 elementary and 933 high school in St Thomas and 1,443 elementary and 467 high school in St. Croix

Agriculture and Industry. Sugar production (1952): *c.* 11,646 tons.

Finance. Budgets (1952 actual). St Thomas and St. John, revenue $1,094,401, expenditure $1,388,658, federal grant $279,200, St Croix, revenue $505,798, expenditure $969,488, federal grant $465,800

Transport and Communications (1952) Commercial shipping entering the port of St Thomas 338, gross tonnage 1,920.735.

VIRGIN ISLANDS, BRITISH: *see* LEEWARD ISLANDS.

VITAL STATISTICS.

Births. Birth rates in most countries of western Europe were much the same in 1952 as in the previous year Such figures as were available by the end of the year showed in some countries a small falling-off compared with the same period of 1951, but in others a smaller increase. The birth rate continued to rise in Portugal and, with an annual rate of 24·9 live births a thousand inhabitants during the first nine months of 1952, its lead among the western European countries was maintained. The lowest

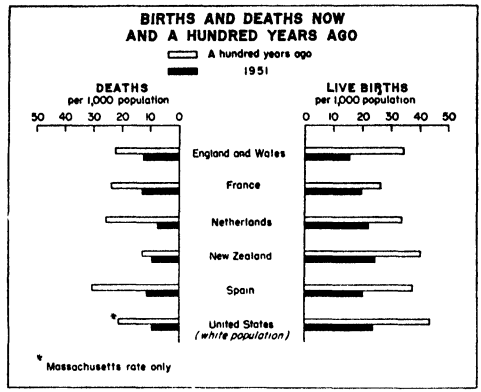
TABLE I BIRTH RATES (Number of Live Births per 1,000 Inhabitants)

	1911-13	1926-30	1935-39	1946-51	1952 (9 mo., annual rate)
Austria	24 9	17 6	14 7	16 5	14 8
Belgium	22 7	18 6	15·6	17 3	16·9*
Czechoslovakia	29 6	23 2	17 0	23 1†	—
Denmark	26 3	19 4	17 9	20 2	18 0
France	18 1	18 2	15 1	20 7	19·9‡
Germany	27 0§	18 4	19 4	16 3‖	16 0‖
Ireland	22 6	20·1	19 4	22 0	22 8‡
Italy	31 7	26 8	23 2	20 8	18 0
Netherlands	28 1	23 2	20 3	25 3	23 0
Norway	25 4	18 0	15 0	20 3	19 1
Portugal	35 3	31 2	27 2	24 9	24·6
Spain	31 2	28 5	22 0	21 3	21·1
Sweden	23 6	15 9	14·5	17 7	15 8
Switzerland	23 8	17 6	15 4	18·7	17 8
United Kingdom	24 3	17·2	15·3	17 9	16 0
Argentina	37 4	30 1	—	24 8†	—
Canada	—	24 1	20 3	27·4	27 6
Mexico	—	36·7	43·5	44 9	43·1¶
United States	25·1**	19 7	17 1	24·2	24·6
India	38·6††	33 3††	33·8	26·6	26 6*
Japan	34 1	33 5	29·2	30 0	24·2
S. Africa (Europeans)	31·9	25 9	24·7	26 2	26·1
Australia	28·0	21 0	17·2	23·3	23 3‡
New Zealand (excl Maoris)	26·2	19 7	17·3	25·2	24·4

* first 8 months † 1946-49 average ‡ first 6 months § 1913 ‖ Federal Republic ¶ first 5 months ** 1915 †† including Burma

birth rates in Europe are in the predominantly industrial countries of the northwest; the exception to this is the Netherlands where the rate is high.

In the United Kingdom 606,000 live births were recorded in the first three-quarters of 1952 compared with 617,600 in the same period of 1951; although the numbers have continued to decline from the 1947 peak, more babies were still being born than in the years immediately preceding World War II. But in neither 1950 nor 1951 were births occurring in England and Wales at a rate sufficient to replace the previous generation. This fact is seen by the trend of the reproduction rate



which shows the extent to which one generation of mothers of child-bearing age was reproducing itself, after making allowance for the fact that mortality rates would probably continue to decline. This rate exceeded unity for the first time in a generation in 1946 and continued to do so for the next three years but fell below unity in 1950 and 1951 to 0 986 and 0 969 respectively. In France, too, there was some decline in the birth rate although it was nearly 30% above the prewar level.

The relatively wealthy non-European countries with populations of mainly European stock mostly have birth rates comparable to the higher European rates. In Australia and New Zealand, for instance, the rates recorded in 1951 and 1952 were around 23 and 24. But in South Africa, for the white population, it was as much as 26·1 in the first nine months while for Canada, with the highest rate among the British dominions, it was 27·6.

Annual data for the United States showed that births in 1947 totalled 3,818,000 but were lower at just over 3,600,000 in each of the next three years. Then, in 1951, they soared up again to a new record of 3,833,000, while preliminary estimates for 1952 put the figure for that year still higher at 3,915,000.

Marriages. Marriage rates had changed rapidly in many countries during the 15 years up to 1952. The beginning of a war usually tends to make people marry younger and this was true in most belligerent countries in the early years of World War II. The rates of marriages a thousand inhabitants were also high immediately after the end of the war but later, as was to be expected, there was a decline. Rates changed most rapidly in the United States, reaching the exceptionally high figure of 16·2 a thousand inhabitants in 1946 and falling to 10·5 in 1951. The first nine months of 1952 saw a further falling-off in marriages there and this was expected to continue since there were relatively fewer men and women of marrying age because of the very low birth rates in the 1930s.

Between 1932 and 1939 the numbers of marriages in the United Kingdom rose year by year. The first three years of World War II accelerated the trend and after the end of the war the rate remained high. In the years 1946, 1947 and 1948 marriages registered averaged 448,800 a year compared with 403,300 in the years 1935-38. By 1950 the number had fallen to 408,100 but rose slightly again in 1951 to 411,300. In view of the larger population, the rates in 1950 and 1951 were lower than before World War II. In the first three-quarters of 1952 there were rather fewer marriages than in the same periods of both 1951 and 1950. Divorces in England and Wales were at a peak in 1947 when they were nearly ten times as many as in 1938. The number, however, fell sharply in the

next few years and by 1951 the decrees made absolute were less than half as many as in 1947. Whereas in 1947 60% of the petitions were filed by the husbands, in 1951 it was the wives who were the chief petitioners.

TABLE II.* MARRIAGE RATES (Number of Marriages per 1,000 Inhabitants)

	1926-30	1935-39	1940-44	1946-51	1952 (9 mo, annual rate)
Austria	7·5	10 3	8·2	9 8	8·5
Belgium	9 1	7 4	6 0	9 1	7·8*
Czechoslovakia	9 3	8 5	8 5	10 6†	—
Denmark	7 8	9·2	9 2	9 2	7 4
France	8·2	6·7	5 6	9·3	6·7‡
Germany	8·7	9 7	7 7§	10 0‖	9·2‖
Ireland	4 6	5 0	5 5	5·5	4 9‡
Italy	7 3	7 5	5 9	8 2	6·5
Netherlands	7 7	7 9	7 5	9·3	8 0
Norway	6 1	8 0	—	8 9	8 0
Portugal	6 9	6 5	7 1	7 8	7 5
Spain	7 3	5 5	7 3	7 6	7 1
Sweden	6·7	8 9	9 6	8 3	7 0
Switzerland	7 5	7 3	8 2	8·3	7 5*
United Kingdom	7 5	8 9	8 7	8 7	8 4
Argentina	7 4	—	7 0	—	—
Canada	7 3	7 9	10 1	9 7	8 7
Mexico	—	6 8	7 4	5 9	6 5¶
United States	9 9	10 7	12 0	12 4	10 0
Japan	8 0	8 1	9 8§	10 2**	7 9
S Africa (Europeans)	9 3	10 9	10 9	11 2†	—
Australia	7 5	8 8	10 5	9 7	9 0‡
New Zealand (excl. Maoris)	7 7	9 7	8 8	10·1	8 9

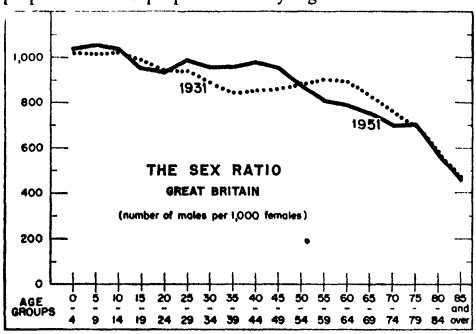
* first 8 months † 1946-49 ‡ first 6 months § 1940-43 ‖ Federal Republic ¶ first 5 months ** 1947-51

TABLE III. MARRIAGES AND DIVORCES IN ENGLAND AND WALES

	Marriages	Decrees Absolute		Marriages	Decrees Absolute
1937	359,160	4,886	1947	401,210	60,254
1938	361,768	6,250	1948	396,891	43,698
1939	439,694	7,955	1949	375,041	34,856
1940-44	365,672	8,813	1950	358,490	30,870
1945	397,626	15,634	1951	359,652	28,767
1946	385,606	29,829	1952*	278,875	—

* 9 months.

Deaths. In western European countries the death rates per thousand inhabitants in recent years had ranged from 7 to 14, with most of them clustered in the range of 10 to 13. Many European countries recorded a lower figure in 1948 than in any of the three following years; the lowest European rate on record was the 1948 figure of 7·4 a thousand inhabitants for the Netherlands. But in Belgium, Norway, Italy, Portugal and Spain the 1950 rates were below those of 1948. The general level of death rates in Europe is affected by the high proportion of older people in the population of many of these countries which tends to raise the death rate although health and medical conditions are good. The very low rate in the Netherlands is due to some extent to the fact that there the proportion of old people is not very high. The rates in the first nine months of 1952 were mostly below those in the corresponding period of 1951, but they did not promise to break the records when the full year's figures became available. The United Kingdom had a death rate of 12 6 in 1951, and 11·7 in each of the years 1949 and 1950, as compared with its lowest rate of 10 9 in 1948.



The death rate in Japan is now well within the European range. It fell from an average of 17·4 in 1935-39 to the low figure of 10 0 in 1951 and the improvement continued in 1952 The decline was not quite so spectacular in India but it was very substantial, the 1951 rate being one-third less than the 1935-39 average. The statistics for India, however, are thought to be understatements since they relate only to the so-called registration areas. The average postwar death rate in Asia as a whole was estimated to be between 28 and 32 per thousand population.

The rates were relatively low in the United States, Canada, Australia, New Zealand and South Africa, where they had remained fairly steady since the end of World War II at levels around 9 or 10.

TABLE IV DEATH RATES (Number of Deaths per 1,000 Inhabitants)

	1911-13	1926-30	1935-39	1946-51	1952 (9 mo, annual rate)
Austria	18 8	14 4	13 9	12 8	12 0
Belgium	15 3	13 7	13·2	12 9	12·1*
Czechoslovakia	20 4	15 3	13 2	12 2†	—
Denmark	13 0	11 1	10 6	9 2	9 1
France	19 0	16 8	15 6	13 1	13 1‡
Germany	14 8§	11 8	11 9	10 8‖	10 5‖
Ireland	16 4	14 4	14 3	13 5	13 1‡
Italy	19 3	16 0	13 9	10 8	9 8
Netherlands	13 1	9 9	8 7	7 9	7 2
Norway	13 3	11 0	10 2	9 0	8 3
Portugal	20 9	18 4	15 9	13 2	11 4
Spain	22 2	17 9	17 9	11 7	9 9
Sweden	13 9	12 1	11 7	10 2	9 5
Switzerland	14 8	12 1	11 6	10 8	9 9
United Kingdom	14 2	12 3	12 2	11 9	11 0
Argentina	16 8	13 3	—	—	—
Canada	—	11 1	9 8	9 2	8·7
Mexico	—	25 6	23 3	17 3	14 2¶
United States	14 1	11 8	11 0	9 8	9 6
India	29 9**	24 3**	22 6	17 2	13 8*
Japan	20 2	19 3	17 4	12 8	9 2
S Africa (Europeans)	10 3	9 7	9 8	8 8	8 8
Australia	10 9	9 3	9 6	9 8	8 9‡
New Zealand (excl Maoris)	9 2	8 6	9 0	9 4	9 5

* first 8 months † 1946-50 average ‡ first 6 months § 1913 ‖ Federal Republic ¶ first 5 months ** including Burma

Infant Mortality. In general, countries which have a high death rate have a large proportion of infant deaths and, conversely, where crude death rates are low, relatively few deaths are due to infant mortality. Sweden continued to hold the record in 1951 for low infant mortality with a rate of 21 deaths a thousand although it had risen from the rate of only

TABLE V INFANT MORTALITY (Deaths under One Year per 1,000 Live Births)

	1921-25 av	Latest year		1921-25 av	Latest year
Austria	136*	62('51)	Spain	143	68('51)
Belgium	100	65('51)	Sweden	60	21('51)
Bulgaria	156	130('47)	Switzerland	65	30('51)
Czechoslovakia	155	78('50)	United Kingdom	78	31('51)
Denmark	82	29('51)	Yugoslavia	151†	117('50)
Finland	96	35('51)	Argentina	116	79('46)
France	95	51('51)	Canada	98	41('50)
Germany	122	53('51)‡	Mexico	223*	97('50)
Hungary	187	100('48)	United States	74	29('51)
Ireland	69	45('51)	India	182	137('50)
Italy	126	67('51)	Japan	159	57('51)
Netherlands	64	27('51)	S Africa§	73	34('51)
Norway	52	28('50)	Australia	58	25('51)
Portugal	146	89('51)	New Zealand (excl. Maoris)	43	23('51)
Rumania	201	199('47)			

* 1922-25 average † 1926-30 average ‡ Federal Republic § Europeans only

20 in the two previous years. Other countries with rates below 30 in 1951 were New Zealand, Australia, the Netherlands, Denmark and the United States. The highest rates in 1950 and 1951 were recorded in the countries of eastern Europe, in South America, India and Portugal.

In the United Kingdom the number of infant deaths was steadily reduced and the rate dropped from 55 in 1938 to 31 in each of the years 1950 and 1951. The lowest figure recorded in England and Wales was 23 0 for the third quarter of 1952; the third quarter is usually lower than the average, but the 1952 figure of infant deaths was 0 4 a thousand below that for the third quarter of 1951.

Expectation of Life. The decline in mortality in most parts of the world has dramatically increased the expectation of life at birth and at later years. In England and Wales, for instance, a male child born in 1901 could have expected to live to the age of 46, while one born in 1950 could expect to live to 66. At the age of 35, a man could have expected to live to 65 in 1901 but to 71 in 1950.

TABLE VI. EXPECTATION OF LIFE AT BIRTH (Different years within the decade have been taken by various countries)

	c. 1910	1920-30	1930-40	1940-50
United States				
White	49 7	59 2	62 6	68 7
Non-white	—	47 4	50 8	60 8
Japan	44 4	45 7	48 3	57 9
Denmark	54 5	61 8	64·7	69 0
Finland	46 7	52 9	57 0	57 9
France	47 0	54·1	58 8	64 7
Germany	49 0	57 4	61 3	60 6*
Ireland	49 5	57 7	58 9	60 0
Netherlands	52 2	62 7	66 4	70 5
Sweden	55 8	62 1	64 9	68 4
Switzerland	50 7	56 0	62 7	64 8
England and Wales	53 4	57 6	60 8	68 9
Australia	52 9	61 2	65 3	68 4
S. Africa (Europeans)	—	59 6	61 0	66 0
Mexico	—	—	33 3	38 9

* Federal Republic

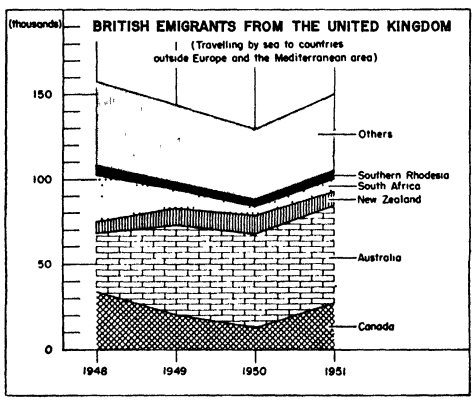


TABLE VII. BRITISH EMIGRANTS FROM THE UNITED KINGDOM BY SEA (by countries of destination)

	Canada	Australia	New Zealand	South Africa	Southern Rhodesia	United States
1919-21*	88,618	23,090	10,274	10,939	†	63,692
1934-38*	2,568	4,563	1,700	4,995	†	1,934
1946	52,479	9,592	5,428	11,127	†	49,580
1947	22,960	13,012	5,918	26,142	†	18,555
1948	34,487	34,445	6,927	27,726	4,506	19,600
1949	20,762	53,059	9,261	11,367	3,916	16,237
1950	13,434	54,184	10,562	6,537	2,783	11,400
1951	27,544	56,724	9,719	6,975	4,241	12,565
1952 (6 mo.)	26,822	30,528	7,196	4,416	3,434	12,190

* annual average † included under South Africa.

Migration. In 1951 twice as many people emigrated from the United Kingdom to Canada as in 1950 and, according to the records for the first six months of 1952, there were likely to be appreciably more in that year. Twice as many people went out to Australia, which took over 56,000 British emigrants in each of the three years 1949 to 1951. In the years immediately following World War II the United Kingdom had a net loss through migration, contrary to the experience of the 1930s when it gained over 500,000 people.

The British Census of 1951. The preliminary results of the 1951 census were published during 1952 and were based on a representative sample of one out of every hundred.

The results showed the rapid aging of the population since the previous census of 1931.

TABLE VIII AGE DISTRIBUTION IN GREAT BRITAIN

Age Group	% of Men 1931	% of Men 1951	% of Women 1931	% of Women 1951
0-14	25 5	23 9	23·0	21·2
15-24	17 9	13 1	17 0	12 8
25-34	15 9	14 8	16 0	14 1
35-44	13 0	15 7	14 1	14 9
45-54	11 9	13·6	12·5	13·7
55-64	9 2	9 6	9 4	11·1
65-74	5 0	6 4	5·7	8 2
75 and over	1·7	2 8	2 4	4 1
All ages	100 0	100 0	100 0	100 0

The British people live longer and marry earlier than 20 years previously. In 1931, out of every 100 women between the ages of 20 and 24, 25 were married; in 1951 the proportion was 47 out of every 100. The most common age for women to marry in recent years was 21 or 22. Not nearly so many men were married as young as this but they also were marrying earlier than they used to do. Even among older women, a greater proportion were married in 1951 than in 1931; this was because although there were still fewer men than women at the marrying ages, the deficiency was much less than before. The census attempted to separate families into social classes, based on the occupation of the head of the household. This showed that women marry younger into the households of manual workers than into those of the professional classes. Of married women aged under 50 when the census was taken, one out of every five whose husband was an unskilled labourer had married under the age of 20, but only 1 of every 20 among the professional classes had married as young as this.

Among all the married women aged 45 to 49 at the time of the census, only 4 out of every 100 of those who had married under 20 were childless. The number of children born on the average to these women who had married under 20 was 3·70 compared with an average of less than one child to those who had been over 35 when they married. But when the childless marriages were excluded, the average size of family was increased quite sharply for the late marriages.

TABLE IX. SIZE OF FAMILIES OF MARRIED WOMEN AGED 45 TO 49 IN 1951

Age at Marriage	Average number of children	% of women without children	Average number of children born to women having at least one child
Under 20	3 70	4	3 86
20-24	2·66	10	2 96
25-29	1 84	18	2·25
30-34	1·27	33	1·91
35-39	0 86	51	1·76
40 and over	0 46	70	1·54

The average family where the mother was under 45 had 3 children in 1911 but only 1·72 in 1951. All classes had smaller families than they had 40 years before but while the average family size of the professional classes had fallen by about 30%, that of the labourer had decreased by 45%. The

professional classes still had the smallest families (averaging 1·41 children) and the labourers the largest families (averaging 2·17 children) but the family size was much more uniform. (*See* also MARRIAGE AND DIVORCE.) (E. I. U.)

VITAMINS: *see* NUTRITION.

VOCATIONAL EDUCATION. United Kingdom. In Jan. 1952, 17 teachers from 10 countries, most of which were underdeveloped, attended a course in south Wales on the relations between education and industry. Much time was spent in visiting industrial plants. The course was arranged by the London University Institute of Education and the British Council.

In June the government announced its intention to create a technological university, and in July raised the rate of grant for courses of advanced technology in technical colleges. In September the Leeds College of Technology established a four-year "sandwich" course in mechanical engineering leading to a higher national diploma, students to spend alternately six months in college and six in industry. In October Southampton university established a four-year "sandwich" course in aeronautical engineering. The engineering and science departments of Loughborough college were reorganized as a separate and autonomous Institute of Technology directly grant-aided by the government.

The government announced in July that young men with good scientific knowledge would be granted commissions in the army and given two years at the Military College of Science to read for an external degree in science or engineering; and in August that part of Welbeck abbey, Nottinghamshire, would be opened in 1953 as a college to prepare boys aged 16 to 18 to go to Sandhurst to train as officers in the technical branch of the army. The London county council, to enable teachers in technical colleges in its area to undertake more research, in September appointed 20 research assistants, all registered full-time students of London university. In October the Royal College of Art was commissioned to design and execute 10 stained glass windows, each about 70 ft. high, for Coventry cathedral.

Commonwealth. The Hudson's Bay company established a trust fund to provide four scholarships for advanced training for business executives; two for British students to study in Canada, and two for Canadian students in Great Britain.

Miss M. D. Erskine, Her Majesty's Inspector on loan to the Food and Agriculture organization, arrived in Bombay in September at the invitation of the Indian government to establish the first catering school in the country. In January the grant was announced of $1,600,000 by the Ford foundation to establish a polytechnic and domestic science college in Pakistan. In February Mrs. Eleanor Roosevelt laid the foundation stone of the Karachi College of Domestic Science.

The first preliminary examination for Maltese boys wishing to join the Royal Navy was held in Malta in August. Twelve boys were to be selected every six weeks. They were to go to the United Kingdom for training on an equal basis with British boys.

Europe. In August the Czechoslovakian government ordered the establishment by Oct. 1 of 245 new technical schools for 80,000 students. These schools, taking chiefly boarders, were to receive 14-year-old boys from elementary schools, and give them a three-year vocational course, with political education and a yearly tour of three months in Russia. After the course students were to remain at least three years in the occupation for which they had been trained. Rome's first senior technical school for agriculture, to serve the entire Roman province, was opened in January.

(H. C. D.)

WAGES AND HOURS. The inflation that followed the outbreak of the Korean war appeared to have reached its peak in most European countries before the beginning of 1952 and the cost of living steadied, with consequent slackening of wage demands. In such countries as the United Kingdom and Australia price rises, probably delayed by the stricter economic controls, continued during 1952 and many demands were pressed.

Edgar Faure, the French prime minister, failed early in the year to get assembly approval for a bill to base the minimum wage on the monthly cost-of-living figures. He gave way to Antoine Pinay, who got the bill through. Pinay's efforts to keep prices steady were substantially successful: from a peak index of 148·5 in the winter of 1951-52, they fell to 142·1 at the end of June and rose to 144·8 in August.

Italian civil servants received an increase of 2,000 lire a month in January after a bill to grant them 1,500 lire was amended against the wishes of the government. Although there was some unrest over wages the labour year was relatively quiet. It became apparent that at least one group of Italian workers was well paid when in September Rudolf Bing, manager of the New York Metropolitan opera, complained that many singers were unable to withstand the lure of tax-free salaries at Italian opera houses.

TABLE I. AVERAGE WEEKLY EARNINGS, HOURS AND HOURLY RATES IN CERTAIN UNDERTAKINGS IN THE UNITED KINGDOM, FOR MEN OVER 21 IN APRIL 1952*

	Earnings s d	Hours	Hourly rates s d.
Coal mining	243 9†	—	—
Stone quarrying	169 1	50 1	3 4 5
Chemical and dye manufacturing	179 7	46 8	3 10
Iron and steel melting, rolling, etc.	202 8	48 4	4 2 2
Shipbuilding and repairing	184 8	48 2	3 10
Misc. non-electrical engineering	185 10	48 3	3 10 2
Electrical machinery	189 11	48 7	3 10 8
Motor and cycle manufacturing	207 11	45	4 7 4
Instruments, jewellery	179 2	45 9	3 10 8
Cotton	149	42 4	3 6 2
Woollen and worsted	153 5	45 6	3 4·4
Tailoring, ready-made and wholesale bespoke	161 7	42	3 10 2
Paper and board manufacturing	182 5	50 3	3 7·5
Printing, newspapers and magazines	212 7	41 8	5 1
Building	166 11	47 3	3 6 3
Laundries	146 11	48	3 0 7
All undertakings (except coal mining)	173 7	47 3	3 8

* Based on returns from 59,000 undertakings in manufacturing and principal non-manufacturing industries † Incl 10*s* 6*d* allowances in kind

SOURCE *Ministry of Labour Gazette* (H M S O, London, Sept. 1952)

In the German Federal Republic, which had an abundant supply of refugee labour, a demand was raised, but not acceded to, for a reduction in working hours from 48 a week to 40 to prevent unemployment. Legislation in January provided machinery for fixing minimum wages in industries where non-existence of unions or employers' organizations prevented collective agreement.

The system of fixing minimum wages in Australia, based on quarterly cost-of-living figures, was attacked in June by employers' organizations. They asked the Court of Conciliation and Arbitration to cancel the June award of an average of 9*s*. a week, to increase hours from 40 to 44 and to abandon automatic wage increases with every rise in cost-of-living figures. The court refused to cancel the award and the other matters were outstanding late in the year.

The United Kingdom retail price index (June 1947=100), which had moved from 117 to 130 in 1951, rose to 137 in Aug. 1952 and, with reduction in food subsidies, would rise further later in the year. The increase in 1951 and 1952 was, therefore, much greater than in any previous postwar year. The spate of wage claims which had characterized 1951 continued and on May 15 R. A. Butler, chancellor of the exchequer, appealed for wage restraint, pointing out that

claims outstanding affected between 7 million and 8 million workers. In July Sir Walter Monckton, minister of labour, referred back wage increase awards submitted by 12 councils in the distributive trades and asked for their reconsideration in the light of the chancellor's appeal. When a number of these awards were re-submitted without alteration he accepted them, thus giving wage increases in some shops of from 2*s.* to 10*s.* a week. Engineers (who at first asked for an increase of £2 a week), coal miners and dockers were among those with claims outstanding late in the year.

TABLE II AVERAGE EARNINGS, HOURS AND HOURLY EARNINGS IN THE UNITED KINGDOM, OF MEN OVER 21 IN MANUFACTURING AND PRINCIPAL NON-MANUFACTURING INDUSTRIES*

	Weekly wages	Percentage increase	Hours worked a	Hourly rate
	s d	on 1938	week	*s d.*
1938†	69 0	---	47·7	1 5 4
1946†	120 9	75	47 6	2 6 4
1947	123 5	79	46 3	2 8
1948	134 0	94	46 5	2 10 6
1949	139 11	103	46 6	3 0
1950	145 9	111	47 0	3 1 2
1951	160 2	132	47·9	3 4 1
1952	173 7	152	47 3	3 8

* Based on returns from about 60,000 undertakings for last pay week in April of each year † Oct.
SOURCE *Ministry of Labour Gazette* (H M S O, London, Sept. 1952)

Increases granted in Jan.-Aug. 1952 affected 6,101,000 workers who got £2,338,900 more a week. Among them were agricultural workers who got, in the case of men over 21, an increase of 5*s.* a week, making their weekly minimum 113*s.* Many more industries granted 12 days' paid holidays in 1952 in place of six. There were no important changes in working hours. While average earnings for men in April 1952 were 173% above 1938, average wage-rates for a full ordinary working week had increased by only 108%. The disparity is accounted for by the lower number of hours a week worked as basic in 1952, the greater number of hours worked at overtime rates and by extension of payment by results. (R. JA.)

TABLE III WEEKLY WAGES AND HOURS OF WORK IN MANUFACTURING INDUSTRIES, BY COUNTRIES, DEC 1951

	Hours	Wages
Finland	44 7	Fmk 107
France	44 7	Fr. 5,270
German Federal Republic	47 2*	DM. 70 92
Italy	8 05†	1,207 lire†
Switzerland	47 7	Fr S105 9 ‡
United Kingdom	46 1§	141*s.* 1*d* §
Argentina	23 8‖	168 pesos‖
Canada	38 1	$51 82
United States	41 2	$67·40
Japan	45 5	4,147 yen

* Sept. † Per day ‡ Men, unskilled § Oct ‖ June
SOURCE International Labour Organization statistics published in *International Labour Review*, June 1952

United States. U.S. manufacturing payrolls in Aug. 1952 were 1·6% above the 1951 dollar level. Total wage and salary payments for Aug. 1952 were $15,083,300,000, which represented an increase of 5·7% over the same month in 1951.

Real wages reached a new post-World War II peak in March 1952 of 149·4 (based on 1939 averages). Average real wages for the first eight months of 1952 were ·9% above the 1951 figures. In 23 industries, average weekly earnings increased more rapidly than the 3·05% rise in the consumers' price index. In eight industries (four of which were adversely affected by work stoppages in steel) weekly wages did not keep pace with the cost of living. The highest weekly earnings for any industry were $88·31 in building construction. This was 3·3% above the highest 1951 figure. The greatest comparative increase in average weekly earnings was one of 14·3% in the leather industry.

Irregularities in coal production were reflected in the 26·4-hr. work week for anthracite miners and the 27·6-hr. week for bituminous miners.

The highest average hourly earnings were in building construction ($2 282), followed by $2·256 in bituminous coal mining. The greatest proportionate gain in hourly rates was one of 8 3% in rubber manufacturing, with the next greatest gain (7·8%) in metalliferous mining. Slight declines in coal mining and in clothes manufacturing were caused by temporary maladjustments in the classifications of labour employed during August. The lowest monetary rate paid was $·874 in hotels (not including tips, board, room and uniforms). For manufacturing as a whole, the increase in hourly rates was 4·2%, compared with 9·0% in 1951. In Aug. 1952 the average hourly rate for common labour was $1·793, compared with $1·637 in 1951. Farm wages increased from $·73 per hour (not including room and board) in 1951 to $ 87 in 1952, an increase of 19·2%.

Wage payments (both hourly and weekly) did not increase as rapidly during the year as they had done during the postwar period up to 1951. How much of the slow-down in the rate of increase was attributable to reduced inflationary pressures and how much to the effectiveness of Wage Stabilization board policy was problematical. (*See* also COST OF LIVING, PRICES; WEALTH AND INCOME, DISTRIBUTION OF.) (D. J. H.)

WAKEHURST, JOHN DE VERE LODER, 2nd baron, British politician and administrator (b. London, Feb. 5, 1895), was educated at Eton and during World War I served in the 4th Royal Sussex regiment and the Intelligence corps in Gallipoli, Egypt and Palestine. He was at the Foreign Office, London, 1919-21, and from 1924 was Conservative M.P. for East Leicester. He was defeated in 1929 and in 1931 was elected for Lewes. He succeeded his father as 2nd baron in April 1936 and in April 1937 became governor of New South Wales. He remained in this office throughout World War II until March 1946 when he returned to England. He was chairman of the English Speaking union, 1946-51, prior to the Order of St. John of Jerusalem from 1947; and a trustee of the Royal Opera house, Covent Garden, from 1949. On Dec. 3, 1952, he succeeded Vice-Admiral the Earl Granville as governor of Northern Ireland. He arrived in Ulster on Dec. 2, and was sworn in at the Royal Courts of Justice, Belfast, on the following day. He wrote a number of books including *The Truth about Mesopotamia, Syria and Palestine* (1923); *Bolshevism in Perspective* (1931), *Our Second Chance* (1944), and *Preparation for Peace* (1945). He was created a K.C.M.G. in 1937.

WAKSMAN, SELMAN ABRAHAM, U.S. biologist (b. Priluka, Kiev province, Russia, July 2, 1888), emigrated to the United States in 1910 and became a naturalized U.S. citizen six years later. He received his B.S. (1915) and his M.S. (1916) from Rutgers university, New Brunswick, New Jersey; and his Ph.D. (1918) from the University of California. After working as a research biochemist for private laboratories in California, he returned to Rutgers to teach soil microbiology; he became associate professor there in 1924 and full professor in 1930. As early as 1915 he had begun the investigations which ultimately led to discovery of the drug streptomycin; not until 1939, however, did his researches with earth moulds take the turn which led directly to production of the new antibiotic. Streptomycin was introduced by Waksman and his associates (including Albert Schatz of Brooklyn college) in 1943. It was found especially effective against tuberculosis, whooping cough and a number of other diseases. For his co-discovery of streptomycin, Waksman was awarded the 1952 Nobel peace prize for medicine and physiology.

WALES. Principality forming part of Great Britain. Area (including Monmouthshire): 8,012 sq.mi. Pop. (1951 census): 2,596,986.

Early in the year Sir David Maxwell Fyfe, the minister for Welsh affairs, made a fact-finding tour of the country. Addressing the Association of Welsh Local Authorities he said his functions were "to ensure that the special needs of Wales were represented at the highest level when national policy is decided and to answer to parliament and to Wales for the government's policy as a whole in its effect upon Wales." He emphasized that he had no executive responsibility in Welsh affairs and would have to depend on his powers of persuasion.

The minister of agriculture withdrew the draft order made in 1950 for the compulsory purchase of some 11,500 ac. of land for afforestation in the upper Towy valley in Carmarthenshire. Some 46 farmers and their families were under notice to yield up their land and widespread objections culminated in a public inquiry. After considering all the circumstances the minister found it inexpedient in the existing national economic situation to proceed with the project which would involve heavy capital outlay and a 20 years' programme. He urged that the decision must not be taken to indicate that the importance and urgency of producing more timber at home had in any way lessened.

During the annual debate on Welsh matters in the House of Commons the minister for Wales announced the decision of the War Office to abandon for 1952 proposals to use land in the Llyn peninsula (south Caernarvonshire) as an army training ground. The scheme had aroused national controversy and while the need for an area of this nature was likely to recur, the War Office agreed to reconsider their plans "with the aim of finding a solution acceptable to all and consideration for the views of local inhabitants and the claims of agriculture."

Sir David Maxwell Fyfe also announced that the government had decided to increase the status of the secretary of the Welsh department of agriculture in order that he could be brought into consultation on all matters in which Wales had a special interest. The minister of education announced that a new office of the Welsh department of her ministry would be set up in Cardiff. Day-to-day decisions in accordance with the policy laid down by the minister were to be given by this office and all consultations, except with ministers, held there unless local education authorities or other bodies concerned were prepared to send representatives to London. David Llewellyn, M.P. for Cardiff North division, resigned his appointment as under secretary in the Home Office specially responsible for Welsh affairs and the prime minister chose Lord Lloyd to succeed him.



The procession of bards walking through Rhyl in June for the proclamation of the Royal National Eisteddfod for 1953.

Industrially 1952 was a year of steady progress. The National Coal board advanced its long-term programme for a series of large, horizon-mining pits in south Wales. In the 46 weeks to mid-November the output of coal in the south-western division totalled nearly 21 million tons, a substantial advance on the output in the corresponding period of 1951. But the gain was offset by a loss of some 180,000 tons when workers of 31 pits influenced by Communist propaganda practised "go slow" methods and declined to work the voluntary Saturday shift in accordance with a national agreement.

A new level of steel production in south Wales was established in November; output of steel ingots and castings reached a weekly average of 80,480 tons, representing an annual rate of 4,185,100 tons. The modernization of the traditional Welsh steel and tinplate industry continued briskly with the £70 million strip-mill plant at Margam, Port Talbot (opened the previous year), approaching maximum capacity although held back by a strike of furnace bricklayers for several weeks, and the complementary cold-reduction and tinning plant at Trostre, Llanelly, also getting well into production swing and employing five-sixths of its 1,200 labour complement.

In December the Steel Company of Wales, which was a fusion of four leading firms, announced that government consent had been obtained for expenditure of a further sum of £40 million to complete the modernization scheme and keep the Welsh tinplate industry in the vanguard of world production. The major part of the additional expenditure would be on the erection of a second modern cold-reduction and tinning unit near Swansea and on extensions to the other plants. A fund raised by a levy on output to relieve hardship among workers displaced when the old-type mills would be closed reached the total of £400,000.

The unemployment figure for Wales in October (26,984) was the lowest for any corresponding period since the end of World War II. In toy-making, a comparatively new industry in Wales, 12 firms mostly in the Glamorgan and Monmouthshire valleys increased their trade to a total value of £2 million. In October the queen, accompanied by the Duke of Edinburgh, opened the £2 million Claerwen dam.

On the land the total number of regular workers decreased (male workers by 3·6%) but casual labour increased. September figures showed a small increase in cattle (1·2%), a substantial increase in pigs (22·3%) and sheep (9·2%) and a decline in poultry (1%). There was a steady expansion of state afforestation, the plantings in Wales in the previous year covering 12,713 ac. being the biggest area afforested in any year.

The official analysis of the 1951 census revealed that 651,000 of the population were bilingual and 51,100 monoglot Welsh, a decrease of 8% in Welsh speakers since 1931. In its latest pamphlet the Ministry of Education came out strongly in support of the Welsh language, urging that "unless the schools transmit to the rising generation the value of Welsh both as a heritage and a challenge" Wales would endanger its nationhood.

In the sphere of broadcasting Wales for the first time secured a representative on the board of governors of the British Broadcasting corporation, in the person of Lord Macdonald of Gwaenysgor, a former lord privy seal and ex-governor of Newfoundland who was bilingual and would be chairman of the new Welsh National Broadcasting council.

In August the television transmitter of the B.B.C. to serve south Wales and the west of England jointly was opened at Wenvoe, near Cardiff. The National Eisteddfod at Aberystwyth, at which 160,000 people attended over six days, was

filmed for television. The sixth annual International Music Eisteddfod at Llangollen again eclipsed previous records, attracting 130,000 people to hear and see dancers, vocalists and choirs from 19 countries, 800 foreign performers among them.

During a visit to Cardiff the Duchess of Kent opened a gallery specially allocated to a collection of over 100 pictures and sculptures, largely by 19th century French masters, bequeathed to the National Museum of Wales by the late Miss Gwendoline Davies of Gregynog. The distinguished sculptor, Sir William Goscombe John, a native of Cardiff, died in December aged 92. (J. C. G. J.)

WAR PENSIONS. Great Britain. During the year ended March 31, 1952, the number of pensions in payment fell from 1,007,640 to 980,728. The highest figure was 1,136,128 in 1947. The 1952 total was distributed as shown in the table.

	Disablement	Widows	Dependants	Total
World War I	303,525	97,990	59,579	461,094
World War II				
Armed forces	362,043	65,064	48,766	475,873
Mercantile marine, etc.	4,850	7,837	4,004	16,691
Civil defence and civilians	16,418	9,266	1,386	27,070
Total World War II	383,311	82,167	54,156	519,634
Grand total	686,836	180,157	113,735	980,728

The totals for World War II included pensions resulting from service in Korea, Malaya and the Suez Canal zone. Up to March 31, 1952, the numbers were: Korea 481 (incl. 277 for disablement), Malaya 348 (283 for disablement) and Suez Canal zone 28 (4 for disablement). Among the pensioners of World War II were also 6,265 members of the Polish forces who served under British command. The Ministry of Pensions expenditure was £83,726,206, which was £1,838,254 less than in the previous year.

The basic rate of pension for a totally disabled ex-serviceman remained at 45*s.* a week, only 5*s.* more than in 1919. Speaking at Blackpool on Nov. 22, Sir Ian Fraser, president of the British Legion, said that the amounts paid to the severely disabled, including additional allowances, were still well below the average wage of an unskilled worker. He argued that an increase from 55*s.* to 90*s.* a week in the basic war pension was a debt of honour to ex-servicemen. He said that there were 49,961 men with 100% disablement and of these 42,500 received one or more of the extra allowances, but it was among 644,900 disabled in lesser degree that the greatest discrepancy occurred.

France. In the 1953 budget submitted by the government to the National Assembly the total expenditure on pensions and gratuities to ex-servicemen and war victims amounted to Fr. 76,784·7 million, *i.e.*, Fr. 10,994·6 million more than in 1952. There was no increase of the basic rates of pensions, but certain increases of allowances to severely disabled, or of gratuities to prisoners of war, wartime deported and internees resulted from acts passed in the year. It was estimated that at the beginning of 1952 there were 1,183,300 war disabled (incl. 815,000 from World War I), 755,700 widows (613,000 from World War I) and 585,900 dependants (463,000 from World War I). With 1,795,000 prisoners of war, 820,000 deported, 1,613,000 *sinistrés* (bombed out or who suffered war damage), 600,000 *résistants*, 300,000 *maquisards*, etc., about 14,568,700 men and women were entitled to some sort of war pension or gratuity.

Germany. On Dec. 11 the Bundestag voted unanimously a law giving to all war pensioners a supplement equal to a monthly pension, payable half in January and half in June 1953. It increased the German Federal Republic's yearly expenditure for war pensions by about DM. 220 million.

Poland. The number of disabled ex-servicemen, widows and dependants was estimated at over 700,000, half of them suitably employed. Pensions ranged from Zł. 15 to Zł. 120 monthly. In Dec. 1951 an act of parliament ordered free treatment for ex-servicemen who fought in the Polish army formed in the U.S.S.R. and whose disability amounted to 66% or more.

Yugoslavia. War disability pensions were increased from July 1, 1952, from 50% to 100%. Ex-servicemen suffering 100% disability would receive D. 18,000 monthly instead of D. 9,530. There were about 328,000 war disabled men and women and war orphans under direct care of the state. (X.)

United States. The revised budget for the fiscal year 1952-53 placed expenditures for the veterans' programmes at $4,479 million, as compared with actual expenditures in the fiscal year 1951-52 of $4,821 million and in fiscal 1950-51 of $5,339 million. By the end of 1952 veterans of all wars numbered more than 19 million of whom 80% served in World War II.

Wartime rates of compensation to veterans with service-connected disabilities, paid also to veterans disabled since the start of fighting in Korea, ranged from $15·75 to $172·50 a month. Additional statutory awards were also payable to veterans with certain serious disabilities. Peacetime rates were 80% of the wartime scale.

Pensions were payable to veterans of either World War I or II, and to those who served during the period after the start of fighting in Korea, who (1) were permanently and totally disabled for reasons not traceable to service, and (2) whose annual income did not exceed $1,400 if single or $2,700 if married or with a minor child. Rates were $63 a month, increased to $75 after ten years or when the veteran reached the age of 65. On Aug. 1, 1952, more than 2,400,000 veterans were on the Veterans Administration's pension and compensation rolls. Included were two who had Civil War service and 15,000 who were disabled after the Korean conflict started. (C. R. Gy.)

WATER SUPPLY. During 1952 the water supply of Great Britain was not affected by drought. Many large schemes inaugurated shortly after World War II were completed, amongst them the Claerwen dam in the Elan valley which was begun in 1946, to increase the supply of water to Birmingham, and which was opened by Queen Elizabeth on Oct. 23. This masonry-faced concrete dam, costing about £2,300,000, was the highest in the country, being 184 ft. high from stream bed to crest level, and 1,166 ft. long. The reservoir formed was over 4 mi. in length and contained 10,625 million gal. In Norfolk the Docking Rural District council's comprehensive scheme was inaugurated in May, and was claimed to be the first major water scheme in Great Britain to be completed under the Rural Water Supplies and Sewerage act of 1944. The cost amounted to £290,000, and the scheme included two boreholes, a pumping station, reservoir, water tower and 77 mi. of pipelines, and supplied water to 23 villages and hamlets. Another large rural scheme, the Prewley waterworks of the North Devon Water board, costing £546,000, was opened in June and provided a piped supply to more than 34 parishes.

Many important authorities investigated major proposals for further large increases of water during the year. These included the Tees Valley Water board, who were to seek powers to construct a dam at Selset, estimated to cost £3 million, principally for meeting the demands of large industrial consumers; Glasgow corporation, who were to convey water from Glenfinlas into the existing reservoir at Loch Katrine; and Leeds corporation, who were investigating the

site of a proposed new impounding reservoir at Thruscross. Glasgow corporation also decided to construct a 12-ft.-diameter tunnel under the River Clyde to improve the distribution of water to the southern part of the city. At Bilston, Staffordshire, experiments were started to ascertain if water in disused mine workings under the town could be used to supply increased industrial demands. Work on the construction of Hanningfield reservoir, Essex, was begun and was estimated to cost over £2 million.

In the Shetland Islands, the first of a number of water schemes was inaugurated at Burra Isles. For those schemes, where costs were very high in relation to population served, the Department of Health for Scotland contributed a grant of 85%. The Slieve Bignian tunnel for conveying water from the Annalong river into the Silent Valley reservoir, to increase the supply to Belfast, was completed.

A Ministry of Housing and Local Government inquiry was held in March into applications by several authorities to abstract water from the River Dee, Cheshire. Birkenhead and Wallasey corporations, the Mid and Southeast Cheshire Water board, and the West Cheshire Water board, were authorized to abstract a further 27 million gal. per day from the river. Control works were to be established at Bala lake, some 40 mi. above Chester, to maintain sufficient water in the river to meet these demands.

On the treatment side of water supply, the Metropolitan Water board carried out tests with ozone. The results were disappointing and the experiments were discontinued. Kilmarnock town council decided to experiment with the addition of fluorine to their water supply to arrest dental decay. Kilmarnock was believed to be the first British town to adopt this form of treatment.

It was announced during 1952 that the value of water supply schemes in Great Britain submitted for approval to the government from the end of World War II to Oct. 1951 was over £63 million and, of these, schemes valued at more than £28 million were authorized for commencement of construction, while schemes to a value of more than £14 million were approved but not yet authorized to go to tender. Grants promised under the Rural Water Supply and Sewerage acts of 1944 and 1951 amounted to nearly £11 million.

Preliminary reports on the 1951 census (H.M.S.O., London) showed that of 12,403,000 private householders with separate dwellings about 16% were without a piped water supply and about 32% shared arrangements with others. These and other figures given in the report were considered of value in planning for the country's future water needs.

The second congress of the International Water Supply association was held in Paris in June, at which over 800 delegates from 27 countries attended. Amongst the reports discussed were those dealing with water softening, treatment before filtration, artificial replenishment of underground water and distribution systems.

Commonwealth. In South Africa, tenders were invited for the construction of a £6 million scheme at Wemmer's Hoek to increase the supply for Capetown. In Cape Western Province, the Irrigation department made water available from Vogelsvlei reservoir to Malmesbury, Moorreesburg, Darling, Riebeeck West and Riebeeck Kasteel, thus creating prospects of a large new industrial area. The capacity of Shongyeni dam in Natal was found to have become rapidly reduced from 2,600 million gal. to 1,700 million gal., by silting due to soil erosion. Efforts were to be made to reduce further silting by adjustment of native kraal sites and by regulations of grazing.

In Kenya, tenders were invited for the construction of a 155-mi. long pre-stressed concrete pipeline from Mzima to Mombasa. A 25-mi.-long pipeline was completed in Northern Rhodesia to supply up to 2·5 million gal. per day of water from the Zambesi to Wankie.

Preliminary work was commenced on the Tai Lam Chung scheme to supply water for Hong Kong. The concrete dam was to be 1,000 ft. long and 150 ft. high, and the cost was estimated to be Hong Kong $40 million.

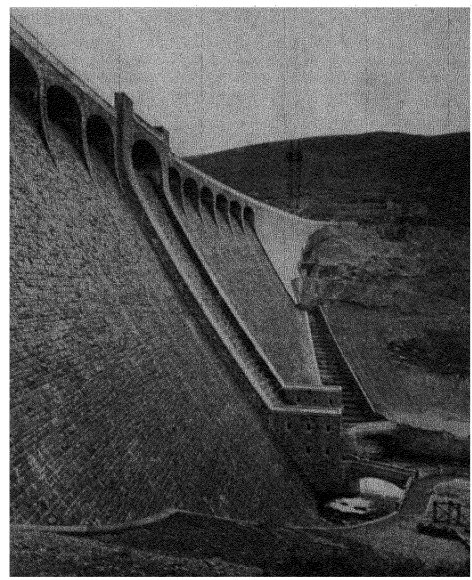
The Somerset reservoir for impounding water for Brisbane was completed, the concrete dam, situated in a very wet part of Australia, being 1,000 ft. long and 173 ft. high.

The Sindri Fertilizer factory, in Bihar, India, was opened in March 1952, and the water supply scheme for this project comprised a barrage across the Gowai river, a tributary of the Damodar river, an infiltration gallery to tap water available in the sand of the Damodar bed when the surface supply diminished, and a pumping and purification works with a capacity of 12 million gal. per day.

Israel. At Tel Aviv, the construction of two new reservoirs was begun some 5 mi. from the town to store water from eight new wells. It was expected that this £3 million scheme would completely alleviate the existing shortage. (J. KD.)

United States. In 1952 further progress was made towards the economical reclamation of fresh water from sea water by membrane and thermal processes. Extreme shortage of fresh water had long been a basic problem in many arid areas of the world. The basic chemistry of membrane behaviour had long been known but the new information included the discovery of methods of preparing membranes of vastly improved quality, and the demonstration that with an applied electromotive force these new membranes could be employed in the demineralization of brines. Thermal processes which were under active consideration or development included use of waste heat from electric power generating plants, utilization of temperature differences between surface waters and the deep waters of the ocean, and solar distillation.

The water fluoridation movement continued its growth. According to F. J. Maier of the U.S. Public Health Service, Australia, Canada, Costa Rica, Great Britain, the Netherlands, Japan, Panama, Puerto Rico, and New Zealand had established



The 184 ft. high Claerwen dam in the Elan valley, Rhayader, Radnorshire, which was opened by Queen Elizabeth II on Oct. 23.

or soon would have fluoridated public water supplies. In the United States, the number of artificially fluoridated supplies had increased to 386 by the middle of the year, benefiting 7·5 million people. This compared with 240 plants and 4·4 million people at the beginning of 1952 and 78 plants and 1 4 million people a year earlier. No harmful effects of any description were reported and no industrial processes were adversely affected. After seven years of controlled fluoridation at Grand Rapids, Michigan, significant caries reductions had been observed in all age groups up to 16.

Rapid progress was made in 1952 in the large-scale production of German membrane filters for water analysis and in their technicalogic development In bacteriologic analysis, they permit the concentration of small numbers of microorganisms contained in large quantities of liquids, great reduction in the elapsed time of tests and in laboratory manhours and facilities, and the separation of collected micro-organisms from inhibitory environments by simple manipulation. (J. M. H.)

See Wilfred E. Langelier, "The Electrochemical Desalting of Sea Water with Permselective Membranes—A Hypothetical Process," *Journal of American Water Works Association*, vol 44, no 9, p 845 (New York, Sept. 1952); H. F. Clark and P W. Kabler, "The Membrane Filter in Water Quality Tests," *Am J. Pub Health*, vol. 42, no 4, p. 385 (New York, April 1952), Alexander Goetz, R. H. Gilman, and A. M. Rawn, "Application of Molecular Filter Membranes to Specific Problems in Water Analyses," *J A W W A*, vol 44, no 8, p 471 (Aug. 1952)

WEALTH AND INCOME, DISTRIBUTION OF United Kingdom. The 94th Inland Revenue report, published in Jan. 1952, analysed distribution of incomes for 1949-50. A special inquiry was carried out on the basis of a 10% sample of all taxpayers. The data were tabulated, classified according to size of income on the one hand, and according to type of income and the taxpayer's family circumstances on the other. Further tables show the relation of earned to investment income for ranges of income above £2,000 a year.

TABLE I DISTRIBUTION OF INCOMES IN THE UNITED KINGDOM, 1949-50

Range of income (in £)	Number of incomes (in thousands)	Amount of income before tax (in £ million)	Amount of income after income tax and surtax (in £ million)
135-150	853	122	122
150-250	6,100	1,217	1,190
250-500	9,290	3,261	3,102
500-1,000	2,972	1,943	1,710
1,000-2,000	600	802	596
2,000-10,000	224	773	439
10,000 and over	11	182	43
Total	20,050	8,300	7,202

SOURCE *Ninety-fourth Report of the Commissioners of Inland Revenue* (Cmd 8436, H M S O., London, 1952)

TABLE II. DISTRIBUTION OF INCOMES AFTER TAX IN THE UNITED KINGDOM, 1949-50

Range of income after tax (in £)	Number of incomes (in thousands)	Amount of income after tax (in £ million)
135-250	7,647	1,481
250-500	9,470	3,350
500-1,000	2,460	1,608
1,000-2,000	385	523
2,000-4,000	83	218
4,000-6,000	5	22
6,000 and over	0 06	0 5
Total	20,050	7,202

SOURCE *Ninety-fourth Report of the Commissioners of Inland Revenue* (Cmd 8436, H M S O., London, 1952)

It can be estimated that taxpayers with an income above the exemption limit for assessment (£135 a year) and their dependants comprised about nine-tenths of the population, the rest consisting mainly of old-age pensioners and juvenile earners. Tables I and II show, in a summary form, the distribution above the exemption limit; the figures have been officially corrected for certain categories of income which were not fully reported.

On March 19 and 21, 1952, the chancellor of the exchequer gave rough estimates for the distribution of incomes at that date. Since 1949 the number of incomes above £500 a year had increased by 2·25 million, of which 350,000 were in the range £1,000-£2,000 and 30,000 above £2,000.

The newly available information made it possible to evaluate the effects of the 1952 budget. According to estimates by Joan Mitchell (*Bulletin of the Oxford Institute of Statistics*, June 1952), about two-fifths of the population became on balance worse off as a result of the changes it introduced. (*See* BUDGET, NATIONAL.) (T. BAR.)

United States. The 1952 *Survey of Consumer Finances* in the United States, published by the board of governors of the Federal Reserve system, supplied information on the distribution of income in 1951 and liquid assets in early 1952. Previous surveys had made similar information available for the period 1945-50. 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.

Survey data on the percentage distribution of spending units according to size of holdings of liquid assests—U S. government bonds, savings and checking accounts and shares in savings and loan associations and credit unions—are provided in Table III. It may be seen that from 1951 to 1952 the proportion of spending units with medium-sized holdings ($200-$1,999) showed a marked decrease—from 37% to 32%. The percentage with no holdings increased from 28 to 31.

TABLE III DISTRIBUTION OF SPENDING UNITS IN THE UNITED STATES BY SIZE OF LIQUID ASSET HOLDINGS

Amounts of liquid assets held*	1948	1949	1950	1951	1952
None	27%	29%	31%	28%	31%
$1- $199	15	16	16	16	17
$200- $499	13	13	11	14	13
$500- $999	12	11	10	11	9
$1,000-$1,999	12	11	10	12	10
$2,000-$4,999	12	12	13	11	12
$5,000-$9,999	5	5	6	5	5
$10,000 and over	4	3	3	3	3
Median holdings of all units	$350	$300	$250	$300	$230
Median holdings of those with assets	$820	$790	$810	$710	$720

* 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.

SOURCE Board of governors of the Federal Reserve system

The total number of spending units owning some liquid assets in early 1952 was estimated at 37 million, roughly 1 million below the postwar high level in early 1951 but about 3 million more than in early 1946.

Table IV summarizes data provided by the surveys on the distributions of spending units and total income according to size of income. The 1951 data revealed a further upward movement in the postwar income distribution. The expansion of total money income in the postwar years resulted in a shifting of many consumers to higher income levels. This shifting pervaded the entire income distribution. It was found that when the nation's spending units were ranked into tenths by size of income the proportionate shares of total money income received by each tenth in 1951 were quite similar to those in 1945.

State Distribution of Income. Income payments to individuals expanded in every state in 1951, the latest year for which Department of Commerce estimates were available in 1952. Against the setting of a generally expansionary economic situation, total income moved up in most sections of the country at rates generally similar to the 12% rise for the country as a whole.

For the country as a whole, *per capita* income payments (total income divided by total population) were $1,584 in 1951. On a state basis, *per capita* incomes ranged from $771 in Mississippi to nearly $2,100 in Delaware and the District of Columbia.

TABLE IV. DISTRIBUTION IN THE U S. OF SPENDING UNITS AND MONEY INCOME RECEIVED, BY INCOME GROUPS

Annual income (money income before taxes)	1946 Spending units	1946 Total money income	1950 Spending units	1950 Total money income	1951 Spending units	1951 Total money income
Under $1,000	17	3	13	2	13	1
$1,000 — $1,999	23	12	17	7	15	6
$2,000 — $2,999	25	21	19	13	18	12
$3,000 - $3,999	17	20	19	18	18	16
$4,000 — $4,999	8	13	12	16	15	17
$5,000 — $7,499	6	11	14	23	14	22
$7,500 and over	4	20	6	21	7	26

SOURCE Board of governors of the Federal Reserve system

From 1940 to 1951, a period of tremendous economic growth, there was a pronounced relative shift of total income from the New England and middle east regions to the south and west. The rates of income expansion in the southwest, southeast, far west and northwest substantially exceeded the nation-wide rise of 220%, whereas the gains in New England and the middle east fell far short of it (*See* also BUDGET, NATIONAL; COST OF LIVING, NATIONAL INCOME, PRICES, TAXATION.) (C. F. Sz)

WEATHER: *see* METEOROLOGY.

WHEAT. In general, climatic conditions were favourable for wheat production during 1952. The most unsatisfactory harvests were in the southern hemisphere, the 1951-52 Australian crop was below the prewar average and considerably below that of 1950-51, while the Argentine crop, severely reduced by drought, was less than half that of the previous year and insufficient even to meet domestic requirements. In Europe, autumn sowing proceeded satisfactorily, the winter was not severe and spring sowing was also accomplished under favourable conditions. Yields exceeding those of the previous year and above the prewar average were reported from Belgium, Italy and Sweden. August rains proved prejudicial, however, in some north European countries, notably Great Britain, where the crop, although well over the prewar average, was considerably below that of the previous year. Yield declines from the previous year were also evident in Spain and Portugal, and most particularly in Yugoslavia, where drought was responsible. In the near east and north Africa, conditions were generally favourable and an outstanding crop was harvested in Turkey, where some unusually heavy autumn rains proved beneficial. The wheat crops in India and Pakistan were fairly satisfactory but considerably below those of the previous year

ESTIMATED AREA AND PRODUCTION OF WHEAT

	Area Sown ('000 ha) 1951	Area Sown ('000 ha) 1952	Production ('000 metric tons) 1951	Production ('000 metric tons) 1952
France	4,250	4,287	7,116	8,398
German Fed Republic	1,030	1,193	2,949	3,290
Great Britain	862	826	2,353	2,252
Italy	4,727	4,679	6,904	7,780
Poland	—	—	2,280	—
Spain	4,200	—	4,266	4,085
Yugoslavia	1,760	1,833	2,277	1,677
Other west European	2,895	—	4,190	—
Canada	10,220	10,520	15,041	18,375
Mexico	510	—	590	—
United States	24,857	28,492	26,875	35,351
Argentina	5,241	2,625	5,796	2,050
Other South American	2,360	2,475	2,205	2,350
India	9,705	9,403	6,696	5,860
Pakistan	4,383	4,135	4,016	3,109
Persia	—	2,642	1,800	2,682
Japan	733	721	1,490	1,540
Turkey	4,850	5,600	5,600	6,400
North Africa	4,820	—	3,850	—
South Africa	1,260	1,034	709	690
Australia	4,720	4,195	5,014	4,341
New Zealand	59	38	171	109

Figures based on the F.A.O. *Monthly Bulletin*, data not available or incomplete from the U S.S.R., eastern Europe and China. Figures for the southern hemisphere relate to the 1950-51 and 1951-52 crops respectively

The various deficiencies in wheat production, were, however, counterbalanced by the outstanding crops harvested in Canada and the United States, where conditions proved highly satisfactory In both countries the crop was considerably higher than in 1951, the Canadian crop, a record, was considerably more than double the prewar average, while the crop in the United States exceeded 35 million metric tons.

The new race of rust, 15B, which had appeared recently in North America, continued to be a source of concern, and work to produce new varieties resistant to it proceeded. The view that pure varieties should be replaced by high-yielding mixtures was increasingly advocated, the latter being more resilient to new diseases. Interest in branching wheat declined somewhat in the U.S.S.R., but controversial claims of intergeneric conversions, for instance, between wheat and rye, were widely advertised (*See* also BREAD AND BAKERY PRODUCTS.) (R. H. Rt.)

WILD LIFE CONSERVATION. The third general assembly of the International Union for the Protection of Nature was held in Caracas, Venezuela, from Sept. 3 to 9, 1952. Delegates and observers from 29 countries and representatives of several international bodies attended. The British Co-ordinating Committee for Nature Protection was represented by Phyllis Barclay-Smith who also acted as observer for the British government. Technical meetings were held at which were considered the effects of fire on vegetation; the preservation of wild life in semi-arid regions, the preservation of endemic zoological and botanical species on small islands, especially in the Caribbean; and the raising of rare animals in semi-captivity outside their natural habitat.

Many resolutions were adopted, an important one being that the import of animals illegally taken in their native country should be prohibited in all other countries. A resolution put forward by E. Beltran (Mexico) emphasized that the rate of increase of human population had exceeded the increase of food production and was being achieved at the expense of natural resources. This led to a lively discussion and was referred to a committee for discussion at the next general assembly.

Great Britain. Under the National Parks and Access to the Countryside act, 1949, the Nature Conservancy established seven nature reserves in England and one in Scotland, one other in Scotland, the Beinn Eighe, having been established in 1951. These reserves ensured the preservation of areas of special botanical and faunal interest. The Moor House reserve, for instance, preserved an area of 16 sq.mi. in typical northern mountain country, including 2,000 ac. of peat vegetation, and the Kingley Vale reserve provided a magnificent display of yew in all stages of development. The Morton Lochs reserve provided a safe place for many wild-fowl and waders as it lay on a main migration route.

The killing of red deer in Scotland aroused great concern on account of the effect on the deer population of the numbers destroyed, the cruelty of the methods employed, and the waste involved in killing stags during the winter, when the animals were very thin and their flesh rank. A government bill, the Poaching of Deer (Scotland) bill, was introduced and passed all stages in the House of Lords, and the Deer (Close Season) committee was set up to consider the question of a close season for deer in Scotland.

Europe. Many reports were received of the threatened extinction of the wild goat of Crete (*Capra hircus aegarus*), commonly called the agrimi. Combined action by the International Union for the Protection of Nature, the Conseil International de la Chasse, the American Committee for International Wild Life Protection, and keen individuals resulted in a visit to Crete by Hugh Farmar to investigate the status of the agrimi and to set in motion preservation measures. Farmar found the agrimi in a wild state only in the White Mountains and considered that not more than 100 remained. A start towards the protection of the survivors was made.

In Italy the existence of the Gran Paradiso National park was threatened by hydro-electric works, but the appeal of the park authorities to the Supreme Court in Rome was successful, and the park was saved, at least temporarily.

Commonwealth. The government of India set up a Central Board for Wild Life under the chairmanship of the Maharaja of Mysore. The board's duties included not only the conservation and control of wild life and the sponsoring of national parks, reserves and zoological gardens, but also the promotion of public interest in these subjects and the prevention of cruelty to wild animals.

The name of the Kaziranga reserve in Assam was changed to Kaziranga Wild Life sanctuary. It was estimated that there were at least 150 Great Indian rhinoceroses in the sanctuary, probably about half the total number of this species of rhinoceros still existing in the world.

In South Africa the Eastern Province branch of the Wild Life Protection society took steps to protect the vanishing oribi and opened an oribi fund. Oribi were introduced into the Mountain Zebra National park. The task of enclosing the elephants of the Addo bush herd was continued, and it was hoped that the difficulties of enclosing this famous herd had at last been overcome.

The government of Uganda established two national parks. The Queen Elizabeth National park of 700 sq mi. was formed in the western rift between Lake George and Lake Edward, having for its background the snow-capped peaks of Ruwenzori. The animals of the Queen Elizabeth park included the chimpanzee and the forest hog, crocodiles surprisingly being absent from its lakes and rivers. The 1,200 sq mi. of the Murchison Falls National park included the falls themselves where the Nile plunges through a narrow gap into a foaming cauldron below. The animals in this park included elephant, black rhinoceros, lion, leopard and giraffe.

Concern was felt at the great reduction in the numbers of the American flamingo (*Phoenicopterus ruber*), a species found near the Gulf of Mexico, and a survey of its status and remaining breeding localities was carried out under the auspices of the National Audubon Society of New York. The critical place for the survival of the flamingo proved to be the Bahamas where no less than 53% of the total world population breed on Inagua island. An appeal in the Bahamas to save the flamingo received a most gratifying response and the Society for the Protection of the Flamingo in the Bahamas was formed. Wardens were appointed and outboard motors and other necessary equipment bought. (C. L. Be.)

In Canada National Wildlife week was observed during April 6-12, in memory of Jack Miner, whose work in wild life conservation had been universally acclaimed. The Canadian Conservation association, whose activities had been suspended in 1943, was reorganized in 1952.

Despite a fourfold increase in hunting between 1948 and 1952, Ontario game authorities stated that the province's supply of moose, deer, pheasants, Hungarian partridges and ruffed grouse was holding up well, and even increasing, as a result of restocking programmes. Conservation measures in Saskatchewan had brought beaver back so far that the 1952 season was extended and trapping quotas were raised.

The U.S. organization, Ducks Unlimited, budgeted $2 million for water conservation projects in Canada, to be spent at the rate of $500,000 per year, beginning with 1953. Two workers of the U.S. wild life service found the summer breeding ground of the whooping crane in Great Slave lake marshes. (C. Cy.)

United States. The increasing emphasis by wild life conservationists in the United States on the interrelationships of all aspects of natural resources conservation was significantly shown in 1952 in the proposal of a "national policy for renewable natural resources" formulated by 36 conservation and scientific organizations comprising the Natural Resources Council of America. Presented at the North American Wildlife conference in Miami, Florida, on March 18, the policy was described as "for the use of our basic resources of soil, water, plants, and animals, so as to maintain them through the years and prevent their waste and depletion." The policy called for inventories of renewable resources and a "comprehensive scientific conservation plan for every farm, ranch, small watershed, and other operating unit of the nation's land and water." It emphasized the responsibility for conservation that goes with land ownership and recommended that "a sufficient number of examples of every type of natural area should be preserved and kept perpetually as inviolate natural and wilderness areas for their scientific, educational, and aesthetic values." It called for efficient resource administration, urged public participation in conservation and stressed "national need versus political expediency". It further recommended that "an independent Board of Review, composed of five members who have no affiliation with any federal agency but have outstanding interest in public affairs, should be created to review the need, cost, and desirability of all federal land and water projects and basin-wide programmes." Finally the statement declared that, "to make this policy effective, Congress should pass legislation enacting it into basic law." The policy was widely distributed during the year and steps leading toward its adoption by the congress were taken at the Natural Resources council's annual meeting held from Oct. 9 to 11 in the Okefenokee National Wildlife refuge in Georgia.

A significant event of the year was the publication of *The Conservation Yearbook, 1952*, first in a series of annual volumes under the editorship of Erle Kauffman. (*See* also NATIONAL PARKS.) (H. Z.)

WILOPO, Indonesian politician (b. Purworejo, Central Java, 1909), son of a village school teacher, attended the Technical High school at Bandung and later studied at the University of Jakarta, taking his law degree in 1942. As a student he was active in the Indonesian National movement. In 1935 he started a course for journalists. In 1947 he became deputy minister of labour in the Sjarifudin cabinet. In Dec. 1948 he was jailed by the Dutch during their second military action. In 1949 he served as adviser for labour problems to the Indonesian delegation at the round table conference at The Hague, and in 1950 was head of the Indonesian delegation to the International Labour conference in Geneva. Wilopo was appointed minister of labour in the Hatta cabinet (Dec. 1949-Aug. 1950) and minister of economic affairs in the Sukiman cabinet (April 1951). On April 1, 1952, he formed his own coalition cabinet.

WINDWARD ISLANDS. British colonies of Grenada, St. Vincent, St. Lucia and Dominica, forming the southern part of the Lesser Antilles archipelago in the Caribbean. Pop.: 95% Negro; some Caribs on Dominica. Language: English; on Dominica and St. Lucia also French *patois*. Religion: Christian. Administration: governor and (in each

colony) administrator; executive council, 2 *ex-officio*, 1 appointed official member and 1 nominated member and 3 members elected by the legislative council; legislative council, 2 *ex-officio*, 3 nominated and 8 elected members. Governor, Sir Robert Arundell.

	Area (sq.mi.)	Population (1946 census)	Population (latest est.)	Capital (with pop., 1946 census)	
Grenada	133*	72,387	77,000†	St. George's§	(5,774)
St. Vincent	150*	61,647	67,000†	Kingstown	(4,831)
St. Lucia	233	70,113	80,000‡	Castries	(7,056)
Dominica	305	47,624	85,000‡	Roseau	(9,751)

* Excl. the Grenadines (8 sq mi.) attached in part to Granada and in part to St. Vincent. † 1950. ‡ 1951. § Seat of governor.

History. During 1952 all four colonies of the Windward Islands completed their first year under new constitutions, which granted full adult suffrage and provided increased power to the elected representatives. The growing pains which are almost inseparable from such a development—especially when it is accompanied by a growth of trade unionism, as in the Windwards—were not absent; but there were no serious troubles. Particular interest was attached to the appointment of a Jamaican, H. L. Lindo, as administrator of Dominica.

In St. Vincent, the sea-island cotton crop was very good; and the Leeward Land Settlement estates, growing cotton, arrowroot and other crops, showed a handsome profit. The team of experts which visited St. Lucia in 1951 issued a comprehensive report on the island's agriculture, and a Colonial Development and Welfare grant of £200,000 was made to help in the implementation of its recommendations. The development of the Dominican government's property at Goodwill as a livestock centre and land-use experimental station went ahead satisfactorily. But the low level of prices for some of the major crops of the islands threatened financial difficulties.

The rebuilding of Castries, which was largely destroyed by fire in 1948, was almost completed during the year.

Education (1951). Average attendance: Grenada (1950) 13,500, St. Vincent 9,612; St. Lucia 9,251, Dominica 6,457

Finance and Trade. Monetary unit British Caribbean dollar, $4·80 = £1.

	Budget (1952 est.) Revenue*	Budget (1952 est.) Expenditure*	External Trade (1951) Imports	External Trade (1951) Exports
Grenada	$3,231,875	$3,274,554	$7,897,358	$6,130,996
St. Vincent	1,649,581	1,914,037	4,492,457	2,590,801
St. Lucia	2,249,642	2,498,506	6,067,777	2,399,418
Dominica	1,496,100	1,877,210	5,224,065	2,728,932

* Excl. grants-in-aid and Colonial Development and Welfare expenditure.

Principal exports arrowroot, bananas, citrus products, cocoa, copra, sea island cotton, mace and nutmegs, sugar (P. H.-M.)

WINES. The vintage of 1952, in western Europe, was remembered by many *vignerons* for one of the wettest Septembers on record. Bordeaux suffered less than Burgundy and much less than Champagne from the wet weather as the grapes, in the Gironde, had been scorched in July and early August. Hail storms did a great deal of harm, however, and Château Yquem in particular had hardly any grapes to pick at vintage time.

Burgundy. This wine was greatly favoured at the start, the early summer being ideal, but a number of vineyards suffered severely from hail storms in August. Wines would be irregular in quality, those made from the grapes that were the last to be gathered, when the September rains stopped, would be excellent; unfortunately others, made from earlier pickings, would not be nearly so good.

Champagne. There were no late spring frosts in Champagne and the grapes were sound and plentiful right up to the end of August; there was every hope, for the first time since 1929, of a really great vintage. But cold weather and rain began during the last few days of August, and, fearing to see their beautiful grapes rotting in the wet, many Champenois hurried to gather them and press them. The wine would be good, but not great.

Hocks and Moselles. The position on the Rhine and Moselle was the same as in Champagne: grapes gathered in too great a hurry, the vintage at an end nearly a month earlier than usual, and wines of from fair to middling quality being made instead of the truly great wines that all had hoped for up to the end of August.

Italy. Although there were exceptionally early rains in Italy, they followed such a very hot summer that they did more good than harm, and the quantity of wine made seemed likely to be equal to that of 1951, which was the largest in Italy of postwar years.

Switzerland. In 1952 the majority of the Swiss vineyards were spared the dreaded late spring frosts, and, in August, the *vignerons* had every reason to hope that they would have an earlier, bigger and better vintage than anybody could remember. Alas! Wet and cold weather swamped their hopes: the vintage was earlier and the quantity of wine made was large, but the quality would be mostly rather poor.

Portugal. The vineyards of the Upper Douro were not particularly favoured by the weather in 1952; hail storms did a good deal of damage, and the mildew did more. The quantity of ports made was below the average. As happens in all such years, there would be some very fine wines made here and there, from particularly well-tended, or merely more fortunate, *Quintas*, but there would be also some very poor wines.

Spain. The weather in most parts of Spain was quite different from that of other western European vineyards. There was less heat than usual during the summer months but climatic conditions at the time of the vintage were nearly everywhere excellent so that a good deal of very good wine was made. (A SN.)

WORLD PRODUCTION OF WINES
('000 hectolitres)

	1938	1950	1951	1952*
Algeria	22,390	14,296	13,743 3	12,332 0
Argentina	9,262	12,503	12,502 9	12,502 9
Australia	928	1,539	1,234 6	1,568 3
Austria	1,171	1,162	993 4	634 8
Brazil	756	1,200*	1,200 0*	1,200 0
Bulgaria	2,373	426*	426 0*	426 0
Canada	178	267	267 5	267 5
Chile	3,595	3,603	3,459 6	3,459 6
Cyprus	225	288	200 0*	200 0
Czechoslovakia	150	312	409 0*	409 0
France	57,908	61,334	50,509 0	52,413 0
Germany	2,445	3,237	3,112 4	2,574 8
Greece	4,045	4,130	3,950 0	3,722 0
Hungary	3,259	3,678	3,678 0*	4,000 0
Israel	30	54	63 8	63 8
Italy	41,780	36,334	45,465 9	37,000 0
Luxembourg	82	151	97·0	105 0
Morocco	782	713	1,020 8	700 0
Peru	100	149	149 6	149 6
Portugal	10,955	8,865	9,578 6	5,465 7
Rumania	9,924	4,000*	4,136 5*	4,136 5
Spain	16,000	15,680	13,062 3	13,205 4
Switzerland	345	715	1,040 5	676 9
Tunisia	1,976	775	650 9	750 0
Turkey	123	140	145 2	145 2
Union of South Africa	1,631	2,657	2,907 8	2,246 1
United States	2,692	4,730	6,191 8	6,191 8
U S S.R.	5,000*	8,000*	8,000 0*	8,000 0
Uruguay	705	730	961 3	961 3
Yugoslavia	4,663	5,160	5,930 2	5,930 2
Total	205,561†	197,237†	195,257 4†	181,606 7†

* Estimated. † Including certain countries with insignificant production (B. A. S.)

WOOL. The year 1952 was a period of adjustment in the wool trade following the unprecedented slump of 1951. The after-effects of the slump were less severe than had been

feared and by the end of 1952 it was clear that the depression had worked itself out, price fluctuations had become innocuous, consumption of wool was expanding from the low point reached towards the end of 1951 and confidence had returned.

In the first quarter of 1952 values continued to decline and reached a new low point. The New Zealand Wool commission bought in about 1,700 bales of New Zealand wool under its reserve-price scheme. The second quarter showed a recovery in values and during July and August there was something of a squeeze in Europe for spot wool supplies.

In fact, although world consumption of wool was less than world production of wool, the surplus had been kept off the market in South America, where the Argentine in particular refused to grant export licences unless the price offered was regarded as satisfactory In the autumn there was a freer movement of South American wool which helped to relieve the temporary scarcity.

The new selling season opened in Australia and South Africa in September on a reasonable basis and after a sharp early recession there was a recovery accompanied by an extensive covering movement in Europe in tops, yarns and fully manufactured goods. The tendency had been to buy cautiously and allow stocks and forward commitments to fall to a very low ebb. When confidence returned, a substantial amount of forward business was placed. The buying spurt was confirmed by business from the retail end, the large after-slump stocks of finished goods having been reduced to more normal proportions.

A few illustrative prices show the course of values. Just before World War II 64s warp merino tops at Bradford were at 26½*d.* per lb. and they reached an all-time record high point of 355*d.* in March 1951. By Sept. 1951 they had dropped to 125*d.* and after rather violent fluctuations another low point of 122*d.* was touched in March 1952, followed by a recovery to 156*d.* in July. In September they dropped to 137*d.*, but recovered to 148*d.* during the buying spell, and ended the year around 154*d.*

The quantity of wool bought by the United Kingdom for stockpiling purposes during the 1951-52 season, originally announced as 40 million lb. clean, was increased to 48 million lb.; whilst it was announced that further stockpiling (about 60 million lb. clean) would take place during season 1952-53. There was no evidence of further U.S. stockpiling.

An interesting development was the announcement that a futures market for tops would be established in London early in 1953.

The International Wool Study group met in the United Kingdom in November after an interval of two years. There were no serious problems requiring international consideration. The world wool survey prepared for the group showed that world production of virgin wool in season 1951-52 (July-June) was approximately 2,290 million lb. clean, but an increase in carry-over stocks in producing countries reduced total disposals to 2,185 million lb. (stocks in Argentina and Uruguay increasing by 175 million lb., whilst *per contra* the New Zealand carry-over of 70 million lb. was liquidated). World consumption of virgin wool during the first nine months of 1952 had been running at an annual rate of 2,200 million lb., which just about balanced available supplies (assuming that wool grown in season 1951-52 would furnish wool required for consumption in the calendar year 1952).

World production for season 1952-53 was forecast by the group at 2,325 million lb., in addition to which the excess of stocks over normal in South America was some 200 million lb., making total available supplies more than 2,500 million lb. World consumption in the third quarter of the year was at an annual rate of 2,260 million lb. (as compared with 2,050 million lb. in the third quarter of 1951); in addition to which some 50 million to 60 million lb. would be required for U.K. stockpiling. On the Wool Study group's estimates a comparatively small increase in world consumption (and/or in stocks in consuming countries) would be sufficient to absorb current production and surplus stocks in producing countries (*See* also TEXTILE INDUSTRY.) (C. F. MT.)

WORDS AND MEANINGS, NEW. A living language grows so gradually that its changes over a short time are difficult to trace. New words are coined almost daily, but their continued existence depends upon social and political factors: by 1952 "quisling" remained in the language, whilst "skylon" and "bikini" were dying out. It is equally difficult to trace changes of meaning. Almost any newspaper article may suggest an extension of some familiar meaning: thus by 1952 "to prune", "to tighten", and "to freeze" were widely associated with national economy, whilst "to probe" had acquired a military significance. But again, such extensions of meaning might be merely transient expressions of temporary economic and political situations.

By 1952, although SUPERPRIORITY (immediate priority) and STOCKIST (shopkeeper selling a certain brand of goods) were recent coinages, the use of prefixes and suffixes was no longer common. The tendency was to form new compounds from existing words. Many compound nouns, such as "holiday-maker", "pleasure-cruise", and "ration-book" were already established as household words. Others were being formed daily, chiefly through the medium of the newspapers. The procedure for conducting negotiations was described as NEGOTIATING MACHINERY; the United States had been called, for obvious reasons, a CREDITOR NATION; a team of experts appointed to study methods of increasing production assumed the title of PRODUCTIVITY TEAM; whilst INFILTRATION ACTIVITY was coined to describe espionage on a large scale. Other compound nouns were MANNING REQUIREMENTS (the number of men required by an industry), FOOD SUPPLEMENT (an addition to the normal diet) and PILOT SCHEME (a preliminary to a full scale agricultural or industrial project). All these were current in 1952, together with others such as BANANA SCHEME, INVESTMENT LOSS, and HARVEST APPRAISAL.

Compound adjectives were even more numerous than compound nouns. On the analogy of the verb form, "to save face", an adjective FACE-SAVING was made, whilst WELFARE-MINDED was analogous with "air-minded", etc. The expression "moist heat" produced an adjective MOIST-HOT, whilst FULL-BEARING (fertile, opulent) and SLOGAN-EMBLAZED (self-explanatory) are examples of imaginative or playful coinage. The fashion journals showed many fanciful compounds, for example MANDARIN-STYLE (adjective: of a collarless coat, like a mandarin's) and a similar formation, HIGHWAYMAN-STYLE. Dress was no longer "à la mode", but FASHION-RIGHT or FASHION-LEADING. Advertisements introduced a host of compound adjectives, among them RICH-LATHERING, DEW-FRESH, ROASTER-FRESH (used of coffee), DECAY-CAUSING and, perhaps most amusing of all, SLENDERISING-SEAMED (designed with a seam to give an illusion of slimness).

The freedom of usage seen in the formation of compounds also allows frequent changes in function, so that verbs, for example, may be formed from nouns. Examples are: To SLOW-HANDCLAP, To TIMETABLE, To CAPITALIZE (to realize capital), and the participial form ELASTICISIZED (given the qualities of elastic).

Contemporary events produced some new words, mostly ephemeral. The war in Korea gave FIRE-FIGHT (noun: a fight between troops armed with flame-throwers), TRUCE-NEGOTIATOR, and GENERATING CAPACITY (the ability to generate electrical power). AIRSTRIKE (aerial bombardment) and

EVACUATION STRIP (airfield used for evacuating troops) were probably coined before 1952. The presidential elections in the United States produced coinages like RUNNING-MATE (co-nominee in an election) and KEYNOTE-SPEECH (a speech defining general policy).

There were a few oddities, playfully made and soon abandoned. FOLLOWERSHIP (the rank and file) and SELLERDOM (the commercial market for a book) show a playful use of the Old English suffixes *-ship* and *-dom* seen in the words "fellowship" and "Christendom". SHAMATEUR (from "sham" + "amateur", a supposedly amateur athlete who accepts payment in the form of expenses) and also SHAMATEURISM were perhaps less recent. Compounds like OVEN-COOK (verb) and GATE-KILLING (adjective: discouraging the attendance of spectators) also occurred, the latter being formed from the noun "gate", meaning the number of spectators attending a sporting event

The world of science has a language of its own which rarely affects the common speech until inventions and scientific discoveries become generally known, although scientific and pseudo-scientific terms have a popular appeal. DENIER (the thickness of a nylon thread) was generally known by 1952. TELEPROMPTER (a screen upon which the words of a speech are reproduced) appeared recently, whilst BACTERIOSTATIC (checking the growth of bacteria) and SHADE-DETECTOR (apparatus to determine colours in human skin) appeared in advertisements.

Of the examples quoted, few might be destined for a permanent place in the language. Most had a limited reference which might prevent their adoption into the common speech. Others were too fanciful or too foolish to acquire a general circulation. All, however, testified to the continued vigour of the language, which was now exercised largely in the formation of compounds rather than in the creation of new words by the use of prefixes and suffixes. (W. N.)

United States. American English is noted for the frequency and zest with which new words are coined, such coinages reflecting the manifold aspects of national life and activity. The words quoted below are a very small residue of a host of coinages, and as they reflect the variety of life and interests in the United States, they are, in a small measure, witnesses to the developing history of a nation.

In 1952 General Dwight D. Eisenhower came into power and brought with him a word, LIKE-IKE, used to designate his supporters. There were, perhaps, some U.S. citizens who, puzzled by PENTAGONESE, the jargon of U.S. military leaders, and perplexed by BAFFLEGAB, the vague wordiness of federal communications, saw in the brevity of the soldier-statesman's nickname, "Ike", a good omen. Graver matters were reflected in words coined to express particular attitudes to U.S. foreign policy. Such were FORMOSA-FIRSTER—one advocating unqualified U.S. support for Chiang Kai-shek—and GLOBALIST, one believing in the world-wide distribution of U.S. troops as a defence against Communism. Internal affairs found expression in a number of words, *e.g.*, FEDERATED FUND, an agency for the handling of contributions to charity.

The urgency of modern life and the uneasiness of the contemporary situation appeared in CRASH JOB, a job to be done in a hurry, AIR-WATCHER, one who searches the sky for unknown aircraft, GROUPMENT, a national military unit of 1,300 men, and BRAIN-CHANGING, a procedure employed in totalitarian states, involving the reduction of a victim's memory, will and mental power by the use of hypnosis and drugs rather than by violence.

The major burden supported by U.S. troops in the Korean war was reflected in the number of coinages centring on the idea of leave or relief from front-line duties; *e.g.*, THE BIG R., a nickname for the rotation system of allotting leave, and ROTATEE, a soldier on rotation leave. A similar idea is contained in the expression R. AND R., the initials standing for "Rest and Recreation". A grimmer reminder of the war was MANCHURIAN FEVER, a malady involving such symptoms as diarrhoea, headaches, haemorrhages and chills. The Korean soldier coined the nickname MEGOOK for his American counterpart: and the U.S. soldier found a name, CHOGIE, for a landmark such as a hill. Modern tactics were reflected in the term ENSPHEREMENT; *i.e.*, surrounding an enemy by troops transported to strategic points by WHIRLY-BIRDS (helicopters).

The increasing part played in modern life and modern warfare by aeronautics was seen in the terms FLIGHTHOUSE, an amusing play on "lighthouse", meaning a ship with a fixed position sending out directional beams for aircraft, and in FLYING BOOM, a system used to refuel aircraft in flight. The ever-growing problems of maintenance and ground control gave FLYAWAY KIT, a kit holding a 30-day supply of aeroplane parts, and TAXI-RADAR, a unit for the control of airport traffic, designed to extend the range of the operator.

STRETCH-OUT, a deliberate slowing-down of production JOBINEER, one who plans jobs, and JOB-HOPPING, a policy of changing jobs so as to place a higher value on one's services, were examples from the field of industry and employment, together with PANELIST, a member of a discussion panel. Fashion produced the PONY-TAIL and the POODLE-CUT, two hairstyles for women, whilst the term PROFIT-FOUL, a foul made intentionally to prevent the opposing side from scoring, was introduced into the jargon of sport, with specific reference to basketball.

BIOPIC, a biographical film, EPISODE PICTURE, a sequence of unrelated stories filmed under one title, and SCIENCER, a film based on science fiction, reflected the continued popularity of the cinema; but the rival attraction of television showed in words such as PAYVISION, television service on subscription, and CREEPIE-PEEPIE, a television hand-camera

Scientific and technological advances gave rise to terms too numerous to be listed, but mention might be made of the attractive-sounding DORMISON, trademark of a sedative, and DILASTRAIN, a machine used to determine the fatigue of plastics and metals. ASTRAGATOR, an interplanetary space-traveller, typified contemporary interest in the possibility of journeying to other worlds.

Finally, there appeared a number of slang or playful formations, including SHOULDERCADE, a procession of people bearing someone shoulder-high, JACKETISM, a book-jacket cliché, and SNIDERY, a word of uncertain etymology meaning hypocrisy, pretence.

Attention should be drawn to the modes of formation seen in the words listed above The predominant mode was that of a two-word compound; *e.g.*, CRASH JOB, AIR-WATCHER, etc. More rare were forms like PANELIST, GLOBALIST, which depended on the use of a suffix. In cases like JOBINEER, FLIGHTHOUSE and SHOULDERCADE, the formation was on the analogy of an existing word (engineer, lighthouse, cavalcade). The tendency to make compounds of the majority of words seemed to indicate that the "synthetic" modes of formation customary at earlier stages in the language were no longer felt to be adequate to the needs of a vocabulary designed to express the many aspects of modern life.

(I. W R., W N.)

WORLD COUNCIL OF CHURCHES. The World Council of Churches is composed of some 160 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 do the churches of the U.S.S.R., though contact is maintained with many churches in eastern Europe.

The central committee met at Lucknow, India, from Dec. 31, 1952, to Jan. 9, 1953. This body meets annually and is the governing committee of the World Council of Churches between the meetings of the assembly, which normally meets every five years. Its officers for the period 1948-54 were: chairman, Dr. George K. A. Bell, bishop of Chichester; vice-chairman, Dr. Franklin C. Fry of the Lutheran Church in the U.S.; general secretary, Dr. W. A. Visser 't Hooft (Netherlands).

The 1952 meeting of the central committee gave considerable time to preliminary plans for the second assembly, which it was hoped would meet at Evanston, Illinois, U.S., in the latter half of Aug. 1954. International committees of theologians and leading churchmen were commissioned to prepare the main themes for it. The central subject would be the meaning of the Christian hope, and the central committee issued for study and comment in the churches a preliminary document composed by a group of well-known Christian figures including Prof. Karl Barth, Dr. Reinhold Niebuhr and Prof. Donald Mackinnon. Other important items lately discussed included: (1) a memorandum for study and comment in the churches entitled *The Church's Call to Mission and to Unity* (an examination of the two aspects of the oecumenical movement formally embodied in the World Council of Churches and the International Missionary council with a view to inaugurating a long-term reconsideration of their relationship); (2) an important statement read by the bishop of Chichester on behalf of the executive committee, dealing with international affairs and defining the attitude of the council towards Communist-sponsored peace campaigns.

The most important event connected with the council in 1952 was the meeting at Lund, Sweden, of the third World Conference on Faith and Order (Aug. 15-28); this continued a series of international gatherings to foster mutual understanding of belief and practice in the various Christian traditions. Its report was published in Nov. 1952.

(O. S. T.)

X-RAY AND RADIOLOGY. An outstanding technical development of 1952 was a practical apparatus which increased the level of brightness of the images on a conventional fluoroscopic screen by a factor of between 300 and 1,000 when used in examination of the thorax, and between 1,000 and 3,000 when used in examination of abnormal organs. It was therefore possible to reduce the intensity of X-rays used in fluoroscopy to remarkably low levels and hence relatively safe levels for both the examiner and the subject. Thus longer periods of observation became possible, and the marked increase in brightness was expected to advance immeasurably the development of cine-roentgenography. In the early stages of development the field intensified was small; the apparatus was somewhat cumbersome, bulky and expensive to produce; therefore, widespread clinical applications of the apparatus were not immediately foreseeable. Applications for teaching and demonstration work were, however, obvious.

Noted during the year were several new procedures for advancing the study of the circulation of the blood during life by extending angiographic principles to the venous system of the spleen and liver, to the large venous channels of the cranium and to the large arterial channels of the abdomen, the abdominal aorta and its branches to the kidneys, spleen and other abdominal organs. Not only were abnormalities of the vessels discovered in this way, but certain abnormalities of the organs supplied with, or drained of, blood by these vessels became apparent, more advantageously, it was hoped, than by any other diagnostic manoeuvre formerly used. In most of these investigations the general intention was to produce a selective opacification to X-rays of a single vessel or system of vessels, to the exclusion of others.

Howard R. Bierman, Earl R. Miller and a group of associates at the University of California medical school, Berkeley, searching for a clinical method by which the blood supply of specific abdominal organs could be projected on X-ray film, were successful in introducing long, flexible catheters into large arteries of the extremities and neck, guiding them with the fluoroscope to the aorta, thence into the smaller arteries practically anywhere in the body. In this way they were able to make the selective injections more or



Cadet class dinghies at Burnham-on-Crouch, Essex, during the "Yachting World" Cadet week in August. All competitors were under 18. This class was designed in 1947 to introduce boys and girls to dinghy racing: the first Cadet week was held in 1950.

less as they wished, thus projecting the vessel and the organ selected on X-ray film, possibly even administering medication directly to the organ in certain situations. It was a daring approach, and it proved to be somewhat hazardous, even fatal in a few of their subjects. The method was clearly still in the experimental stage, but promising.

In therapeutic radiology, the greatest interest remained in the development and clinical applications of high-energy radiation from various sources such as multi-million-volt X-ray generators, betatrons, multi-curie cobalt-60 and 50-gm. radium teletherapy units. These were known as supervoltage units, and while some types were increasing slowly in number, they were very expensive to procure and maintain. Predictions about a more favourable outlook for the patient afflicted with malignant disease were in general guarded and restrained during the year. (*See* also CANCER; TUBERCULOSIS.)

(H. M. W.)

YACHTING. Outstanding among yachting events in 1952 were the Olympic Games at Helsinki, Finland, in which the best Britain could do out of five classes was to win a silver medal in the Finn (single-handed) class. C. Currey was the helmsman.

The Newport to Bermuda race, organized by the Cruising Club of America, drew a record entry of six British yachts. " Bloodhound " (M. D. N. Wyatt), 45 ft. L.W.L., finished second in her class, and " Samuel Pepys ", R.N.S.A. (Commander Erroll Bruce), 24 ft. L.W.L., the smallest, was third in her class and fifth in the whole race. The same boat and crew won the Royal Ocean Racing club's Bermuda to Plymouth race from five others, including one French yacht (" Janabel ") and one U.S. yacht (" Caribbee "). As well as the usual ocean racing events, in 1952 there were two other groups of races, a Baltic series from Dover to Sweden, Denmark and Germany, and the Santander-Belle Ile series. Shorter open-water races of 60 mi.-100 mi. greatly increased in popularity.

For the first time since the death of King George V royalty was represented at Cowes by the Duke of Edinburgh who won a second flag in his Flying Fifteen " Coweslip " and a third in the royal Dragon " Bluebottle ".

The Yacht Racing association (Y.R.A.), which had become the British national yachting authority, changed its name to the Yachting association. Later in the year, the queen commanded that the association should be henceforth known as the Royal Yachting association (R.Y.A.). The most notable achievement of the R.Y.A. was a successful appeal in the Divisional court before the lord chief justice against the rating of moorings. Had this matter gone by default, yachtsmen would have had to pay many thousands of pounds to local rating authorities.

The permanent committee of the International Yacht Racing union held its annual meeting in London in November. This was followed by the triennial full meeting of the union on Nov. 7. The following new members were affiliated: North American Yacht Racing union, U.S.S.R., the German Democratic Republic, Rumania, Venezuela and the Philippines. The entry of the first named, with two seats on the permanent committee, was expected to be of great importance to yacht racing generally.

The R.Y.A. regattas had tended, since World War II, to become domestic events rather than national fixtures attended by fleets of international classes. Regattas had developed into extended weeks and fortnights such as Forth week, Poole and Bournemouth week, Plymouth week, with additional fortnights at Menai straits and Torbay. The Clyde fortnight, Cowes week and Burnham week still remained the most important fixtures.

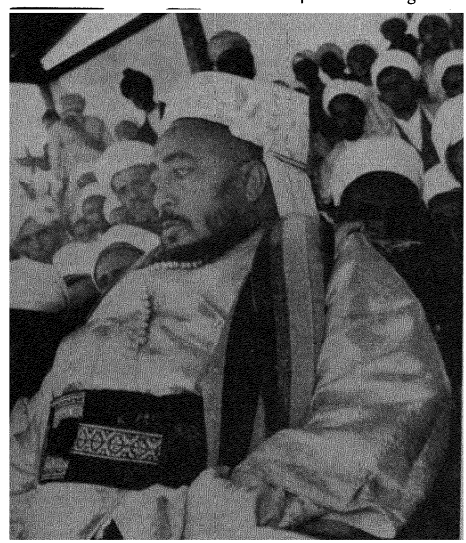
Dinghy racing had shown a steady increase in popularity ever since World War II and this was maintained with no fewer than 325 events in the R.Y.A. programme. The number of starters in the principal races broke all records, the Burton trophy (national 12 ft. class) drew a fleet of 111 boats and Firefly class no fewer than 80; *Yachting World* Cadet class had 54 boats, the crews of which were 18 yr. of age and under, racing during Cadet week.

There were some notable long distance voyages. " Sopranino ", only 22 ft. in length, sailed by P. Ellam and C. Mudie, left England in Sept. 1951 and reached Barbados on Feb. 9, 1952. " Wanderer II ", a 24 ft. cutter (W. Howell and F. McNulty), left Falmouth for Sydney. By Oct. 1952 she had reached Tahiti. " Felicity Ann ", sailed single-handed by Mrs. Ann Davison, left England for the United States and in December was on her way from Las Palmas to Barbados. (*See* also OLYMPIC GAMES.) (E. F. HK.)

YAP ISLAND: *see* PACIFIC ISLANDS, U.S.

YEMEN. Independent state in the southwestern tip of the Arabian peninsula, between Saudi Arabia, Aden protectorate and the Red sea. Area: *c.* 75,000 sq.mi. Pop. (1950 est.): 4,500,000. Language: Arabic. Religion: Moslem. Capital: San'a (est. pop. 25,000). Ruler: Imam Ahmed ibn Yahya Nasir li-Din Allah.

History. In April 1952 the sultan of Lahej in the northern part of Aden protectorate fled across the border into the Yemen where he was given political asylum. He had ignored a request from the Aden government to attend an inquiry into the death of two of his cousins, the Emir Hassan Ali and the Emir Ahmed Mehdi, and to enforce its demands the Aden government had sent a military force to occupy the town of Lahej. This provoked a statement of " complete surprise and astonishment " by the Yemeni legation in London which at the time was discussing recent developments in the Lahej sultanate with the British Foreign Office. It expressed the view that measures taken by the Aden authorities should conform to the letter and spirit of existing treaties



Imam Ahmed, ruler of Yemen, at San'a on Jan. 30 when celebrations were held to mark the fourth anniversary of his accession.

and that developments would be watched with close concern in the Yemen.

In May a treaty of friendship between Spain and the Yemen was signed at the Spanish embassy in Cairo, providing for diplomatic and cultural relations between the two countries. (O. Tw.)

Agriculture. Main crops: wheat, barley, millet and coffee (1947, 9,000 metric tons)

Finance. Monetary unit Maria Theresa dollar, called the *riyal*, nominally equal to 1 Indian rupee with an exchange rate of R 13 33 to the pound and R 4 76 to the U S dollar

Foreign Trade. Trade with the U K (1951; 1952, six months, in brackets) imports £4,720 (nil), exports £3,178 (£13,498). Trade with the U S. (1950) imports $62,674, exports $2,273,982

YOUNG WOMEN'S CHRISTIAN ASSOCIATION: *see* YOUTH ORGANIZATIONS.

YOUTH EMPLOYMENT. The Employment and Training act, 1948, gave local education authorities that had not previously administered the youth employment service the opportunity of doing so if they submitted schemes acceptable to the minister of labour by a fixed date. By 1952 the transfer of responsibility to such authorities was complete and, including those already operating the service, the total of local education authorities doing so rose to 128. In other areas it was undertaken by the Ministry of Labour from their local offices and now that the administrative pattern had been settled a period of consolidation and development was envisaged. Clearly an important matter was the quality of the officers administering the service, and much consideration was given during the year to their recruitment and training with special regard to the recommendations of the committee set up under the chairmanship of Lord Piercy to consider this problem. The demand for juvenile labour was not quite so pressing as in 1951 and young workers in the textile areas were affected by employment fluctuations there. Such unemployment was local and mainly concerned girls. An outstanding feature of the year was the renewed attention given to the training of young workers. The National Joint Advisory council (representing the British Employers federation, the Trades Union congress and the nationalized industries) welcomed a proposal of the minister of labour to invite selected industries to review their training and apprenticeship schemes. Since the end of World War II more progress had been made in training skilled workers by apprenticeships than in training for less highly skilled jobs; it was now becoming gradually appreciated that more flexibility in training schemes was desirable and also some modification of apprenticeship age-limits. The question of adjusting the call-up for national service so as to minimize the interruption of study and training continued to be a difficult problem.

The notification of vacancies order regulating the engagement of adult workers did not affect the youth employment service, in which the capacity and aptitude of the juvenile were the main determinants. Hence it was important that the youth employment officer should be able to give sound vocational guidance. The "Choice of Careers" booklets, prepared and kept up to date by the Ministry of Labour, were valuable as also the films illustrating conditions of work in various industries. Many young people (3,792 during the first six months of the year) were taking advantage of the ministry's Special Aptitude scheme to train for and enter employments not available in their home area. (W. O. L. S.)

United States. According to estimates of the Bureau of the Census, an average of nearly 2,500,000 young persons 14 to 17 years of age were employed in the 12-month period ending June 1952. Of these, 822,000 were 14 or 15 years of age, of whom about 85% were in school and working outside school hours; 1,616,000 were 16 or 17 years old, 60% of whom were also attending school.

The necessity for conserving manpower had stimulated interest in standards for employment of young people, in their need for education and in problems of young people who left school at an early age. The U.S. Department of Labour, with the aid of its Advisory Committee on Young Workers and suggestions from the Committee on Manpower Policy of the Office of Defence Mobilization, issued a national policy on employment of school-age youth. This policy emphasized the importance of education, guidance, job supervision and training as a basis for encouraging all juveniles to develop fully their abilities. In most states there were joint arrangements between high schools and the local offices of the state employment service co-operating with the Bureau of Employment Security to provide vocational guidance. It was estimated that about 300,000 graduates and others leaving high schools in the school year 1951-52 were tested and counselled or placed by local public employment services.

Advances in protecting the welfare of children employed in agriculture were stimulated by administration of the strengthened child-labour provisions of the federal Fair Labour Standards act which established a minimum age of 16 for work during school hours on farms where the products go into interstate commerce.

Very little child labour or school-attendance legislation was enacted in 1952. Kentucky amended its law to provide that children 14 and 15 years of age might work during regular school hours if the school authorities made arrangements for them to attend school at other hours The amendment further provided that minors between 16 and 18 years of age might be employed in certain hazardous occupations under a written apprenticeship agreement approved by the State Apprenticeship council.

Other Countries. At its general session in Geneva, Switzerland, in June 1952, the International Labour conference adopted a resolution concerning employment of young persons underground in coal mines. This resolution embodied standards as to minimum age, medical examinations, vocational training and guidance, night work and inspection services, and proposed further study by the Coal Mines committee of social welfare developments affecting these workers. (*See* also CHILD WELFARE; JUVENILE DELINQUENCY.) (E. S. J.)

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YOUTH ORGANIZATIONS. King George's Jubilee trust announced in Sept. 1952 that it was proposing to carry out a survey of the influences which affect young people from the time they enter primary school until after their period in the services at about the age of 20. Florence Horsbrugh, minister of education, announced that the government would give every help to the trust in this project. This survey followed the conference at Ashridge in April 1951 when official and voluntary organizations concerned with youth problems were brought together for the first time on a national scale. Grants totalling £47,850 were approved by the trust for distribution in 1952-53.

The Duke of Edinburgh succeeded King George VI as admiral of the Sea Cadet corps, colonel-in-chief of the Army Cadet corps, and air commodore-in-chief of the Air Training corps.

Princess Margaret succeeded her sister as president of the Church of England Youth council. The third World Conference of Christian Youth was held at Travancore, India, in



Queen Elizabeth shaking hands with scout representatives from other countries during the annual St. George's Day parade at Windsor castle. Lord Rowallan, the chief scout, is on her right.

December. An association of Methodist full-time youth workers was formed early in the year. The Young Women's Christian association reported that its membership had fallen steadily since World War II; in 1952 it was 31,600. The 25th biennial conference was held in Wales for the first time since before World War II—at Pwllheli, Caernarvonshire, in June.

The Duke of Edinburgh, patron of the London Federation of Boys' Clubs, opened the Westminster House Boys' club in London on Nov. 11, 1952. The club, run by the Westminster School mission, was housed outside Westminster for the first time in its 64 years. The London Federation was short of voluntary youth leaders, and in April announced that it needed another 2,000 to help the 2,000 already in the organization. The London Parochial Charities made a grant of £50,000 to encourage boys and girls to take up training in seamanship and rivercraft on the Thames. The National Association of Girls' Clubs and Mixed Clubs reported a membership of 133,881. The Boys' brigade held a rally of 2,000 members in Glasgow in May in the presence of the Prince of the Netherlands. The Girls' Life brigade celebrated its golden jubilee.

The Outward Bound mountain school at Eskdale, Cumberland, continued its activities, and Eric Shipton, leader of three Everest expeditions, was appointed warden. The trust took over the Moray sea school at Burghead, Morayshire. The 1952 expedition of the British Schools' Exploring society went to Iceland; 75 members spent more than a month in central Iceland. The 1953 expedition was planned to go to British Columbia.

The 1951 census of Girl Guides in Great Britain and Northern Ireland showed that there were 448,251 members of the movement. During 1952 ranger conferences were held in France, India, New Zealand, South Africa and the United States. The World Association of Girl Guides and Girl Scouts met at Dombas, Norway, July 29-Aug. 14, and an international camp for 1,000 guides was held at Beaconsfield, Aug. 11-18. The first scouters' "Indaba"—a Zulu word meaning "gathering of the chiefs"—was at Gilwell park, Essex, July 15-24. The largest ever jamboree in Wales was held at Haverfordwest, Pembrokeshire, during July and August. Germany was admitted to the International Scouting committee. The first international jamboree of African Scouts was held at Nkara, near Kitive, Northern Rhodesia, June 20-July 5, the first Caribbean jamboree was at Kingston, Jamaica, March 5-17, and a pan-Pacific jamboree opened at Sydney, Australia, on Dec. 29.

The Labour League of Youth held its annual rally at Filey, Yorkshire, in June. Criticism was again expressed that the league, alone of the political youth groups, was prevented from deciding its own policy. In December it was announced that as from the 1953 conference resolutions could, for the first time, be submitted direct from league branches.

The two international Communist movements continued their role of supporting the Cominform. Their activities in 1952 were centred on preparing for an international conference "in defence of the rights of youth" due to be held in Vienna in Feb. 1953.

The International Union of Students council met in Bucharest, Sept. 5-11, and was preceded by a meeting between the I.U.S. and representatives of non-member organizations, Sept. 1-3. The council was attended by 93 delegates from 47 countries; in all, 203 students were present from 66 countries. The executive committee met in Budapest, March 14-18. The council elected Bernard Bereanu, Rumania, as president. His predecessor, Josef Grohman, Czechoslovakia, had been removed with other leaders from his position in the Czechoslovak youth movement. The I.U.S. held a chess tournament in Liverpool in April, concurrently with a British students' art festival. The World Federation of Democratic Youth's executive committee met in Copenhagen, Jan. 20-24, and in Oslo, July 27-30.

A Communist-sponsored British youth peace festival was held at Sheffield in June. A Soviet delegation was invited to the festival but was refused permission to enter Britain. A Scottish youth festival for peace was held at Clydebank during Sept. 27-29. A similar pro-Communist youth festival was held at Sydney, Australia, March 15-23.

The National Union of Students and the Scottish Union of Students again considered their relationships with the I.U.S. In May the S.U.S. decided that its affiliation would be on the basis of "fraternal membership" similar to that of the N.U.S. In Oct. the N.U.S. wrote that it considered itself no longer a member of the I.U.S. At the S.U.S. council at Dundee, Nov. 14-16, a resolution was passed "... the council shall inform the I.U.S. that unless it writes into its constitution our definition of fraternal membership at its next congress that the S.U.S. shall disaffiliate from the I.U.S." A similar decision was reached at the N.U.S. council at Brighton, Nov. 21-23.

The annual meeting of non-governmental organizations in consultative status with U.N.E.S.C.O. was held in Paris, Nov. 8-10. The assembly of U.N.E.S.C.O. in December withdrew consultative status from the I.U.S. and from the W.F.D.Y.

The N.U.S. convened a conference in Edinburgh during Jan. 4-8, 1952, at which plans were considered for greater collaboration between non-Communist student organizations. As a result an International Students' secretariat was set up with headquarters at Leyden, Netherlands. Another meeting convened by the United States National Student association was held in Rio de Janeiro. A student conference "for academic freedom, equality and peace" was held at the University of Wisconsin, April 25-27. The annual congress of the N.S.A. was held at the University of Indiana, Aug. 18-27, with the theme "Crisis of Education in the United

States ". The N.S.A. established an international news centre in Atlanta to provide a medium for the free international exchange of ideas between students. A periodical *Student Life* was published in five languages.

The World Assembly of Youth held its first meeting in Africa when its council met in Dakar, in August. J. Guthrie Moir (Britain) was elected president. During the year the headquarters were moved from Brussels to Paris. Arrangements were made for a grant from the Foundation for Youth and Student Affairs which would enable W.A.Y. to expand its work in underdeveloped countries. The British national committee for W.A.Y. convened the Commonwealth Youth council which co-ordinated the work of national committees for W.A.Y. throughout the Commonwealth. Youth leaders from Mexico, Sierra Leone, Trinidad, Turkey and Uruguay visited Britain and other European countries under the auspices of W.A.Y.

Closely linked with W.A.Y. was the European Youth Campaign. Sponsored jointly by the European Movement and the American Committee for European Unity, it sought to interest youth in 15 European countries through existing youth movements. With headquarters in Paris, the campaign published a monthly paper *Young Europe* in seven languages. The British committee organized an international youth assembly and rally at Edinburgh during the international festival. The campaign was run by the European Youth council, which met at Bièvres, France, in March, and at Florence in September. A European assembly of political youth was held at The Hague, Oct. 27-31.

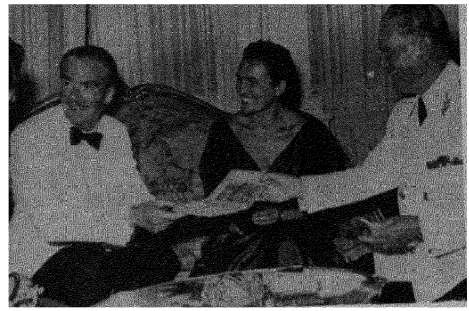
YUGOSLAVIA. Federal people's republic of southeastern Europe, bounded N. by Austria, N. and N.E. by Hungary and Rumania, E. by Bulgaria, S. by Greece and W. by Albania, the Adriatic sea and Italy. Area: 99,069 sq.mi. Pop. (1948 census): 15,772,098.

Federal Republics	*Population (1948)*	*Capital*	
Serbia*	6,527,966	Belgrade	389,114
Croatia	3,756,807	Zagreb	290,667
Slovenia	1,391,873	Ljubljana	121,050
Bosnia-Hercegovina	2,565,277	Sarajevo	118,806
Macedonia	1,152,986	Skopje	91,491
Crnagora (Montenegro)	377,189	Titograd	12,272

* Including the autonomous province of Vojvodina (pop., 1,663,215) and the autonomous region of Kosovo-Metohija (pop., 727,820).

Other towns (pop., 1948 census): Subotica (112,530); Novi Sad (77,713); Rijeka, formerly Fiume (72,928). Language: Serbo-Croat, Slovene and Macedonian; Albanian, Hungarian, Turkish, Rumanian, Italian, Bulgarian and German spoken by minorities. Religion (1948 est.): Greek Orthodox 47%, Roman Catholic 36%, Moslem 11%. President of the presidium of the people's assembly (*Skupština*), Ivan Ribar; vice-presidents, Moša Pijade (Serbia), Filip Lakuš (Croatia), Josip Rus (Slovenia), Djuro Pucar (Bosnia-Hercegovina), Marko Vujačić (Crnagora) and Dimitar Vlahov (Macedonia); prime minister, Marshal Tito (Josip Broz) (*q.v.*); prime ministers of the republican governments: Petar Stambolić (Serbia), Vladimir Bakarić (Croatia), Miha Marinko (Slovenia), Djuro Pucar (Bosnia-Hercegovina), Blažo Jovanović (Crnagora) and Lazar Koliševski (Macedonia).

History. During 1952 the government made considerable concessions to the peasants. On June 7 it was announced that compulsory deliveries of cereals to the state had been abolished. In speeches at Niš and Glina in July, Marshal Tito stressed that the development of collective farms must depend on local conditions. In the great fertile plains, he maintained, individual peasant holdings were an obstacle to production: collectivization was the best policy. In areas where conditions of production did not suit collectivization,



Anthony Eden, British foreign secretary, Mme. Tito and Marshal Tito, seen together in Belgrade during Eden's visit to Yugoslavia in September.

other forms of co-operation could be devised. In some areas it might even be found that no co-operatives at all were needed. The practical execution of this new and less doctrinaire policy was not yet clear. In some regions collective farms were actually disbanded. Where collective farms were preserved, the situation of their members was made easier. In particular, the collective farm was to pay a rent, varying from 15% to 30% of the value of the land, for land brought into it by member households. Official statements stressed that Yugoslav collective farms were coming to differ more and more from Soviet *kolkhozy*. The abolition of compulsory deliveries was certainly welcome to the peasants. Its effect was however reduced by the high cost of transport and the effective monopoly in the hands of the authorities of all trade in farm produce. In many areas the cost of transport made it difficult for the peasant to take or send his produce to the larger markets. The absence of competition between individual traders for his produce prevented him from making use of a basically favourable economic situation. The government shops were able in effect to dictate prices which, if better than those granted in the days of compulsory deliveries, were still much lower than a genuinely free market would give.

Relations between government and religious communities continued to be uneasy. As before, the Catholic Church was the main target of official denunciations. The hierarchy was accused of sympathy with reactionaries, and the Vatican of support to Italian policy. The opposition of the hierarchy to a government scheme for associations of priests, which were to have the same rights of social insurance as workers' and professional associations, also incurred official indignation. The government removed theological faculties from the universities, and stopped its subsidies to church schools. The Orthodox bishops refused to recognize the Association of Orthodox Priests, which made an agreement with the authorities on social insurance, and which the government claimed included 80% of all Orthodox priests in the country. The Moslem hierarchy was more accommodating. The head of the Moslem community stated on July 8 that he would debar all Moslem religious officials who refused to co-operate with the people's authorities. Marshal Tito's own views on religion were clearly stated in an interview to university students on March 14. The eradication of religious sentiment, the marshal said, was bound to be a long process, facilitated by political education and economic progress. Meanwhile " we cannot allow our youth to be corrupted under the cloak of religion." On Dec. 17 the Yugoslav government broke off diplomatic relations with the Holy See. (*See* ROMAN CATHOLIC CHURCH.)

In June the U.D.B. (Uprava Državne Bezbednosti, or Administration of State Security) was transformed from a military into a civilian organization. In a speech of comment on this change, Aleksandar Ranković, the minister of interior, claimed that, unlike the Soviet M.V.D., the U.D.B. had repelled all tendencies aimed at making it a power above society. It had "avoided the slippery paths of bureaucratism". The minister quoted a reference by Marshal Tito to "the humane side of the activity of the state security organs". Meanwhile Dragoljub Jovanović, the Serbian Agrarian leader, remained in prison. It was learned in Jan. 1952 that the Croatian Peasant party deputy Toma Jančiković, who was imprisoned in 1947, at that time a healthy man, had died of unknown causes in prison.

During the year there was much discussion in the official press of a proposed new constitution. In April a law for the reorganization of people's committees (organs of provincial, municipal and local government, originally modelled on the soviets of the 1936 Stalin constitution) was passed by the central parliament. Under this law the committees were to be bicameral. They were to consist of an assembly of citizens, of 20 to 70 members, depending on the size of the locality, and a council of producers, elected by industrial and agricultural workers from economic enterprises and agricultural associations, numbering half as many persons as the assemblies. Instead of departments of local government, there were to be councils of persons elected by the committees. The permanent salaried personnel employed by the departments was to be drastically reduced

This reform of local government was to be followed by a similar reform of central government. This was discussed at length, but by October had not yet been enacted. The parliament was to remain bicameral The first chamber, the Federal Council, would as previously be elected by the population as a whole, by territorial constituencies. The present second chamber, the Council of Nationalities, would be replaced by a Council of Producers. The representation of nationalities as such was to be safeguarded by a provision that, when a change in the constitution, or a matter affecting the relations between the constituent republics and the central government, was under discussion, a special group of deputies should be formed—12 from each republic, 7 from the Vojvodina autonomous province and 4 from the Kosovo-Metohija autonomous region—which should vote separately from the two chambers. The Council of Producers was to be elected by workers in their enterprises and by agricultural associations. The latter term included not only collective farms but also the looser co-operatives of which individual peasant-farmers were members. It seemed probable that the collective farmers were somewhat over-represented among the agricultural population, and it was certain that the agricultural population as a whole was to be very much under-represented. Whereas about 70% of the population of Yugoslavia were engaged in agriculture, about 40% of the seats in the Council of Producers would be granted to peasants.

The cabinet was to be abolished, and replaced by a presidium elected from the members of the parliament. The president of the presidium would be both head of state and chief of the government. There could be no doubt that this office was reserved for Marshal Tito. The presidium would set up committees of its members to deal with foreign affairs, internal affairs, economic and social policy, education and culture. These committees would issue directives to subordinate state secretariats, which would be the executive organs. The aim of these changes was said to be to dissociate political leadership from administrative routine. The presidium would be a policy-planning brains trust, responsible to parliament. The state secretariats, which would be the old ministries under a new name, would carry out orders but would not interfere in policy.

This ambitious constitutional reform must be related to the fact that a monopoly of political power remained in the hands of the Communist party The effects both of the economic decentralization which took place in 1951 and of the new form of popular representation now being prepared were limited by the continued supremacy of the party. Key posts in factory councils, people's committees and the presidium of the parliament would, as before, be held by members or nominees of the Communist party. Official statements about the party somewhat changed their emphasis. The party's chief ideologist, Milovan Djilas, in an article in *Borba* of March 23, went so far as to say that law was above the party. Djilas pointed out that the party must not use "administrative measures" to coerce those who disagreed with it The Yugoslav Communists seemed to wish the party to inspire and direct the administrators rather than do the job of administration. This, they felt, could best be left to trained civil servants Available evidence suggested that both economic and political administration were in fact being entrusted rather to experts than to the earlier type of party demagogue. But the task of distinguishing between political leadership and civil service and economic administration was not easy.

The 6th congress of the Communist party of Yugoslavia was held at Zagreb from Nov 2 to 7 It elected a new 109-member central committee which in turn chose a 13-member supreme committee composed as follows: Marshal Tito, secretary-general, Djilas, Col-General Ivan Gošnjak, Edvard Kardelj, Boris Kidrič and Ranković, secretaries, Bakarić, Koliševski, Franc Leskošek, Pijade, Pucar, Djuro Salaj and Svetozar Vukmanović, members The C P Y. was renamed League of Communists of Yugoslavia (Savez Komunista Jugoslavije). Its membership at the time of the congress was 779,382

Marshal Tito continued to express his desire for the best relations with the west, but continued to oppose any formal treaty commitments. "Alliances between countries are born in the souls of peoples, in their consciousness of the need for co-operation," he said. Relations with Greece and Turkey improved. Tokens were the visit to Yugoslavia of a Greek parliamentary delegation in July and of a group of Turkish journalists in August. The Austrian foreign minister, Karl Gruber, paid an official visit in July. Relations with Italy were still dominated by the conflict over Trieste. During April and May there were demonstrations and agitation against Italy. The Yugoslav press devoted much attention to the Trieste question and to the activities of extreme nationalist groups in Italy. Anthony Eden, the British foreign secretary, visited Yugoslavia from Sept. 17 to 23.

Cultural contacts with the western countries were strengthened. Yugoslavs made full use of all available facilities for studying English language and literature. This was understandably distasteful to the Cominform, which had its own explanation. Sofia radio on Jan. 19 stated: "The Yugoslav government is doing everything to force American culture on readers, not only to please its masters but also to divert the interest of the Yugoslavs from the most progressive culture of the world, that of the Soviet Union." (H. S.-W.)

Education. Schools (1950-51) elementary 13,031, pupils 1,524,987, teachers 26,899, secondary 1,696, pupils 485,876, teachers 14,198, teachers' colleges 75, pupils 27,300, teachers 1,214, technical 1,449, pupils 193,478, teachers 18,690, art, musical and dramatic 142, students 18,426, teachers 1,775, workers' educational colleges 109, pupils 7,837 Institutions of higher education 88 faculties, academies and high schools, students 60,395, professors and lecturers 5,406 Schools for national minorities (1950-51; incl Albanian in brackets) elementary 1,502 (830), secondary 251 (89), teachers' colleges 10 (3).

Agriculture. Main crops ('000 metric tons, 1934-38 average; 1951 in brackets)· wheat 2,455 (2,277); barley 407 (359); oats 317 (293); rye 208 (277); maize 4,708 (4,033), potatoes 1,498 (1,621); sugar beet 509 (1,902); tobacco 13 5 (1950, 17 0); dry beans 135 (113), cotton, lint 1 (4); hemp fibre 46 5 (30 0); flax fibre 11 3 (3 4); cottonseed 1 (9); linseed 1 (4), rapeseed 11 (8), sunflower seed 12 (94) Sugar, raw value ('000 tons, 1950, 1951 in brackets). 94 (175). Livestock ('000 head, 1939, 1951 in brackets)· cattle 4,302 (4,730), sheep 10,282 (10,274), goats 1,886 (1950, 786), pigs 3,564 (3,910), horses 1,273 (1,095); asses 132 (152); mules 21 (32), chickens 22,626 (14,980); ducks 1,084 (789); geese 1,325 (873) Wool production, greasy basis ('000 metric tons, 1950; 1951 in brackets) 10 (10). Wine production ('000 hl 1934-38 av ; 1951 in brackets)· 4,740 (5,160)

Industry. Manufacturing establishments (1948) 1,042, persons employed 254,000 wage-earners and 74,300 salaried staff Fuel and power ('000 metric tons, 1938, 1951 in brackets) coal 456 (996), lignite 5,292 (11,052); crude petroleum 1·2 (156); electricity (million kwh , 1938; 1951 in brackets) 1,092 (2,544) Raw materials ('000 metric tons, 1938; 1951 in brackets) pig iron 75 (262 8), crude steel 226 8 (433 2), copper, smelter 42 (32 4), lead, smelter 8 4 (60 0); zinc, smelter 4 8 (13·2); aluminium 1 8 (2 9) Timber production (1949; 1950 in brackets): sawn softwood ('000 standards) 542 3 (453 7); sawn hardwood ('000 cu m) 677 9 (635 9) Manufactured goods ('000 metric tons, 1938, 1951 in brackets) cement 708 (1,164), cotton yarn 11 0 (26 9), wool yarn 6 0 (13 4), woven cotton fabrics (million sq m) 115 0 (122 8)

Finance and Banking (million dinars) Budget (1951) balanced at 172,662. Currency circulation (June, 1951, June 1952 in brackets) 37,380 (40,150). Bank deposits (June 1951, June 1952 in brackets) 91,770 (126,330). Monetary unit *dinar* with an official exchange rate of D 840 to the pound and D 300 to the U S dollar

Foreign Trade. (Million dinars, 1950, 1951 in brackets) Imports 11,784 (12,108), exports 7,932 (9,180) Main sources of imports (1951)· U.S. 38%, German Fed Rep 11%, Italy 9%, U K 4% Main destinations of exports U K. 18%, German Fed Rep 17%, U S 15%; Italy 12% Main imports (1951) food 23%, machinery and vehicles 21%; textiles 18%, fuels 8% Main exports ores, metals and products 31%, timber and products 29%, agricultural products 25%

Transport and Communications. Roads (1950) 46,256 km , incl 2,318 km metalled Licensed motor vehicles (Dec 1950) cars 12,000, commercial 20,000 Railways (1949) 11,448 km , freight traffic (1951) 8,700 million ton-km Shipping (merchant vessels owned over 100 gross tons, Dec 1950) 126, total gross tonnage 222,825 Air transport (1949, home services, international services in brackets) km. flown 564,125 (225,655), passengers carried 25,644 (1,564) Telephones (1949) 74,994 subscribers. Wireless licences (Dec. 1949) 299,055

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ZANZIBAR. British protectorate off the east coast of Africa comprising the islands of Zanzibar (640 sq.mi.) and Pemba (380 sq.mi.). Pop.: (1948 census) 264,162, incl. 199,975 Africans, 44,560 Arabs and 15,892 Indians and Goans; (1951 est.) 272,000. Religion: Moslem. Capital, Zanzibar (pop. 1948, 45,275). Administration: sultan; British resident; executive council presided over by the sultan; legislative council. Ruler, Sultan Khalifa bin Harub; resident, John Rankine.

History. The 1951-52 clove crop was very poor, after a bumper yield the year before, and the prospects for 1952-53 were also not very good. Investigations into the causes of "die-back" and "sudden death" diseases in cloves revealed that "die back" is the result of a fungus and indicated that "sudden death" may also be of fungoid origin. The poor clove crop and a sharp drop in the prices of coconut products caused a general economic recession and severely affected revenue. Instead of showing a surplus as in recent years the budget for 1952 was likely to show a substantial deficit. However, efforts were being made to diversify the islands' economy and, in 1952, grants of over £50,000 were made from Colonial Development and Welfare funds for the building of a pineapple factory and the expansion of the citrus industry. (K. G. B.)

Education. Schools (1951) 50 primary, 8,140 pupils, 30 secondary, 1,213 pupils; 2 teachers' training centres

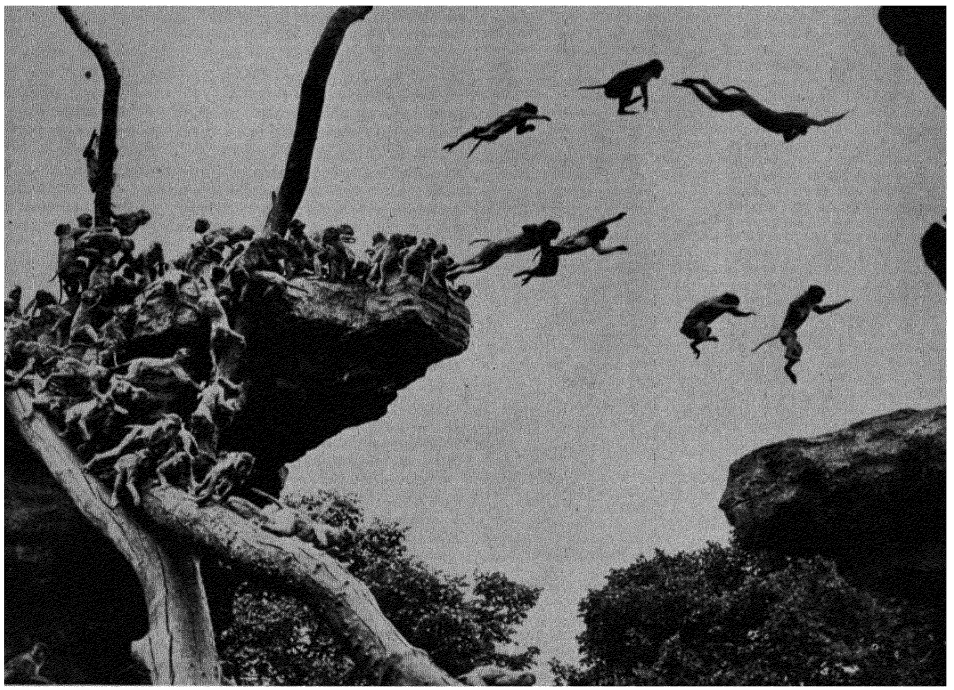
Finance and Trade. Monetary unit East African shilling (20*s* = £1 sterling). Budget· (1951 revised est) revenue £1,409,644, expenditure £1,190,015; (1952 est) revenue £1,518,831, expenditure £1,426,520. Foreign trade (1951): imports £5,217,000; exports £6,184,000 Principal exports cloves, coconut oil, oil cake.

ZÁTOPEK, EMIL, Czech athlete (b. Koprinivice, near Zlin [renamed Gottwaldov], Czechoslovakia, Sept. 19, 1922), started his working life as a laboratory assistant in a chemical works. When he was 17 his complete lack of distress after winning a local cross-country race in a totally untrained state led him to explore his potentialities as a runner. His early progress was unspectacular, however, and it was not until his fifth season in 1944 that he first beat 15 min. for 5,000 m. (3 mi. 188 yd.). During the winter of 1945-46 he embarked upon a training regimen of unprecedented severity. His international début came in Aug. 1946 when he represented Czechoslovakia at the European championships in Oslo in the 5,000 m. He finished fifth, just over 100 yd. behind the winner, S. C. Wooderson of Great Britain, in 14 min. 25·8 sec. During the four years between his Olympic 10,000 m. victory in London in 1948 and the next celebration of the Games in Helsinki in July 1952, Zátopek dominated long-distance running in the same way as did Alfred Shrubb and Paavo Nurmi earlier in the century. His most notable successes were his European 5,000 m. title won in Brussels in 14 min 3 0 sec., his world record 10,000 m. (6 mi. 376 yd.) of 29 min. 2 6 sec. at Turku, Finland, and his astounding run in Sept. 1951 in which he covered 12 mi 810 yd. in an hour. At the XVth Olympic Games Zátopek attempted the inhuman task of running in the 5,000 m., which called for a heat, the 10,000 m and the Marathon (26 mi. 385 yd.) That he won all three events, each in Olympic record times, finally stamped him as the greatest long-distance runner of any age. In Prague in October he broke world records for 15 mi , 25 km. and 30 km.

Exhaustive medical examination has failed to discover anything abnormal in his physiology. Though possessed of an unusual recovery rate which enables him to train relentlessly, he admits to tiredness the day after a hard race. His characteristic grimacing is his method of keeping his mind off the onset of fatigue. A hearty eater, a good linguist and bridge player, Zátopek lives in Prague with his athlete wife, formerly Mlle. Dana Ingrova, who at Helsinki also won her speciality, javelin-throwing, with a new Olympic record.
(N McW.)

ZOOLOGICAL GARDENS. The annual meeting of the International Union of Directors of Zoological Gardens in 1952 was held at Rome, under the presidency of Professor H. Hediger, director of the Basle zoo. Most of the delegates came from western Europe, but three American zoos were represented and for the first time there were two delegates from the German Democratic Republic, one of these being K. M. Schneider, director of the Leipzig zoological gardens and also for many years editor of *Der Zoologische Garten*. Most of the papers dealt with problems on the management and care of animals in captivity. S. H. Benson, director of the Glasgow and West of Scotland zoo, described the successful maintenance in captivity for the first time of the capercaillie. There were also papers on the breeding of moose at the Berne zoo and 15 years' experience with humming birds at the Copenhagen zoo, including a description of the best kinds of food. At the London zoo the possibility of major operations on wild animals was exemplified by the removal of a foreign body from the stomach of a gorilla, which made an uninterrupted recovery. There was also considerable discussion on the best ways of preventing unwise exploitation of wild animals and the problems of quarantine, with special reference to the larger ruminants from Africa.

At Bologna from May 14 to 16, the meeting of the European section of the International Committee for Bird Preservation



Rhesus monkeys at the London zoo on the monkey hill which was opened on April 8 for the first time for more than ten years. About 250 monkeys were flown to London from India and they attracted much attention at the zoo throughout the summer.

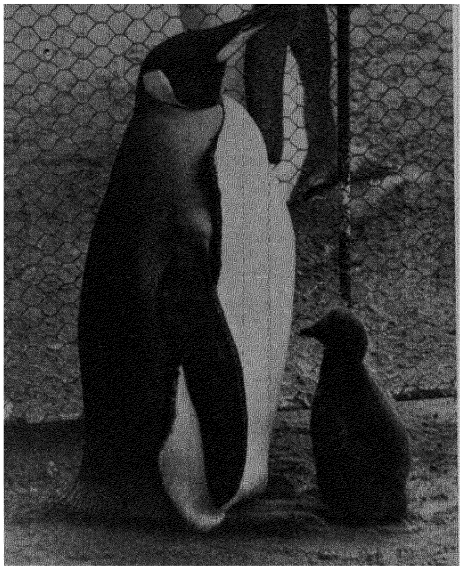
devoted a special session to the consideration of the transport of birds. Attention was called to the many causes of the loss of valuable birds, including delays in transport and the fact that birds frequently arrived on a Saturday and were sometimes without food and even water until the following Monday. It was recommended that a strict control should be imposed on the method of capture and preparation for transport, and that a veterinary examination and proper conditions during transport should be insisted upon. The chief reasons for the death of exotic birds in captivity seemed to be wrong or imperfect food and bad hygienic conditions, including use of unsuitable cages during transport. It would obviously be advantageous to have an inspector at each port at which birds arrive.

The general popularity of zoological gardens seemed to be growing, judging from the increased attendances at most zoos during 1952. Whipsnade park, the country branch of the Zoological Society of London, celebrated its 21st anniversary by a record attendance of visitors. Many zoos made various improvements in the exhibition and housing of animals, one of the most notable being the construction of a new building for the hippopotami, tapirs and buffaloes at the Antwerp zoo.

The use of artificial insemination for the breeding of species in captivity had hitherto received comparatively little attention in zoological gardens, but had been used with considerable success at the San Diego zoo in establishing a strain of ocellated turkeys, a species notoriously difficult to breed in captivity. Examples of these beautiful birds were now to be seen at the Rotterdam zoo and seemed to be thriving. Unlike the experience at the San Diego zoo little difficulty was encountered in the breeding of these specimens at Rotterdam without resorting to any artificial aids.

There were a number of interesting additions to collections including the birth of a Kodiak bear at the Copenhagen zoo, the first to be reared in Europe, although these bears have been bred successfully for many years in the United States. The rare Hawaiian goose obtained by the Severn Wildfowl trust had now bred in captivity, so there seemed every likelihood of this interesting species being saved from extinction. The Regent's Park zoo still maintained an outstanding variety of sunbirds and also a very extensive collection of owls. Among other more unusual exhibits was a sea snake, *Hydrophis cyanocinctus*, from Hong Kong. These animals although not uncommon in tropical regions had rarely been seen in zoological gardens, possibly owing to the difficulty of handling very poisonous marine snakes. (*See* also WILD LIFE CONSERVATION.) (E. HIN.)

ZOOLOGY. There were comparatively few international meetings during 1952 of interest to zoologists and these were concerned mainly with special aspects of the subject. The International Union for the Protection of Nature held a meeting at Caracas, Venezuela, during Sept. 3-9, attended by representatives from 28 countries. At Bologna, during May 14-16, a meeting of the European section of the International Committee for Bird Preservation discussed various aspects of the subject. In Britain special attention was given to the dangers of oil pollution of the sea which causes the death of very large numbers of sea birds and other marine animals and also fouls the beaches. A permanent committee



A male king penguin at the London zoo with his chick which was hatched on Aug. 7. This was the first king penguin chick at the zoo to survive for more than a few days.

composed of interested organizations was set up to examine the problem, as well as a government committee which was set up later to deal with the same question. Some idea of the importance of this problem to Great Britain was given by observations at St. Agnes, Cornwall, where from June 1 to Sept. 8, 1952, an average of 64 lb. of oil per day was collected from a beach only 160 yd. wide.

Publication and Research. A new quarterly, *Systematic Zoology*, produced by the Society of Systematic Zoology and edited by John L. Brooks, Yale university, Connecticut, U.S., was added to the long list of zoological periodicals. The text books included another part, vol. 1, fasc. 1, of the *Traité de Zoologie*, edited by P. Pierre-Grassé. This volume dealt with the phylogeny of the Protozoa and other general problems and then gave an account of the Flagellata. The authors were L. Cuénot, E. Chatton, G. Deflandre, P. Pierre-Grassé, A. Hollande and J. Pavillard. Zoologists interested in animal behaviour welcomed the announcement of a third edition of W. von Buddenbrock's *Vergleichende Physiologie* (Basle), but vol. 1, *Sinnesphysiologie*, was the only part that had yet appeared. A. S. Parkes prepared a new edition of vol. 2 of Marshall's *Physiology of Reproduction* (London). D. M. S. Watson's *Palaeontology and Modern Biology* (New Haven) comprised the Silliman Memorial lectures for 1937 and dealt largely with fossil vertebrates. An outstanding study of the parasites of birds was contained in Miriam Rothschild and Theresa Clay's *Fleas, Flukes and Cuckoos* (London). There was also an account of *The Zoology of Tapeworms* by R. A. Wardle and J. A. McLeod (Minneapolis). *The Integument of Arthropods* by A. Glenn Richards (Minnesota) dealt with an important specialized problem. *British Mammals* by L. Harrison Matthews (London) was the first systematic treatise on the subject for many years and brought together many remarkable discoveries about the distribution, life history and habits of this interesting group of animals which are also of great importance from an economic point of view. Among monographs, Part 3 of *Grønlands Fugle* (The Birds of Greenland) by Finn Salomonsen (Copenhagen) and a detailed account of *The Fulmar* by James Fisher (London) were published. *The Dusky-footed Wood Rat* by Jean M. Linsdale and Lloyd P. Tevis (Cambridge) comprised an exhaustive study of a Californian mammal. Other books included a translation by Averil M. Lysaght of Maurice Caullery's *Parasitism and Symbiosis* (London), a most valuable account of the subject, and *Embryos and Ancestors* by G. R. de Beer (Oxford). *The Action of Hormones in Plants and Invertebrates*, edited by Kenneth V. Thimann (New York), contained useful summaries of *Hormones in Insects* by Berta Scharrer and of *Hormones in Crustaceans* by Frank A. Brown, jr. *Freezing and Drying* (London) was the report of a symposium held in June 1951 by the Institute of Biology; it contained articles on mammalian skin, spermatazoa, red blood cells and endocrine tissue and also an account of the use of freezing in tissue fixation.

The number of papers dealing with zoology remained in the neighbourhood of 12,000 titles, judging from those listed in vol. 86 of the *Zoological Record* (dealing mainly with the literature for 1949), which was published in 1952. The greatest number of these were concerned with insects; birds and mammals coming second and third respectively. A large proportion of articles dealing with general zoology were concerned with animal behaviour, and important advances in cytology were recorded, especially concerning the finer structure and composition of the cell. There was also an increased number of papers involving the use of radioactive tracers for the study of a wide variety of problems ranging from migration to methods of feeding.

There was an account of the discovery of a large colony of emperor penguins (*Aptenodytes forsteri*) in the course of the French Antarctic expedition to Adélie Land (1949-51). Previously only three small colonies had been found, but this recent one described by J. Sapin-Jaloustre (*L'Oiseau et la Revue Française d'Ornithologie, 22*, 142-84) comprised at least 2,750 birds. The emperor penguin is peculiar in incubating its eggs and rearing its young during the Antarctic winter, as first described by E. A. Wilson during the British Antarctic expedition, 1901-4. The new article, one of a series to be published on the subject, confirmed Wilson's observations and added further information on the social life and general biology of these extraordinary birds. (*See* also ENTOMOLOGY; GENETICS; MARINE BIOLOGY; ORNITHOLOGY; PALAEONTOLOGY; PHYSIOLOGY; ZOOLOGICAL GARDENS.) (E. HIN.)

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Headings printed in bold-type (e.g. **ADEN**) represent article headings in the *Britannica Book of the Year*; other headings indicate information in the text of articles. All references show the exact quarter of the page by means of the letters *a*, *b*, *c*, and *d*, signifying respectively the upper and lower halves of the first column and the upper and lower halves of the second column.

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