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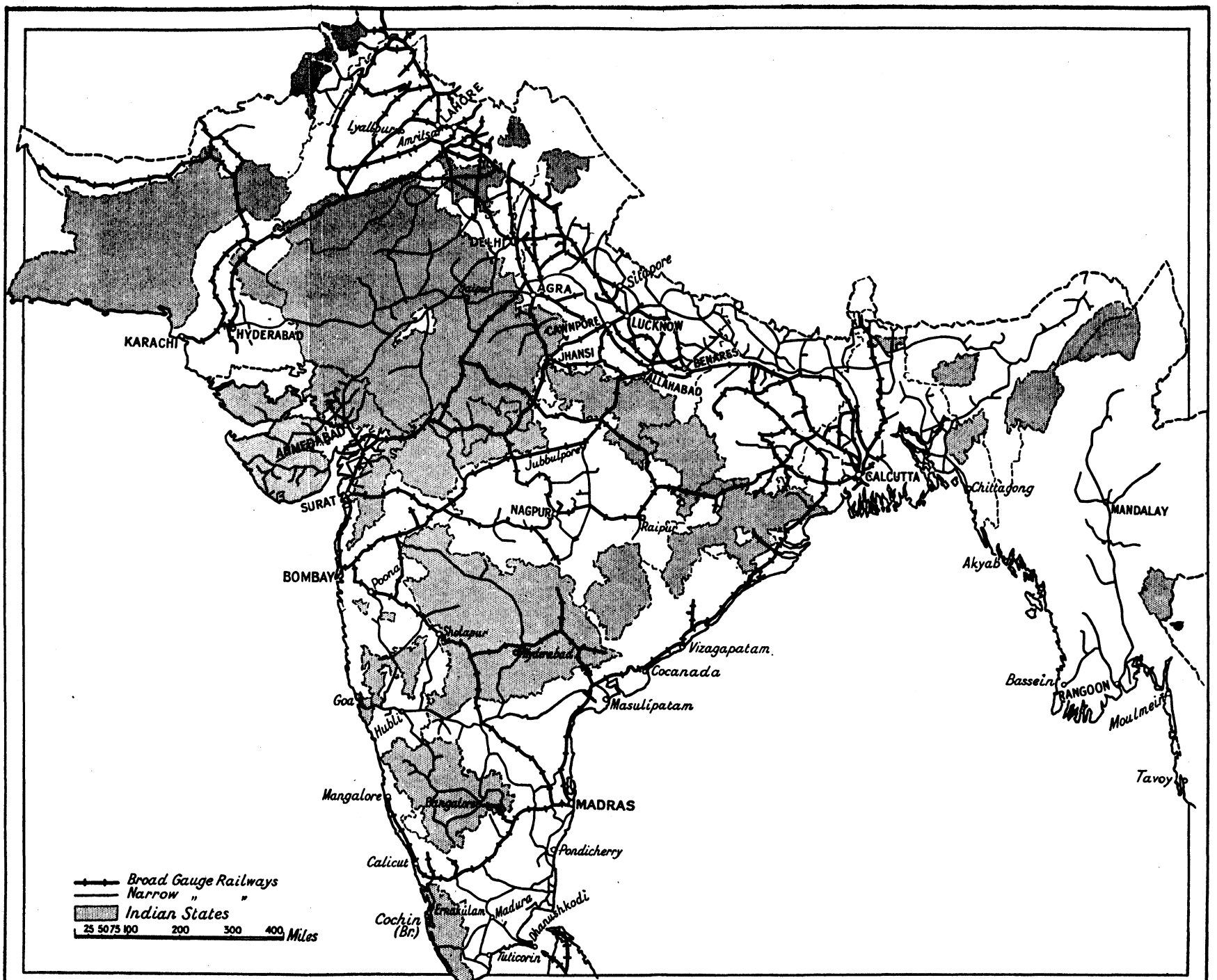


FIG. I.—India : Political Divisions and Railways.

THE ECONOMIC DEVELOPMENT OF INDIA

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AUTHOR OF "THE TRADE OF THE INDIAN OCEAN"

WITH MAPS AND DIAGRAMS

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To the Memory of

my husband

PERCY LOUIS ANSTEY, B.Sc.

principal of the sydenham college

of commerce, bombay, 1914—1920

PREFACE

EVEN the casual visitor to India cannot fail to be struck by the contrast between the great material potentiality of the country and the meagre economic achievements of the bulk of the population. My husband and I, during our seven years' sojourn in Bombay, became convinced that India's economic problems could never be solved by the mere adoption of certain specific lines of policy, but that the obstacles to progress were rooted deeply in the everyday life, customs, and social organization of the people. Much hard thought, and harder persistent effort on the part of the governed, as well as of the governing classes, will be necessary before these obstacles can even begin to be removed. We perceived clearly that in order to be successful such efforts presuppose the whole-hearted co-operation of all classes of the community, on a scale and of an intensity never yet attained in India, and that in order to secure such co-operation it is essential that the clouds of mistrust and suspicion, engendered by decades of mutual misunderstanding and misinterpretation, should be dispelled.

On my return to England, after the death of my husband in Delhi, I began to lecture on Indian economic topics at the London School of Economics and Political Science, and became more than ever aware of the difficulty of procuring any general survey of the economic development and position of modern India, which should serve as an introduction to the study of the fundamental economic problems of the day. Much of the best work on Indian economic topics is, naturally, limited to the study of some particular problem or particular district, and, in addition, whether deservedly or not, has often been suspect, on account of its definitely official or anti-British origin, as the case may be.

The following work is therefore an attempt at presenting, within the limits of one volume, a synthetic impartial view of the recent development, present position, and main problems of Indian economic life. A special object has been to bring into strong relief the relative importance of the main economic problems of the day, and to endeavour to discover what are the really fundamental difficulties confronting the more rapid promotion of material welfare. To hope to achieve impartiality

is, assuredly, over-optimistic, but I trust, at least, that it may be evident that I have attempted to consider and to present the several aspects of controversial questions.

I wish to express my great obligations to the late Professor L. C. A. Knowles, whose inspiration as teacher and friend first stimulated me to begin to write on this subject, but whose premature death deprived me of her actual assistance.

I also desire especially to thank Dr. Gilbert Slater, for his unfailing patience in reading my lengthy MSS., and for untiring criticism and advice. Thanks are due also to Mr. R. H. Tawney, Professor A. J. Sargent, Dr. L. Dudley Stamp, Miss M. L. Haskins. Miss W. Hunt, Dr. Morris Ginsberg, Dr. Annette Benson, and Mr. A. R. Burnett-Hurst, for reading either the whole or part of the manuscript, and for many helpful suggestions. For the maps I am greatly indebted to Miss Dorothy Wilford. Last, but by no means least, I am deeply indebted to the librarians of the London School of Economics and Political Science, the India Office, and of the Office of the High Commissioner for India, for their courteous assistance.

VERA ANSTEY.

LONDON SCHOOL OF ECONOMICS,
August 1929.

NOTE TO THE SECOND EDITION.

This edition, reproduced by a photographic process, contains only minor verbal corrections.

June, 1931.

CONTENTS

CHAPTER		PAGE
	PREFACE	vii
I.	INTRODUCTION	1
II.	THE RESOURCES OF INDIA	11
III.	POPULATION, SOCIAL ORGANIZATION, AND ECONOMIC DEVELOPMENT	38
IV.	PUBLIC HEALTH AND ECONOMIC DEVELOPMENT	66
V.	ECONOMIC ORGANIZATION	96
VI.	TRANSPORT AND COMMUNICATIONS	128
VII.	AGRICULTURAL AND ALLIED PROBLEMS AND POLICY	155
VIII.	THE CO-OPERATIVE MOVEMENT	185
IX.	THE TREND OF INDUSTRY AND INDUSTRIAL POLICY	207
X.	INDIA'S LARGE-SCALE INDUSTRIES	234
XI.	INDIA'S LARGE-SCALE INDUSTRIES (*continued*)	260
XII.	THE PROTECTION OF INDUSTRIAL LABOUR BY THE STATE AND BY VOLUNTARY ORGANIZATION	294
XIII.	THE TREND OF FOREIGN TRADE AND OF COMMERCIAL POLICY	329
XIV.	THE FINANCIAL SYSTEM AND FINANCIAL DEVELOPMENTS	364
XV.	BANKING AND CURRENCY	403
XVI.	THE PROSPERITY OF THE PEOPLE	433
XVII.	CONCLUSIONS	470

APPENDICES

APPENDIX A.	INDIGENOUS MIDWIFERY	489
,, B.	INFANT AND MATERNITY WELFARE IN BOMBAY	491

PAGE

APPENDIX C. "MOTHER INDIA" 495

„ D. SANITARY CONDITIONS IN INDIA. . . 496

„ E. THE LEGAL POSITION OF MANAGING AGENTS 501

„ F. THE PRODUCTION OF STEEL AT JAMSHEDPUR 505

„ G. THE "DRAIN" TO ENGLAND . . . 509

STATISTICAL TABLES 513

BIBLIOGRAPHY 549

INDEX 563

MAPS AND DIAGRAMS

FIGURE	I. INDIA: POLITICAL DIVISIONS AND RAILWAYS	*Frontispiece*
„	II. INDIA: PHYSICAL FEATURES . .	*p.* 12
„	III. INDIA: FOOD-GRAINS	18
„	IV. INDIA: MINERALS AND POWER	*Facing p.* 24
„	V. INDIA: TEXTILE AND PLANTATION PRODUCTION	*p.* 261
„	VI. TRADE OF BRITISH INDIA SINCE 1864–65 .	330
„	VII. CHANGES IN THE DIRECTION OF INDIAN TRADE	334
„	VIII. IMPORT AND EXPORT TRADE OF BRITISH INDIA SINCE 1913–14	336
„	IX. INDEX NUMBERS OF PRICES OF GROUPS OF COMMODITIES IN INDIA, 1900–1919. .	456

The unit of Indian currency is the rupee (which at the present rate of exchange is equivalent to 1*s.* 6*d.*), divided into 16 annas. The anna is divided into 12 pies or 4 pice.

One lakh is a hundred thousand, written 1,00,000. One crore is ten millions, written 1,00,00,000. At the present rate of exchange one lakh of rupees is equal to £7,500 and one crore to £750,000.

ADDENDUM.—Since going to press a *Child Marriage Act* has been passed, as a result of the recommendations of the *Age of Consent Committee*, appointed in June 1928. This Act provides that the age at marriage shall not be less than fourteen, and the age of consent not less than sixteen. *V.* below, p. 56, note 3.

THE ECONOMIC DEVELOPMENT OF INDIA

CHAPTER I

INTRODUCTION

The mediaevalism of India, and the signs of arrested economic development—Changes in the trend of development and in the economic policy of the Government since 1900—The need for closer analysis and careful interpretation of the facts—The problems in need of solution—Scope of the book.

"THE economic condition of the people is the crux of Indian politics." [1] Here is a country of ancient civilization, with rich and varied resources, that has been in intimate contact with the most materially advanced countries of the West, but which is still essentially mediaeval in outlook and organization, and which is a byword throughout the world for the poverty of its people.[2]

"How," it may be asked, "can India be called 'Mediaeval,' when it is organized under a modern form of constitutional Government, possesses a great system of mechanical transportation, a unique system of irrigation, no less than seventeen modern Universities, and has several large-scale industries producing with the most up-to-date machines that have yet been invented?"

It would undoubtedly be misleading to ignore or belittle the undeniable signs of social disintegration and of economic change, but there is a tendency for the extent of such disintegration and change to be exaggerated, owing to the fact that it is only the most advanced and emancipated classes that can make themselves heard.

India must not be judged by its great ports and other industrial areas. These latter are the scene of striking anachronisms, symptomatic of the direct impingement of the modern on the mediaeval. In Bombay, for instance, the motor-car—driven

[1] P. N. Bose, *The Economic Aspects of the Montagu-Chelmsford Reform Scheme*, p. 10.

[2] "The most arresting fact about India is that her soil is rich and her people poor" (M. L. Darling, *The Punjab Peasant in Prosperity and Debt*, p. 73).

possibly by a Parsee lady—dodges in and out between foot-passengers and bullock-carts ; the latest product of the universities jostles with the fakir, and broad and beautiful streets look out on to the narrow alleys of an Eastern bazaar. In a few moments one may pass from the luxurious dancing hall of the Taj Mahal Hotel to dimly lighted back-streets whose pavements are covered with the sleeping figures of the inhabitants of the chawls,[1] or from the operating theatre of an up-to-date hospital to the haunts of emaciated, disabled beggars, who drag their possibly self-mutilated limbs through the noisome dust and dirt of the gutters. Mechanical inventions and the materialistic outlook have begun to leaven India, but it is necessary to realize the immense size and importance of what still remains unleavened. The crumbling of the authority of caste, the loosened bands of religion, the adoption of the Western " economic " outlook, and acceptance of Western methods and ideals have as yet affected only a tiny percentage of the people. The masses undoubtedly still live in the material surroundings and retain the social outlook of mediaevalism.[2]

First and foremost, mediaevalism is manifested in the striking predominance of religion and its influence on, and control over, every other aspect of life.

In mediaeval Europe, peace and war, trade and commerce, learning, economic institutions and relationships were all under the control and jurisdiction of the Church. Similarly to-day in India religion holds a predominant position in every sphere of life and controls the social activities of all classes, with the numerically very minor exception of a certain proportion of those who have received a Western education.

Next we come to the absence of the ideal of progress. It has been said that " a great deal of the strangeness between East and West is due to the fact that we of the West habitually measure civilization by an essentially modern criterion, the idea of Progress ; and progress in the mind of the average man is apt to be narrowed down to material progress." [3] In the West " material progress " is almost a spiritual thing to the philosophical mind. It entails the possibility of a higher level of life for the mass of the population, and " opportunity for all, instead of a parasite bloom of civilization, drawing its life from a slave class without hope." [4] But in India earthly existence is still looked upon as but a passing phase, preparatory to the life or lives to come. Hence the ideal

[1] *I.e.* working-class dwellings.

[2] Mr. Gandhi obtained his unrivalled position and popularity owing to the fact that he was essentially a religious leader who appealed to the traditional spirit of the people. No emancipated leader who confined himself to a secular appeal could hope to attain a similar position.

[3] *Report to the Trustees of the Albert Khan Travelling Fellowship*, by Dr. Eileen Power (1921).

[4] *Ibid.*

of the religious leaders is to subdue the appetites rather than to satisfy them, whether such appetites be their own or those of their fellow-men.

This means that it is exceptionally difficult to stimulate economic effort and concentrate attention upon increasing the efficiency of production, to raise the standard of living, or to maintain it if, perchance, it may have been raised. Here the characteristic fatalistic attitude of the Indians comes into play. The future rests on the bosom of the gods and it is useless to attempt to control it, or even to prepare for the reverses of fortune. This attitude is probably partly the result of religion and partly of the climatic and physical characteristics of the country, which tend to impress upon man the awe-fulness of nature, and his own insignificance and impotence in the face of natural forces, and results in improvidence and inertia. Moreover, in many parts of India it is fatally easy just to maintain life. A handful of rice, a cotton rag, a mud-hut, and dung-cakes (for fuel) constitute the only necessities. The most desired luxuries are the opportunity to lie in the shade and sleep and smoke, or to squat by the side of the road and chatter—both inexpensive, but (in the latter case, at any rate) not necessarily harmless occupations!

Another feature of Indian society that is strongly reminiscent of mediaevalism is the nature of the social divisions. As under the feudal system in Europe in the Middle Ages, the social ideal, under the caste system in India to-day, is static, and social divisions are horizontal. The advantage of such a social structure is that all classes acknowledge duties as well as rights and have allotted services and functions to perform, whilst the chief evil is the domination of a close hereditary class; that is, of the manorial lords under feudalism, and the Brahmans under the caste system. The institution of caste means that the whole of Hindu society is divided into a series of strata, many of which are spread throughout a large part of the whole country. Similarly the Muhammadans are scattered, though very unequally, throughout the country, as well as forming compact groups in certain areas. During the British era yet another stratum has been added, that of the educated, English-speaking Indians, who form a thin articulate layer covering the surface of the whole of Indian society. At the other extreme come the out-castes, or untouchables,[1] with whom the high-caste Hindus have far less in common than they have with the upper classes of non-Hindu communities or with the European population. Thus, although the Provinces of India are equivalent in area and population to separate countries elsewhere, no such thing as Provincial nationalism has as yet arisen, and the idea of Indian nationalism and patriotism is an

[1] These number some sixty millions.

entirely modern one, introduced by contact with the West to the stratum of English-speaking Indians only. In most of the vernaculars there is not a word that stands for "India," "Indian," or even "race." The idea of Indian nationality may, like the idea of European unity and patriotism, some day become widespread, but it seems as if the intervening step—Provincial nationality—will have to be completely omitted.

Owing to the prevailing type of social organization, we find that custom, tradition, and superstition continue to predominate, and that the scientific spirit is lacking. The people consume, produce, and distribute as their fathers and forefathers did before them; custom is king, and the demonstration of the good economic results of improved methods does not necessarily tempt to change. It is sometimes assumed that the absence of the scientific attitude is an inherent characteristic of the Indian mind. When, however, we consider the entirely unscientific spirit of the Middle Ages in Europe, the persecution of those who refused to accept authority but insisted on thinking for themselves and testing prevailing assumptions, and when we follow out the history of the development and triumph of scientific thought, need we despair of India? On the contrary should we not inquire how far the system of education introduced by the British has helped to generate the scientific spirit and the spread of scientific knowledge? Do we not find that, instead of teaching the people to understand the world about them and how natural forces can best be utilized and controlled, they have been taught to write notes on archaic phrases in the works of sixteenth- and seventeenth-century Englishmen, and to learn by rote the personal history of obscure rulers of a foreign land?

In India, as in Europe in the Middle Ages, individualism has been subordinated to community feeling, and personal initiative, the competitive spirit, and individual ambition have been at a discount. The individual seeks to fulfil his functions within his village, caste, and family, perhaps to raise his family to a superior position, but not to pass from one group into another.

In many cases the outstanding economic institutions and methods characteristic of mediaeval life, such as the self-sufficing agricultural unit, primitive methods of agricultural and industrial production, and the organization and control of industry and commerce by means of local gilds, still prevail in India. These features are not anything like as strongly marked as they were some fifty, or even some twenty-five, years ago, but they have not yet by any means entirely disappeared.[1]

The continuance of what may be called "Eastern Economics"

[1] Many instances of such mediaeval institutions and methods will be quoted in the following chapters.

is felt to be the more strange because, up to the eighteenth century, the economic condition of India was relatively advanced, and Indian methods of production and of industrial and commercial organization could stand comparison with those in vogue in any other part of the world. Towards the end of the eighteenth century, and still more at the beginning of the nineteenth century, Great Britain, followed by many other Western countries, began to forge ahead in the economic sphere. But in India, in spite of certain changes, especially in the sphere of foreign trade, the stage of large-scale scientific production and organization has not yet been attained, and it is felt that the transitional stage from the mediaeval to the modern has already been unduly prolonged. Complaints are even made of decadence in certain respects. It is said that India has lost her ancient industries, and that her people have been relegated to the contemptible status of " hewers of wood and drawers of water." A country which had manufactured and exported the finest muslins and other luxurious fabrics and articles, at a time when the ancestors of the British were living an extremely primitive life, has failed to take part in the economic revolution initiated by the descendants of those same wild barbarians.

It is not, of course, asserted that no economic progress has been made under British rule. The results of the British connection have been to provide India with cheap imported manufactures, to increase the demand for many types of Indian produce, and to introduce public works and administrative methods which have enabled India to produce (especially by means of extended irrigation) and to transport (by rail and steamship) [1] vastly increased quantities of crops and other goods. During the second half of the nineteenth century, in particular, India's total production and trade advanced by leaps and bounds. But these changes brought about a peculiar interdependence between India and the West, whereby India tended to produce and export in the main raw materials and foodstuffs, and to import textiles, iron and steel goods, machinery and miscellaneous manufactures of the most varied description. Moreover, the concurrent increase in population counterbalanced the increase in total production, so that no considerable increase in product per head could be traced. These facts certainly lend colour to the view that economic development had been " arrested " in India.

Neither the general trend of economic development nor the policy pursued by the Government has, however, continued unaltered from the nineteenth into the twentieth century. Up to the end of the nineteenth century the effects of British rule on the prosperity of the people were undoubtedly disappointing.

[1] Here the part played by the Suez Canal (opened in 1869) must not be forgotten.

In 1896–97 the monsoon rains failed over a record area—affecting 300,000 square miles and a population of sixty-three millions. This resulted in an estimated loss of some eighteen to nineteen million tons of food crops, and of not much less than one million lives,[1] and was accompanied in Bombay by the reappearance of the plague.[2] Scarcely had the country begun to recover from the effects of this famine, when in 1899 the rains again failed. On this occasion 400,000 square miles and a population of twenty-five millions in British territory, and thirty millions in the Indian (Native) States, were affected.[3] For weeks together more than six million persons were in receipt of famine relief, in many districts cholera supervened, and the death-rate rose sharply, especially in the Indian (Native) States.[4] The " protective " irrigation and railway works [5] seemed to have failed to effect their purpose, and the financial position of the Government was extremely difficult. Railways formed a charge on the revenues, and while a general tariff had been imposed on imports for revenue purposes there was also a most unpopular excise on mill-woven cotton cloth, and an undesirably high tax on salt.

It is not surprising that a great agitation arose against British rule on the score of its economic results. The various classes of educated Indians, much as they disagreed amongst themselves, tended to unite in hostile criticism of the economic policy, or lack of policy, of the Government of India. There were Nationalists who truly believed in " Swadeshi," in Mr. Gandhi's sense, wishing to return to a simpler mode of life and to eschew the materialism of the West, even at the possible cost of lowering the standard of life.[6] There were enterprising Nationalists, converts to the materialistic progress of the West, who wished to initiate " all-Indian " industries, backed by " all-Indian " capital. There were philanthropic Indians aiming primarily at helping their

[1] *Moral and Material Progress of India*, Decennial Review, 1901–2, chap. xxiv, and *Census Report*, 1901, vol. i, p. 84.

[2] Between 1896 and 1902 the plague accounted for about two million deaths in the Bombay Presidency.

[3] *Lord Curzon in India*, vol. i, p. 36, and *Moral and Material Progress of India*, 1901–2, chap. xxiv.

[4] *Moral and Material Progress of India*, 1901–2, chap. xxiv; v. *The Great Famine*, by Vaughan Nash. The " extra " loss of life was estimated at about one million in British India, and perhaps three millions in the Indian (Native) States (*Census Report*, 1901, vol. i, p. 84).

[5] These are described in chaps. vi and vii.

[6] "Swadeshi" means "own country." The movement was one advocating the use, as far as possible, of Indian goods only, and for developing manufactures, banks, etc., in India, to make this possible. With regard to its inner meaning v. *Life and Writings of Gandhi*, p. 114 *et seq.* " Swadeshi is that spirit in us which restricts us to the use and service of our immediate surroundings and the exclusion of the more remote " (p. 115). " Swadeshi is a religious discipline to be undergone in utter disregard of the physical discomfort it may cause to individuals " (p. 124). See also *Freedom's Battle*, by M. K. Gandhi, Part IV, " Swaraj."

weaker brethren,[1] and there were those who claimed that India already possessed a social system potentially superior to that of the West, were she only freed from alien interference. All favoured the protection of Indian industries, whether their ideal was the hand-loom or the Indian mill. All urged the removal of that "abomination of abominations," the cotton excise, whether they aimed at cheap cloth for the multitude or high profits for the mill-owners. All criticized the effects of British rule in India, and demanded complete independence and control over economic policy. Much was written about the "destruction of the indigenous industries," and it was argued that well-balanced economic development had been deliberately prevented, and that India, having lost her former self-sufficiency, had been forced into an undignified, dependent position. It was urged that this dependence, together with the pressure of taxation (including, in their opinion, the Land Revenue), was increasing the poverty of the people, and that no improvement could possibly be expected whilst the "drain" of wealth from India to England continued.[2]

This point of view can no longer be maintained with the same show of truth. In the first place, the benefits of the railway, irrigation and famine relief systems have at last begun to be reaped. Since 1899–1900 the railways have brought in a net profit to the Government in almost every year,[3] the famine problem has been transformed,[4] the condition of the masses has improved, and both up to the outbreak of the war, and again since 1923–24, a satisfactory Budget surplus has been obtained.

Before the war a large-scale iron and steel industry sprang up with the formation of the Tata Iron and Steel Company in 1907, coal-mining and other mining industries developed rapidly, and newly established hydro-electric works promised to solve the power problem for Western India. It seemed, indeed, as if India's modern industrial development, hitherto confined to the textiles, was at last to be placed on the basis of coal and iron. Moreover, Lord Curzon had introduced a new economic policy, based on science and efficiency, which has recently grown into one of conscious, constructive development. The Great War stimulated most of the tendencies noted above, the Government of India became gradually converted to a policy of industrialization,

[1] For instance, the members of the Social Service Leagues of the various provinces.

[2] *V.*, for instance, W. Digby's *Prosperous India*.

[3] *I.e.* except in 1908–9 and 1921–22.

[4] Since 1900 no actual deaths from starvation have occurred as a result of the failure of the monsoon. Thus, although in 1918–19 the rains failed over an area at least as widespread as in 1899–1900, the reserves of the people and famine administration had so greatly improved that not only were there no actual deaths from starvation, but very few able-bodied ryots were obliged to apply for relief. *V.* chap. ii, § 1, p. 16.

and the British Parliament conceded the principle of fiscal autonomy. The official adoption of the new policy can be dated from the appointment of the Industrial Commission in 1916. Further important steps in the same direction were taken by the establishment of Provincial Departments of Industries during the war, the adoption of the principle of " discriminating protection " in 1921–22, and by the separation of the railway from the general Budget effected in 1925, which was introduced in order that improvement in communications should not be retarded by extraneous financial considerations.

Many critics of the Government have conveniently ignored these events. In other quarters the inference is drawn that industrialization is well on its way.

The facts need closer analysis and careful interpretation. According to the census of 1921, only 10·2 per cent. of the population of India is urban (as compared with 9·9 per cent. in 1901); rather less than 2·6 per cent. of the population lives in big cities (as compared with 2·2 per cent. in 1901)[1]; no less than four of the thirty-five towns that rank as cities have actually declined in population since 1911–12; only 10·5 per cent. of the population is dependent on industry for its support, including as " industries " the handicrafts and small-scale concerns of every description; and only 2·6 million workers are employed in mines, plantations, and organized industrial establishments,[2] as compared with 106 millions employed in agriculture, and some eleven or twelve millions in small-scale industry.[3]

It is difficult to reconcile these figures with a picture of rapidly progressing industrialization. In spite of the improvements in production and policy since the beginning of this century it appears that India has not passed out of the transitional stage from the mediaeval to the modern, that a well-balanced economic life has not yet been attained,[4] and that the standard of life of the masses remains miserably low.

To what extent, and why, is India still suffering from arrested economic development? What have been the nature, extent, and results of the changes, since 1900, on economic development in general, and on the standard of life of the masses in particular? How far can the economic policy pursued by the Government be held responsible for the present unsatisfactory state of affairs?

[1] The census defines a " city " as a town with a population of not less than 100,000. The corresponding figures are 45 per cent. in England and 21 per cent. in Germany.

[2] *I.e.* in all establishments employing not less than twenty persons.

[3] The percentages employed in agriculture and industry in 1901 and in 1921 cannot be directly compared. *V.* chap. iii, § 3.

[4] Not only is industrial employment insignificant in comparison with agricultural, but India still depends excessively upon foreigners for the provision of many goods and services that are essential for any materially advanced country.

Is India now on the brink of a great forward movement which will eventually bring her into economic line with the West? What are the main obstacles to more rapid economic improvement? What can be done to stimulate improvement?

In the following pages answers to these and to many closely allied questions will be sought, the assumption being made throughout that—other things being equal—material progress is desirable.[1]

One further question presents itself. Is it reasonable to attempt to consider the economic problems of India as a whole? Can India be considered in any sense an economic unit?

It is well known that India covers an area of no less than 1·8 million square miles, and contains a population of 318·9 millions, about one-fifth of the whole human race. India contains representatives of all the great ethnological divisions of mankind, and the census of 1921 records 188 distinct languages and a great variety of religions.[2] Political divisions and subdivisions have been extremely numerous in the past, and are still of first-class importance.[3] Would it not, therefore, be more accurate to compare India with a continent rather than with a country? and is it not impracticable to attempt to discuss her economic position and problems as if she formed a single unit?

There are, of course, great difficulties in attempting to discuss as a whole the economic problems of a vast and varied area such as India, and it should be clearly understood at the outset that the following pages refer in the main to British India, the conclusions reached applying only to a limited extent to the Indian (Native) States. Nevertheless, India proper[4] forms one of the most clearly marked geographical units in the world, and in the following pages evidence will be given in favour of the contention that there are a number of strong unifying forces at work which make it reasonable to suppose that India is an economic unit in the making. If this is so, then it is desirable to consider her economic problems as a whole.

The plan of this book will, therefore, be as follows. In the first place an account will be given of the fundamental physical and social factors (natural resources, population, social organization, health conditions, and transport facilities) affecting economic development.[5] Secondly, a more detailed account will be given of

[1] Only on this assumption is there any interest in discussing economic problems, potentialities, and policy.

[2] *V.* chap. iii, p. 47. Sir George Grierson (*Linguistic Survey of India*, vol. i, Part I, p. 26) recognises no less than 179 languages and 544 dialects, although the area surveyed by him excludes the Provinces of Madras and Burma and the States of Hyderabad and Mysore.

[3] The Indian (Native) States possess an area of 709,583 square miles and a population of 71·9 millions. *V.* Table I, p. 515 and Fig. I (frontispiece).

[4] I.e. excluding Burma; *v.* chap. ii, p. 13.

[5] Chaps. ii to vi inclusive.

outstanding recent developments in each of the main departments of economic life—agriculture, industry, commerce, and finance—with special reference to the changes since the end of the nineteenth century.[1] This will be followed by an attempt to estimate the effects on the prosperity of the people of all the economic developments that will then have been described.[2] Finally, an attempt will be made to answer, however tentatively, the questions posed above with regard to the stage of economic development reached, the adequacy of the policy pursued by the Government, the outlook for the future, the fundamental obstacles to improvement, possible remedies, and the possibility of eventual economic unification.[3]

[1] Chaps. vii to xv inclusive. [2] Chap. xvi. [3] Chap. xvii.

CHAPTER II

THE RESOURCES OF INDIA

§ 1. PHYSICAL FACTORS, p. 11.

Physical diversity, resulting in variety of products and great variations in the density and occupations of the people—The three great natural divisions of the country—The marked insecurity of Indian life owing to the nature of the rainfall and the prevalence of disease.

§ 2. AGRICULTURAL, PASTORAL AND FOREST PRODUCTS, p. 17.

Food-crops, raw materials, plantation products, forest and miscellaneous products—The principal Indian soils—Characteristic methods of cultivation—Animal products.

§ 3. MINERAL WEALTH AND POWER RESOURCES, p. 24.

India's main mineral products: coal, petroleum, salt, gold, iron, manganese, mica, lead, silver, zinc, copper, and minor minerals—The distribution of India's power resources—The development and potentialities of hydro-electric power.

§ 4. THE GEOGRAPHICAL DISTRIBUTION OF INDUSTRIES, p. 35.

The widespread distribution of the village, artistic and other indigenous industries—The localization of the modern large-scale and plantation industries.

§ 1. PHYSICAL FACTORS [1]

THE fundamental influence of physical factors on the economic life of every country need not be laboured. It is obvious that they are the prime determinants of the products of a country, the occupations of the people, and the density and distribution of the population.

The first point to notice about India is the extreme physical diversity of the various areas included under that term. India includes the overpowering, snowy mountains of the north; the ancient time-worn Deccan Plateau; the wide alluvial plains of the Indus and Ganges river systems, and the fertile, low-lying coastal strips and river deltas of the Coromandel and Malabar coasts. The country stretches from an equatorial latitude of 8° N. to latitude 36° or 37° N. (*i.e.* equivalent to that of Athens, Cadiz, and California), and includes every type of climate, from the permanent snow of the Himalayas and the glorious Alpine

[1] *V.* Figure II, p. 12.

regions of Kashmir, to the rainless desert of Sind, the continental extremes of the Punjab, and the perpetual hot-house of Malabar. From this it follows that India possesses a great variety of animal, vegetable and mineral products, ranging from the heavily coated Kashmir hill-sheep to the camel of Sind and the elephant and tiger of Bengal; from the wheat, fruit, and fir-trees of the north to the rice and coconuts of the hot, low-lying swamps and coastal regions; and from the coal and iron fields of Bengal,

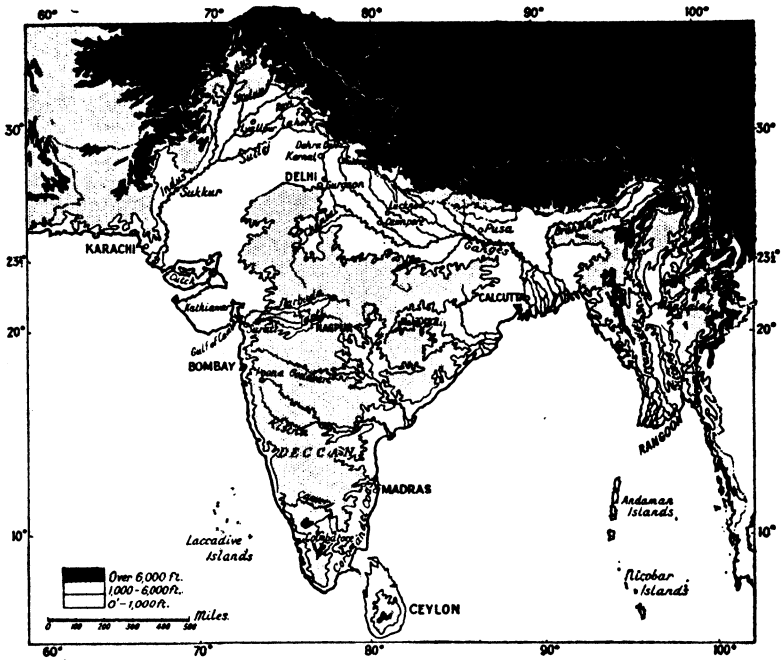


FIG. II.—India: Physical Features.

Bihar, and Orissa, to the gold of Mysore and the Salt Ranges of the Punjab.

Diversity of physical features and of climate has produced great varieties in the density of population, which in rural districts ranges from an average of over 600 persons per square mile in parts of Bengal and the United Provinces, and 500 persons per square mile in most of the river deltas and low-lying coastal districts, to between 100 and 200 persons per square mile over the greater part of the Deccan Plateau and Central India generally, and to less than 26 persons in Sind.[1] It has also caused great variations in the economic habits of the people. What

[1] The *Census Report*, 1921, vol. i, contains a good map showing the density of population (p. 5). The mean density for the whole of India is 177 per square mile.

different types are represented in the ease-loving agriculturists of Bengal, the hard-working Deccanese, the shepherd hillmen of the Himalayas, and the primitive huntsmen of the forest regions!

The physical features of the Indian mainland, excluding Burma,[1] make it convenient to distinguish the three following divisions of the country, each of which has its own geographical and historical characteristics:

(1) The Himalayan and North-West mountainous regions, forming the land boundaries between India and the rest of Asia.

(2) The great fertile plains of Northern India, or "Hindustan," watered by the Ganges, the Indus, the Brahmaputra and their tributaries, which vary from 150 to more than 300 miles in width, and have been the seat of the great Hindu and Muhammadan kingdoms and empires.

(3) The southern or peninsular region, which may itself be subdivided into the Deccan Plateau and its coastal fringes. The Deccan—which varies in average elevation from 1,500 to 2,500 feet—is, unlike the Himalayan range, of very ancient geological formation, and is tilted from west to east and from south to north, so that the highest part (which is nearly 9,000 feet above sea-level) is in the south-west. Deltaic plains on the east, well watered and with a tropical climate, include some of the most fertile districts in the whole of India. On the west the coastal fringe is very narrow, has a very heavy rainfall, and maintains a very dense population.

The natural frontiers of India proper are thus unmistakably clear, *i.e.* the mountain ranges and tablelands of the north, and the sea. In the north-east the ranges have always formed an almost impenetrable barrier, whilst in the north-west climatic and political changes have transformed the former passage for invading hordes into a preventive of land communication with India. It was this fundamental geographical unity that tempted each great monarchy that arose to extend its sway over the whole area, but in the absence of rapid means of communication—such as were afterwards supplied by telegraphs and railways—the great empires so formed invariably crumbled away.[2] Internally, wild forests and mountainous districts separate northern from peninsular India, and form a barrier which has only comparatively recently become easily surmountable. There is no natural highway between north and south, though very ancient trade routes

"If we take the districts (and small States) as a unit and exclude cities, the mean density ranges between a minimum of one and a maximum of 1,882 per square mile" (*ibid.*).

[1] Burma, physically and socially, forms an independent entity.

[2] In other words India was "comparatively easy to subdue but difficult to organize" (Sir William Archer, *India and the Future*, p. 42).

linked the Gulf of Cambay and the west coast with the upper Ganges Valley. On the other hand the whole of the vast Indo-Gangetic plain was always, from the time it was cleared of forest, easily traversed during the dry season, whilst at certain seasons the rivers offered an obvious and easy means of communication.[1]

Unfortunately, the rivers flood after the monsoon, and in many cases degenerate into mere trickles during the dry months, so that bridge-building has been difficult and backward. Moreover, Bengal and much of Northern India possess no material suitable for road-making.[2] Thus, although primitive transport over the rough tracks of the flat Northern plains has always been an easy matter, improved road transport has been exceptionally difficult to introduce. Trunk roads were not built for wheeled traffic, even in the Northern plains, until the middle of the nineteenth century,[3] and it has been almost as expensive to build first-class roads as to build railways, whilst the latter have the advantage that they soon begin to bring in some direct financial return.[4]

Coastal communication has been hindered by the lack of natural harbours. The east coast is surf-ridden, and the mouths of the rivers become quickly choked with sand, whilst in the west the violence of the monsoon interrupts sea commerce during three or four months each year. Even the excellent harbours of Bombay and Goa in the west had no easy means of communication with the interior until railways were built.

Owing to the enormous size of India and the lack of rapid and continuous communication, contiguous villages used to be practically cut off from each other during the rainy season, and trade was naturally limited to articles of high value in relation to bulk until the era of mechanical transport. Moreover, the poverty of the masses of the people prevented the growth of exchange and rendered each locality self-sufficing. Hence, until recent times, Indian manufactures existed in the extreme forms only ; namely, superfine goods for Courts and export, and the simplest and cheapest goods, made by village craftsmen for their fellow villagers.

Another notable characteristic of the country is the marked insecurity of life, due mainly to the uncertainty of the water supply, and the prevalence of certain endemic and epidemic diseases.

[1] The Ganges and Brahmaputra deltas still form an " unsurpassed system of water communication " (G. Chisholm, *Commercial Geography*, p. 563). Steam traffic on the Indus has had to be abandoned owing to the shifting of the river bed and sand accumulations.

[2] Kankar, a nodular limestone, formed within the alluvial soil, is used in some areas, but it is a very inferior material, soft and easily disintegrated.

[3] In 1850 the first mail-carts began to run between Calcutta and Delhi.

[4] Compare G. C. Chesney, *Indian Polity*, chap. xvii. Note that no steep gradients nor tunnels are needed for railways on the plains.

The overwhelming importance of the variations in India's water supply can hardly be over-emphasized. The prosperity of India is dependent on the monsoon rain, the bulk of which comes with the south-west monsoon, which strikes Ceylon at the end of May, and, dividing into two branches, passes up the west and east coasts of peninsular India. The western branch rises over the Western Ghats, where it deposits a heavy rainfall, and then passes across India in a north-easterly direction. The eastern branch passes up the Bay of Bengal, bringing a heavy rainfall to the Assam Hills, Lower Ganges Plains and Himalayas, and is then deflected north-westwards right across the plains of Hindustan until it meets the mountains of the north and north-west. About October the wind changes and the north-east trade wind, which gets hotter and drier as the spring advances, takes the place of the monsoon. Hence, with one or two exceptions, the country gets the whole of its annual rainfall in these three or four monsoon months. The exceptional areas are: (i) the south-eastern coastal regions of Madras,[1] which not only are affected by the easterly branch of the south-west monsoon, but also receive rain in October and November, and sometimes also in December, from the so-called north-east monsoon, as the trade wind after the summer months is laden with moisture from the heated Bay of Bengal; (ii) the North-West of India, which in January, February and March is subject to a succession of shallow storms, bringing rain insignificant in absolute quantity, but important from the point of view of the wheat and other grain crops of the area; and (iii) the Ganges plains, which receive slight winter and considerable spring rain.[2]

The prosperity of most Indian districts depends on the success or failure of the monsoon, and a very slight variation in the direction of the wet winds may cause a usually well-watered district to become a desert. The sharp transition from heavy rain to dire scarcity is testified to by the old proverb: "One horn of the cow lies within the rainy zone and one without."[3]

Some Indian districts always obtain abundant rain, some never get more than an inch or two per annum, whilst over large areas the rainfall is uncertain. It is not the average rainfall of any

[1] The average total rainfall in Madras is actually greater between October and December (29·48 inches) than it is between June and September (15·36 inches). Ceylon is similarly affected by the retreating monsoon, but has slight rain in January and February as well as in November and December.

[2] This sketch of the monsoon is naturally simplified. The account in the first volume of the *Imperial Gazetteer* should be consulted, as also the maps in *ibid*, vol. xxvi.

[3] Lord Ronaldshay notes, as an example of the great variation in rainfall found between two places that are only a few miles apart, that at Igatpuri, on the Western Ghats, the annual average rainfall is 130 inches, whereas six miles further east, at Goti, the annual average rainfall is only 60 inches (*India: A Bird's Eye View*, p. 152).

district but the deviation from that average, together with its time distribution, that may cause disaster. A deficiency in the expected rainfall causes famine, too much may rot the crops, whilst the unduly early or late arrival of the monsoon may entirely spoil the harvest.

The most useful classification of areas, according to rainfall, is into the two great zones of " certain " and " uncertain." The zones of certain rainfall include, on the one hand, all areas with an average of not less than 40 to 50 inches per annum, in which droughts are exceedingly rare, and, on the other hand, all areas with an average of less than 15 inches per annum, as these are either always desert, or else permanently dependent on irrigation. The districts having an annual average of not less than 40 to 50 inches include East Bengal, Assam, nearly the whole of Burma, the West Malabar coast, the western slopes of the Ghats, and the upper reaches of the River Narbada (in Central India), whilst Sind has an annual average of only a few inches per annum.

The zones of uncertain rainfall include all areas with from 15 to 40 inches per annum; namely, the United Provinces, West and North Rajputana, the Central Rajputana Plateau bordering on the United Provinces, a large part of the Bombay Presidency (*i.e.* the Deccan area and all the districts north of the Ghats), the whole of Madras (except the actual slopes of the Eastern Ghats), South and West Hyderabad and Mysore, the dry belt of Burma, and some districts of Bengal and of Bihar and Orissa, where drought is, however, all the more disastrous because it occurs only occasionally and is therefore unexpected.

The existence of these extensive zones of uncertain rainfall has been the cause of one of India's greatest and most characteristic problems—the famine problem—round which the whole economic policy of the Government of British India centred during the nineteenth century. By the beginning of the twentieth century the whole problem had been transformed by the gradual attainment of extreme efficiency in the system of famine relief and administration, and by the construction of railways and irrigation works. Nowadays the problem caused by a failure of the rains, even over an extensive area, is considered not as a matter of life and death, but as mainly a question of finance and of detailed administration.[1]

The extreme uncertainty of the rainfall in many districts, and its compression into one or two months, have necessitated the practice of irrigation more universally and on a larger scale in

[1] *V.* A. Loveday, *History of Indian Famines.* As the transformation of the famine problem is a well-known story, and as it was completed by the beginning of this century, since when no striking change in policy has been introduced, the topic will not be discussed except incidentally in these pages.

India than in any other part of the world. Not only has the Government of India undertaken canal and reservoir irrigation schemes on a magnificent scale, but the Indian peasantry since time immemorial has attempted to make the very best use of the available water supply. "A special peculiarity of Indian agriculture is the ingenious and assiduous manner in which water is applied to increase the produce of the soil," [1] by means of tanks, embankments, sluices, river-dams and channels, wells and irrigation canals.

The prevalence of certain havoc-making epidemic diseases has been, from an economic point of view, of hardly less importance than the uncertainty of the water supply, and, indeed, the spectres of famine and disease have usually stalked the country hand in hand. Endemic diseases, such as hookworm and malaria, have also been potent forces tending to lower vitality and decrease efficiency. In addition some authorities assert that the climate of India, where it is both hot and damp, has an enervating effect.[2]

§ 2. AGRICULTURAL, PASTORAL AND FOREST PRODUCTS

Almost 34 per cent. of the total area of British India is sown with crops, whilst 22 per cent. is held to be not suitable for cultivation, 22·8 per cent. is classed as cultivable waste,[3] 7 per cent. is left fallow, and 12–13 per cent. is under forest.[4] About 21 per cent. of the area sown (and a larger proportion of the crops) is under irrigation.

The universal food crops of India are cereals and pulses.[5] Rice is the most widespread, being sown over 78·5 million acres (in 1926–27), and is the staple of all low-lying, well-watered tropical districts, such as the lower Ganges, parts of Assam and Burma, the coastal strips adjoining Karachi and Bombay, West Malabar, the deltas of the Madras Presidency, and some districts of the Central Provinces.[6] Wheat (sown over 24 million acres) is the staple food crop in a great part of the Punjab and North-West Provinces, and since the second half of the nineteenth century its cultivation has been extended over a large part of

[1] *Report of the Famine Commission*, 1880, Part II, p. 82.

[2] The effects of disease and of climate on economic development are discussed at greater length below, *v.* chap. iv, p. 70 *et seq.*

[3] This classification needs amendment, as it gives rise to the mistaken idea that much good land is uncultivated (*Abridged Report of the Royal Commission on Agriculture*, 1928, p. 76). Actually there is little, if any, room for the extension of the area under cultivation.

[4] *V.* Table II, p. 516. These figures refer to 1926–27. Complete figures are not available for the Indian (Native) States, and hence only those for British India are quoted.

[5] *V.* Figure III, p. 18.

[6] Rice is also the staple of the coastal districts of Ceylon.

Northern India, including the Upper Ganges, the Punjab, and the plateaux of Central India and of certain districts in the Bombay Presidency.

The millets, of which the most important are jowar (sown over 21 million acres), bajra (13·8 million acres), and ragi (3·8 million

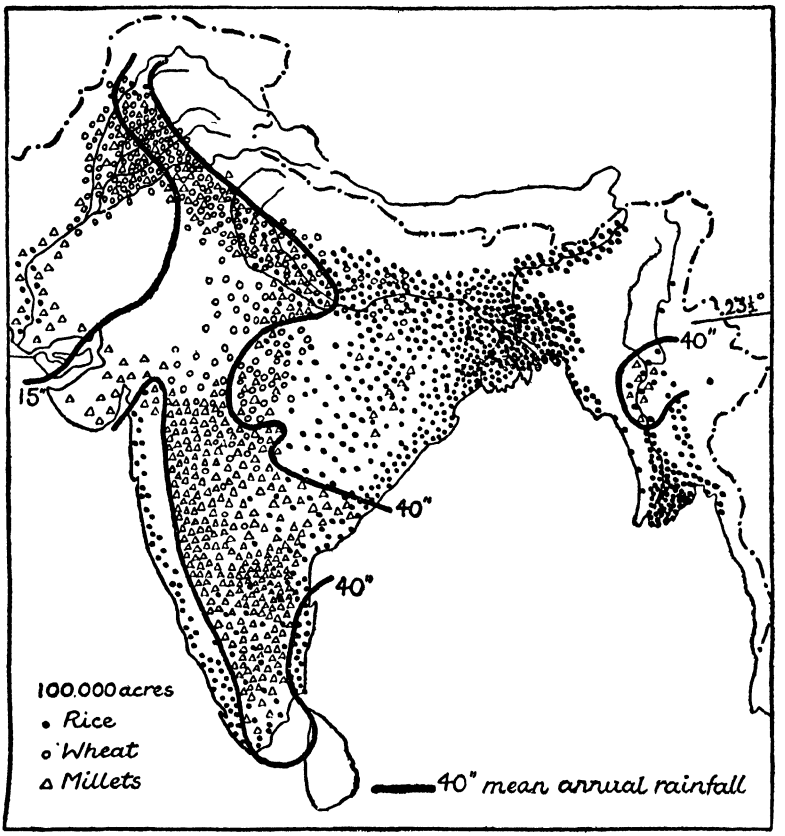


FIG. III.—India: Food-grains.

acres),[1] are the staple foodstuffs in areas which are too dry or unfertile for rice or wheat. Barley (6 million acres) is grown in the United Provinces and Bihar, oats in the Punjab and the United Provinces, and maize (5·5 million acres), which was introduced by the Portuguese from America, is cultivated in garden plots all over India. Such cereals, together with pulses (in particular the grams, which are sown over 14·6 million acres) and small quantities of supplementary vegetable and garden

[1] Jowar is the great millet, bajra the spiked millet, and ragi one of the smaller millets.

produce,[1] form the main diet of the rural population.[2] Quantities, large in absolute amount, but small in proportion to the total production, of rice and wheat, and minor quantities of the millets, are exported.

India is probably the home of the sugar cane, which is cultivated over a very wide area[3] (although a large quantity is also imported), and is consumed chiefly in a roughly prepared form known as "gur" or "jagri."

India also produces valuable condiments and spices, such as pepper, chillies, ginger, cardamons, betel-nuts, cinnamon, and cloves, and has valuable fodder crops, although the latter are insufficient to meet fully the needs of the country.

The raw materials of India include oilseeds,[4] the various fibres, forest and miscellaneous products.

Oilseeds (sown over 15 million acres) are cultivated all over India, the most important being sesame, linseed, castor-oil, ground-nut, mustard, and rape. They have always been cultivated in India, but their production increased immensely during the nineteenth century, and they now form one of the greatest exports. The oil is extracted and used in the dyeing and leather industries, in candle and soap-making, for paints, ointments and perfumery, for the manufacture of "wax-cloth" (a waterproof material), and for the production of ghi.[5] Vegetable oil used to be the main source of illumination in India, but has been to a great extent superseded by kerosene oil during the last forty or fifty years.

Of the fibres, cotton (sown over about 16 million acres) is far and away the most important. From the earliest times India has been famed for her hand-spun and hand-woven cotton goods, which have always formed the chief clothing of the people. Jute, which is the other great fibre of modern India (being sown, as a rule, over between 2 and 3 million acres), was hardly cultivated (except for local use) before the second quarter of the nineteenth century, but since then it has been grown and exported, either raw or manufactured, in rapidly increasing quantities. The cultivation and manufacture of silk became important in India during the seventeenth century, before which it was imported from China. By the end of the nineteenth century, however, the export of Indian

[1] Including various indigenous and foreign vegetables, wild herbs, and fruit, such as the mango, plantain, and coconut.

[2] The staple diet of each province was conveniently summarized in the *Famine Report of* 1880, Part II.

[3] *I.e.* usually about 2½ million acres.

[4] Vegetable oils are used partly for edible but mainly for industrial purposes in India.

[5] Ghi is properly butter clarified by melting. The ghi made from vegetable oil is manufactured chiefly for export, and until quite recently has not been consumed to any extent within the country.

silks and woven silk goods had again declined owing to the competition of the machine products of Europe and the Far East.

The principal plantation products are tea, coffee, indigo, rubber, and cinchona (quinine), but none of these are grown over a very large area (in comparison with the great staple crops), nor (except in the case of indigo) are they grown as part of the ordinary agricultural system, but form special crops mostly under European control.[1]

Tobacco is not a " plantation " crop in India, but is grown on small holdings in various parts of the country, being sown over about one million acres. While most is consumed locally, the export is considerable (*e.g.* 29 million lb. in 1926–27).

The opium-yielding poppy used to be widely cultivated both in certain districts of the United Provinces and Bihar (where the so-called " Bengal " opium was, and is, produced), and in certain Central Indian (Native) States (" malwa " opium), but the area under cultivation has been greatly reduced since 1907, when the Government made an agreement with China whereby opium exports to that country were to be annually diminished and eventually prohibited. The area under poppies in British India is now less than 200,000 acres, and this will be further reduced as a result of the Geneva Convention of 1923.[2] An unknown quantity is still produced in the Indian (Native) States.

The forests of India provide not only useful and valuable timbers, but a great variety of gums, resins, drugs, dyes, and tanning materials, which are manufactured both for the internal markets and for export.

For instance, lac—the resinous exudation of certain small insects—is utilized as a dye, for sealing-wax, and as a varnish.[3] Safflower and tumeric are also used as dyes.[4] Cutch, gambier, and myrobalans (the dried fruit of various trees) are the principal tanning agents. Catechu, or " pan supari," which consists of the betel-nut (the fruit of the areca-palm or " areca catechu ") in conjunction with the leaf of the betel vine, some lime, and clove or nutmeg, is an important product, which forms the universal masticatory of the East. It is said to be by no means useless from the dietetic point of view, as lime is deficient in the normal Indian diet.

[1] *V.* chap. xi, p. 285. [2] *V.* chap. xiv, p. 378.

[3] The bodies of the lac insects yield a rich red dye, and the resinous exudation formed round the larvæ is made into the " shellac " of commerce. Shellac is an important export.

[4] The export of safflower and lac dyes had become unimportant by the end of the nineteenth century, and al (from which a deep red dye had formerly been prepared) had almost completely disappeared from cultivation, owing to the competition of aniline dyes. Indigo has declined in importance for the same reason, *v.* chap. xi, p. 288.

The agricultural statistics of British India in the nineteenth century were not sufficiently complete and accurate to enable any quantitative estimates to be made of changes in total production and in the relative importance of crops.[1] Since 1900 crop estimates have improved, but are still far from reliable. Table II, p. 516, shows the recorded figures for 1900–1, 1913–14, 1921–22, 1924–25, 1925–26, and 1926–27, but it is difficult to draw conclusions as to the trend of development, owing to the dependence of the acreage sown each year, and of the yield of the crops, on the monsoon. The following facts can therefore be considered as only a very rough guide to the trend of development.[2]

Since 1900–1 the total area under cultivation has increased 14 per cent.,[3] whereas the area under irrigation has increased by 59 per cent. The area under fodder crops, gram, wheat, cotton, jute, and oilseeds has increased considerably more than in proportion to the increase in the area under cultivation; that under rice, tobacco, and sugar has increased in about the same proportion as the area under cultivation, whereas the area under ragi, bajra, maize, and barley has declined. The main conclusions are that the increased area under irrigation is indicative of a real improvement in methods, that the valuable commercial crops of wheat, cotton, and oilseeds have greatly increased, but that on the whole the type and extent of cultivation has changed but little since the beginning of the century.

The extent of agricultural development revealed by these figures, apart from the increase in irrigation, may appear somewhat disappointing and incommensurate with the great efforts that have been made by the Government to assist agriculture since the beginning of this century. A closer analysis of what has been achieved in particular directions, and in particular areas, as a result of governmental measures, and of what eventually may be achieved when the results of the experimental work of the Government have been more extensively adopted by the mass of the cultivators, reveals, however, a much more promising state of affairs, as will be seen in a subsequent chapter.[4]

The nature of the principal Indian soils must be noted when considering agricultural production. The Royal Commission on

[1] V. *Memorandum I, Quinquennial Report on Average Yield per acre of Principal Crops in India*, 1921–22, p. 1; and the *Report of the Indian Economic Enquiry Committee*, 1925, p. 16 *et seq.* Statistics of yield have been compiled since 1893, but do not permit accurate estimates of changes in yield.

[2] In 1900–1, 1913–14 and 1925–26 the monsoon was subnormal. In 1921–22 and 1924–25 it was good. In 1926–27 it was fair on the whole, but the harvests of wheat and cotton were very poor.

[3] It is true that the total area under survey increased still more, but for our purposes this can be ignored, as the additional areas surveyed were almost entirely uncultivated.

[4] *V.* chap. vii.

Agriculture in India[1] recognises four main types: (i) The alluvial or deltaic soils, characteristic of the Ganges and Indus deltas in particular, and in general of all the river courses and of almost the whole of the plains of Northern India. These are formed of a fine sediment carried down from the mountains by the great rivers, and are extremely fertile (except for a deficiency of nitrates), as well as being light and easily worked.[2] (ii) The famous "black-cotton" soil of the Deccan. Over more than 200,000 square miles in peninsular India the great lava outflows from former volcanoes hide entirely the rocks beneath. Denudation through countless ages has now carved these lava flows into the curiously shaped terraces and bare, flat-topped hills typical of the Deccan. The black-cotton soil is especially suited to the growth of the long-rooted, indigenous cotton plant, though it does not suit the shallow-rooted American cotton. In dry weather it cracks, letting the monsoon rain sink right in. The moisture is retained thus for months, and hence the soil has been said to plough and irrigate itself. Very little attention to growing crops is necessary, provided that suitable (long-rooted) varieties are chosen. (iii) The "red" soils of the crystalline tract, of moderate fertility, found chiefly in the Madras area. (iv) The laterite soils of the Western Deccan and adjoining plains, formed by decomposition due to the excessive tropical rainfall. These vary considerably in fertility.

There are two chief sowing, and two chief harvesting seasons in India. "Kharif" crops, including the millets, certain pulses, early ripening rice, dyes (such as indigo and safflower), and some types of cotton and hemp, are sown at the beginning of the monsoon and harvested in the autumn. "Rabi" crops, including wheat, barley, certain pulses, some of the millets, late ripening rice, opium, tobacco, oilseeds, and some varieties of cotton, are sown at the end of the monsoon and harvested in the spring. During the two hottest months (May and June, until the rains break) the land is rested. In fertile areas in which the water supply is abundant two or even more crops may be gathered off the same land in the course of the year. Frequently a kharif and a rabi crop will be obtained off the same land; in certain slightly less favoured districts three crops will be obtained in two years (for instance, a rabi crop followed by a kharif crop, then another rabi crop, but then a few months' rest until it is time for another rabi sowing); in other districts a kharif and rabi crop may be obtained in alternate years; on very poor land a rabi crop may never be

[1] *V.* Abridged Report, p. 9.

[2] It may be said of Indian soils in general that humus (organic matter) and nitrogen tend to be deficient, but that lime, potash, and phosphoric acid are usually present in suitable quantities (*v.* J. A. Voelcker, *Improvement of Indian Agriculture*, chap. v).

obtained, but a kharif crop will be taken for two or three years running, and then for one year the ground will be left fallow. All kinds of rotations and the greatest variety of methods may be discovered in different parts of the country. As a rule the simplest agricultural implements are used (except where modern tools have been deliberately introduced), and in many places the ryot may be found still using the primitive tools and the same methods that were used many centuries before the Christian era. Customs may vary as to women's work in agriculture; in some districts they undertake a number of agricultural operations, whilst in others they are strictly prohibited from taking any part at all.[1]

Since the introduction of improvements in transport, large areas specialize in the production of the staple food-crops—especially rice, wheat, and oilseeds—which are sold to the large towns and industrial areas and for export. Similarly, rural districts in the neighbourhood of urban areas now specialize in garden products, such as fruit and vegetables.

The live stock of India consists chiefly of oxen, buffaloes, asses, mules, goats, and sheep. Oxen and buffaloes are used for draught purposes, and mules and asses as pack animals. Animal products, of course, include articles of diet, such as flesh and milk, and the raw materials of various industries such as wool, hides, and horn. Both the oxen and sheep of India are lean, weakly creatures compared with improved European breeds, and the meat and pastoral products are, on the whole, poor. Muhammadans eat the flesh of the sheep, goat, cow, and fowls regularly, and the low-caste Hindu does not scruple to eat flesh, except that of the cow, although he cannot usually afford a meat diet. High-caste Hindus eat no flesh, not even fish or eggs. Most of the hill tribes eat whatever game they can catch, and most coastal and river tribes eat fish.[2] Milk, curds, and ghi (clarified butter) are commonly consumed.

The hides and horns of the cattle are of course used for many purposes, but only the lowest castes—or rather the out-castes—prepare or deal in hides, skins, and leather. Some tanning is carried on in India, but many of the hides and skins are exported in the raw condition. This export is greatly augmented in bad years, when a scarcity of food and fodder means the death of a great number of cattle.

Most Indian sheep have hair, not proper wool, and it is only the hill sheep that have wool suitable for combing. The coarse, short-stapled wool is carded and made into coarse blankets, rugs,

[1] *V.* chap. iii, § 2, p. 58.

[2] The sea fisheries of India, although potentially rich, have not yet been scientifically exploited. *V.* chap. vii, p. 176.

carpets, and "numdahs" (felt),[1] and a considerable quantity of finer wool is actually imported to be manufactured in the Cawnpore woollen mills.

§ 3. MINERAL WEALTH AND POWER RESOURCES

India has a vast store and a great variety of mineral products. "The high quality of the native-made iron, the early anticipation of the processes now employed in Europe for the manufacture of high-class steels, and the artistic products in copper and brass gave India at one time a prominent position in the metallurgical world, while as a chief source of nitre she held a position of peculiar political importance until, less than forty years ago, the chemical manufacturer of Europe found among his by-products cheaper and more effective compounds for the manufacture of explosives."[2] India used to be famed for her mineral products, and still has great potentialities in that direction, but after the coming of the industrial revolution in England, and the flooding of the Indian markets with the cheaper European products, there was a period during which the old artistic metal industries decayed. The production of alum, alkalines, blue vitriol, and copperas, and the export of borax from Kashmir and Tibet, practically came to an end. The production of copper, lead, iron and steel,[3] and other metalliferous minerals and metals was also either completely stopped or drastically curtailed. At the end of the nineteenth century India's mineral production was at its lowest ebb, the old-fashioned indigenous industries having to a great extent died out, whilst modern, large-scale production had hardly begun. Since then, however, the commercial production, by modern methods, of a number of important minerals, has been introduced.

At the present day the chief mineral products of India proper are coal, manganese ore, gold, salt, iron ore, mica, saltpetre, and monazite, whilst Burma produces petroleum, lead, silver, copper, zinc, wolfram, and rubies.[4]

One of the outstanding contrasts between the course of industrialization in India and in the West is that in India the large-scale production of coal and iron has followed large-scale textile production and transport development, instead of preceding it. In England, for instance, the first rails were laid in

[1] These cheap coarse woollens, together with padded cotton garments, form the chief winter clothing of the inhabitants of Northern India.

[2] *The Mineral Resources of India*, Report by T. H. Holland, 1908.

[3] Iron deposits are scattered throughout India, and iron and steel production was at one time the most widespread and important mineral industry of the country.

[4] *V.* Tables III and IV, pp. 518, 519 and Figure IV, facing p. 24. For an excellent survey of recent developments in mineral production in India, *v.* F. C. Brown, *India's Mineral Wealth*, 1923.

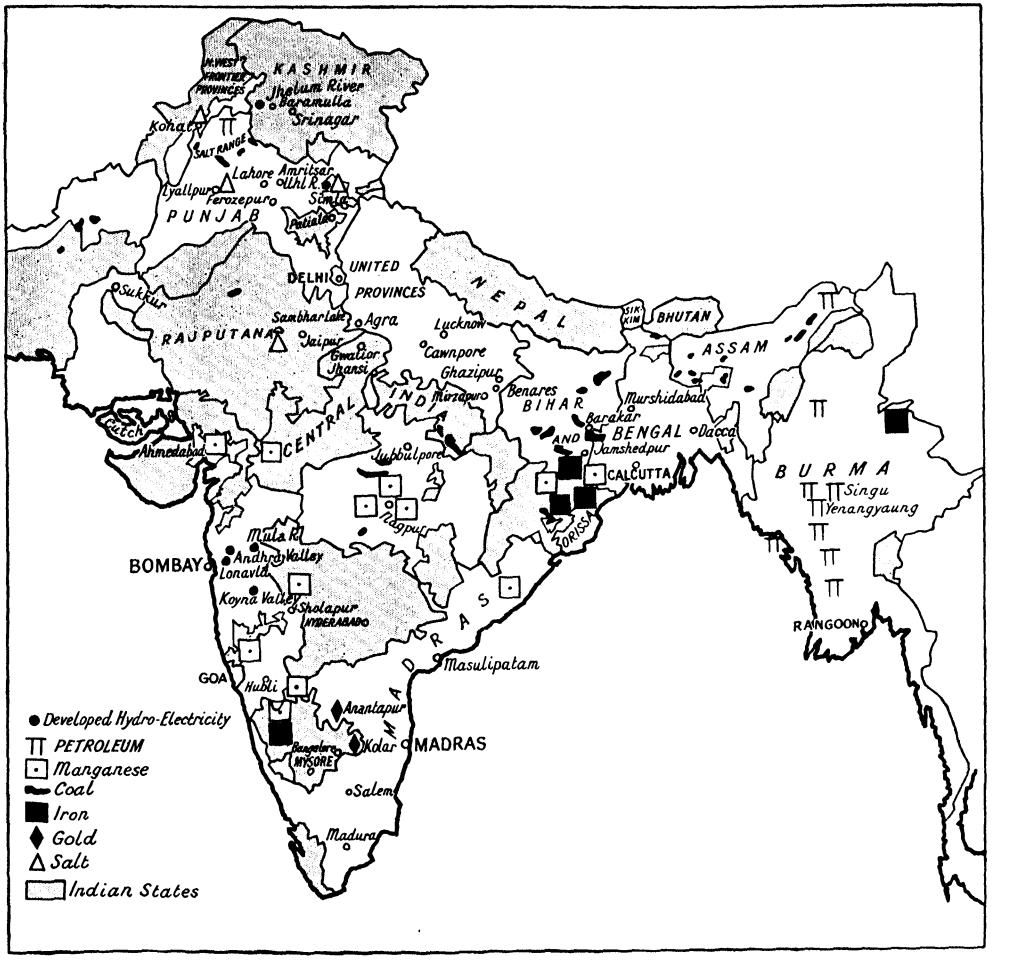


FIG. IV.—India : Minerals and Power.

To face p. 24.

order to facilitate coal transport, whereas in India the mining of coal on a large scale did not begin until the opening of the first portion of the East Indian Railway (in 1854) made the eastern portion of the great coal area of India accessible.[1]

Unfortunately the bulk of the Indian coal is concentrated in one enormous series of deposits, known as the "Gondwana system." This stretches east and west right across Bengal, Bihar and Orissa, Central India and the Central Provinces. The most easterly fields were opened up first; namely, the "Raniganj" district which began to be exploited in the middle of the nineteenth century, the Jherria in the nineties, and so on towards the west. A little coal is produced in Hyderabad, and there are unexploited deposits in Burma, Assam, the Punjab, and Baluchistan.

Coal is not used in India for domestic consumption, nor has it ever been used in connection with the indigenous industries. Little was known as to the extent of India's coal resources until a survey was undertaken and the results published in 1867.[2] At that date the deepest pit in India was only 75 yards, and most of the mining was done in mere quarries or surface workings, even in Raniganj. From this time forward, owing mainly to the demands of the railways of Eastern India, the production of coal went steadily forward, despite its inferiority in comparison with English coal.[3]

During the latter part of the nineteenth century the output of Indian coal tended to increase more rapidly than the import of coal, and in Bengal, owing to its much lower price,[4] it obtained a practical monopoly. It also made great headway in Burma, Ceylon, Java, and the Straits Settlements.[5] Coal-mining was, however, still of little importance as an occupation, not more than 35,000 persons being so employed in India in 1891–92.

Since then rapid progress has been made, until at the present day over 20 million tons are annually produced, and nearly 200,000 persons are employed.

Petroleum is found in two arcs of folded rocks at either end

[1] Surface workings were carried on in the Raniganj field as early as 1820. The East Indian Railway Company, being situated near the Gondwana Coal system, determined to try and produce its own coal, and thus opened up the Raniganj field.

[2] *The Coal Resources and Production of India*, by Thomas Oldham, 1867.

[3] *V.* Table IV, p. 519. The percentage of fixed carbon is seldom more than 60 per cent., and on an average about 52 per cent., as compared with an average of 68 per cent. in England, and the quantity of ash averages between 10 and 30 per cent. in India, as compared with 2·7 per cent. in England. It was calculated that the Indian railways had to use 150 tons of Indian coal per mile, as compared with only 75 tons of imported coal. Unfortunately, English and Indian coal do not burn well together, so that they cannot be mixed.

[4] In 1891–92 the local average selling price was Rs. 3·4 per ton, as compared with Rs. 16·98 for imported coal (*Moral and Material Progress of India*, 1891–92, p. 308).

[5] *Ibid.*, p. 308.

of the Himalayas, *i.e.* in the Punjab and Baluchistan to the west,[1] and in Assam and Burma to the east.

The Burma deposits had been worked on a small scale by indigenous methods for about 150 years, but modern large-scale production began after the establishment of the Burmah Oil Company in 1886.[2] All over India petroleum is burnt in lamps and stoves and, with the increasing use of motor transport, the demand for petrol has expanded rapidly. Although the production of petroleum has risen so greatly since the beginning of this century, the consumption of kerosene, petrol, and other petroleum products has risen even more rapidly, and increasing quantities are imported annually, especially from the United States.[3] Small quantities only of Burmese petroleum (mainly in the form of benzine and paraffin wax) are exported to overseas markets.

Salt is obtained in India from four main sources, in addition to imports. Rock salt is obtained from the Salt Range and Kohat mines of the Punjab, and brine salt from the Sambhar Lake in Rajputana, the Rann of Cutch and the sea salt factories in Bombay, Madras, and at the mouth of the Indus. In Bengal evaporation cannot be successfully carried out (owing to the damp climate and the large volume of fresh water from the Ganges and Brahmaputra) and salt is imported. About one-half of the salt produced in India is manufactured by Government agency, and the remainder under licence. Imports usually represent about one-fourth of the total consumption. Salt, whether produced in India or imported, is subject to a duty, which forms an important item of revenue.

Gold was worked of old in India, but the Mysore works had fallen into disuse before modern times. Large-scale operations were started under European auspices and management in the Kolar gold-fields (Mysore) in 1880, and had become firmly established on a sound footing by 1885. In 1900 the production, mainly from the Kolar gold-fields, was 513,000 ounces, valued at Rs. 2,84 lakhs.[4] Early in this century the Hutli mine in Hyderabad was opened, and the introduction of electricity into the Kolar gold-fields in 1903 greatly improved the methods of production, and has proved to be the forerunner of the much more important developments in the sphere of hydro-electricity which have

[1] This district is still entirely undeveloped.

[2] The chief sources of production in India are now the Yenangyaung, Singu, and about seven other smaller fields in Burma, which are worked by the Burmah Oil Company and a number of other smaller concerns. The Assam Oil Company was formed in 1899, but has only a small output. The production of petroleum (for India as a whole) rose from 15 million gallons in 1896 to 280 millions in 1925.

[3] Burma supplies almost the whole of the petrol consumed in India, but larger quantities of mineral oil as a whole are now imported than are obtained from Burma. *V.* chap. x, p. 241.

[4] *V.* p. xii, above.

taken place in Western India.[1] Nevertheless, there has been no increase in the production of gold, which in 1926 amounted to 384,000 ounces.

Iron-mining has necessarily been dependent upon the iron-smelting industry in India. Until the nineteenth century charcoal was utilized in the primitive forges scattered throughout the country, but during the course of that century cheap imported iron and steel goods practically stamped out the indigenous industry. Attempts were made from time to time—notably by Josiah Heath in Salem in the thirties, and in Suri and the Narbada Valley in the late fifties and sixties—to establish large-scale works on the European model. The growing scarcity of timber for charcoal in the immediate neighbourhood of the smelting-works prevented the success of these attempts. It was the utilization of surface deposits of iron ore near the Raniganj coalfield that led eventually to the establishment, by Government enterprise, of the successful Barakar Iron Works in 1875, in which coal was utilized for smelting purposes. These works were taken over by the newly founded Bengal Iron and Steel Company in 1889.[2] In the twentieth century rich deposits were discovered in Orissa, and the establishment of the Tata Iron and Steel Company in 1907 led to far-reaching developments.[3] Hence the production of iron ore increased from only some 50,000 tons in 1900 to over 1,500,000 tons at the present day.

The production of manganese, practically the whole of which was, and is still, exported, began in 1892 in Vizagapatam, and increased rapidly after the opening up of the high-grade deposits of the Central Provinces at the end of the century. Exports rose from 92,000 tons in 1900 to no less than 902,291 tons in 1907, at which date India was the first among the world's producers of manganese. Subsequently production declined, and the pre-war average was 712,797 tons. During the war a new demand sprang up in connection with the increased production of ferro-manganese, and three companies now manufacture the latter in India itself, but usually nearly 80 per cent. of the total production of manganese (which in 1926 amounted to over one million tons) is still exported. Some 20,000 persons are employed in the industry.

At the end of the nineteenth century mica was produced and exported in a crude form from Bihar and the Vellore district of Madras. Production doubled during the decade ending 1911–12

[1] The Cauvery Falls were utilized for the generation of hydro-electricity, and the installation not only serves the Kolar gold-fields, but also provides Bangalore with electricity for lighting and industrial purposes. (*V. Indian Year Book*, 1920, p. 323.)

[2] For an account of the attempt to produce iron according to modern methods in the nineteenth century *v.* M. G. Ranade, *Essays on Indian Economics*, chap. vi.

[3] *V.* chap. x, p. 242 *et seq.*

(rising from 16,000 to 33,000 cwt.), development being especially rapid after the invention of "micanite" and the consequent increasing industrial consumption of mica in Europe, after about 1905.[1] At this time India produced more than half of the total world's supply, but since then Brazil has become a formidable competitor. Nevertheless the production of Indian mica increased to 42,000 cwts. in 1926–27. The internal consumption is still almost negligible, and most of the mica is still exported before manufacture. There appears, however, to be no reason why it should not be prepared for the market in India.

The commercial production of minerals (apart from petroleum) in Burma has attained important dimensions chiefly since the outbreak of war. Lead and silver[2] are produced in rapidly increasing quantities in the Shan States. Zinc and copper have assumed a position of importance only during the last six or seven years.

Monazite deposits were discovered in Travancore in 1908–9, and were exploited at first by a German firm which shipped the concentrates to Hamburg. Monazite contains thorium nitrate (used in the manufacture of incandescent gas mantles) and various rare earths, such as ceria. Other deposits were subsequently found in the Tinnevelly district of Madras, near Vizagapatam, and in Cochin State. Production rose from 1,200 tons in 1913 to 2,117 tons in 1918, but has recently declined, and amounted to only some 64 tons in 1926.

The preparation of magnesite, which is at present produced chiefly near Salem (Madras), for use as a refractory material and for the manufacture of cement, flooring, tiles, bricks for furnace linings, and epsom salts, is still very limited, but might be considerably extended. Until recently magnesite was almost entirely exported in the crude condition, but now twice as much calcined as crude magnesite is exported.[3] The chief difficulty is that although magnesite is cheap, sulphuric acid, with which it has to be treated, is dear in India. The progress of many of the metallurgical industries is, naturally, closely connected with that of the chemical industries.

These are the chief mineral industries that have so far been developed on a commercial scale in India. In view of the valuable deposits both on the mainland and in Burma which have not yet been adequately exploited, it is clear that nothing like full use has been made even of the known resources. The very striking

[1] Mica is split up and re-cemented together with shellac, and then steamed, rolled, and trimmed. The resulting "micanite" is used as an insulator or for the manufacture of condenser plates, funnels, etc. (*V.* C. W. E. Cotton, *Handbook of Commercial Information for India*, p. 310.)

[2] Some silver is produced in Mysore.

[3] *V.* C. W. E. Cotton, *op. cit.*, p. 247.

increase in the demand for minerals and mineral products [1] which began in India during the first decade of this century has, so far, only been partly met by increased production within the country.[2] Imports have supplied the deficiency. On the other hand, manganese, mica, and magnesite are produced mainly for export, and are consumed only in negligible quantities within the country. Yet considerable progress has been made since the beginning of the century,[3] as whereas in the nineteenth century the tendency was for Indian products to be undercut by competing imports, since 1900 modern methods of production have been adopted in India, notably in the iron and steel, coal and manganese industries.

India's principal power resources are coal, petroleum and hydro-electricity.[4] As India's coal supply is concentrated in one great series of deposits, and the bulk of her petroleum is produced in Burma, it is clear that the expense of transporting coal and oil to areas such as Bombay and Madras must have been a heavy burden on all large-scale industries which depend on the extensive use of machinery and power. Only in the case of the Bengal jute and of the Bihar iron and steel industries is there a plentiful natural local supply of suitable power, *i.e.* coal.

In the Bombay Presidency the cotton and other large-scale industries originally depended upon coal, which was imported from Europe (and later Africa) as well as from Calcutta. Later oil from Burma, Russia, and the United States was introduced. Oil is now used by many industrial concerns in Bombay City, by certain sections of the North-Western and Great Indian Peninsula Railways, and is the chief source of power in the Madras Presidency and, in fact, in South India as a whole. There is also increasing competition at the chief ports between oil and coal for bunkering purposes. Even so, fuel for the generation of power (except

[1] Especially for coal, mineral oil, and the precious metals.

[2] The number of mining concessions granted under the new Mining Rules promulgated in 1899 rose from 60 in that year to no less than 400 in the first nine months of 1907, in addition to the concessions granted in the Indian (Native) States and in the permanently settled zamindari districts of British India. In practically all the Indian States all mineral rights are vested in the rulers, and "concessions are granted for mining and prospecting under rules that involve a certain amount of supervision by the Government of India." In some parts of India (*i.e.* in the permanently settled zamindari districts) mineral rights were included with surface rights by the terms of settlement, but elsewhere in British India the Government possesses all mineral rights and grants concessions for mineral exploitations in accordance with the Rules as laid down in 1899. (V. *The Mineral Resources of India*, 1908, pp. 71, 73.)

[3] Especially since the publication in 1908 of the results of the survey of India's mineral resources; v. *The Mineral Resources of India*, 1908. India's main mineral defect is the absence of phosphatic deposits of any value.

[4] *V.* Figure IV, facing p. 24. Unfortunately, as in most "old" countries, India's timber supply is insufficient even for domestic purposes in the more densely populated areas, and cannot be utilized at all for the generation of industrial power.

in the immediate neighbourhood of the indigenous supplies) has necessarily been expensive in India.

The possibility of utilizing water power for the generation of electricity has recently opened up the vista of a new source of cheap and efficient power which may, in time, revolutionize large-scale industrial production. The use of hydro-electricity in the Mysore gold-fields [1] paved the way for those hydro-electric schemes on the west coast which have recently become of first-rate importance to industry in the Bombay Presidency, and for others in the north-west and in the south which are still in the experimental stage.

The use of the heavy monsoon rainfall of the Western Ghats for the generation of electricity was one of Mr. Jamshetji Tata's favourite projects.[2] Although he did not live to see the completion of his designs—he died in 1903—he succeeded in preparing the ground for all his three great projects, *i.e.* the foundation of a great iron and steel company, the utilization of the water of the Western Ghats for the generation of power, and the foundation of a great scientific institute.[3]

A concession and licence for the supply of electricity to Bombay was obtained in 1907 by two of Mr. Jamshetji Tata's sons, and in 1910 the Tata Hydro-Electric Power Supply Company, Ltd., was founded to acquire and work this licence, with a capital of Rs. 1·75 crores. The original scheme consisted of the building of three dams for water storage—the Lonavla, Walwhan, and Shirawta—and the construction of hydro-electric engineering works at Lonavla (above the Bhor Ghat) [4] and near Karjat, below Khandala, at the foot of the Ghats. The Ghats rise precipitously on the west to over 2,000 feet, and, catching the monsoon at its wettest, receive an annual rainfall of something between 100 and 200 inches, most of which is normally allowed to run to waste. The idea was to catch and store this water and use it at the foot of the Ghats for the generating of electricity to be utilized in Bombay City and the environments. The water is stored in the three lakes, conducted in masonry canals to the reservoir at Lonavla, and thence conveyed in pipes by a fall of 1,725 feet to the power-house at Khopoli. In falling from this height the water develops a pressure of 750 lbs. per square inch and with this force drives the turbine or water wheels.

Even before the construction of these works had been completed Messrs. Tata had received applications for the supply of power for cotton mills sufficient to dispose of all the power that

[1] *V.* p. 26, above.

[2] The scheme is said to have been a product of the fertile brain of Mr. David Gostling, who pressed it on the attention of Mr. J. Tata.

[3] *I.e.* the Indian Institute of Science at Bangalore.

[4] *V.* Figure IV, facing p. 24.

they would be able to generate.[1] The works were commenced in 1911, but were not opened until 1915, at which date electricity was supplied to cotton and flour mills and to the Bombay Electric Tramways Company Ltd.[2]

The Lonavla Tata Hydro-electric Works met with such immediate success that extensions were quickly planned. The Andhra Valley Power Supply Company was formed in August 1916, with an initial capital of Rs. 2·10 crores. It was founded as a separate company, but was run in close financial connection with the Tata Hydro-Electric Power Supply Company. The Andhra Company was designed to supply the town and island of Bombay and the suburban areas of Bandra and Kurla, and started supplying electricity in 1922. In 1919 a third company, the Tata Power Company Ltd., was formed to carry out the so-called "Nila-Mula" scheme, with a capital of no less than Rs. 9 crores. The scheme is to be carried out in two parts, the first of which has recently been completed, and the whole of which is estimated to be capable of generating 150,000 horse-power. Tata Sons, Ltd., is managing agent for all three companies and now has yet another scheme on hand—the Koyna Valley project (100 miles south of the Nila-Mula project). This is designed partly to supply power to Bombay and partly to develop a great assembly of electro-chemical and metallurgical industries near the power installation,[3] but is still only in the preliminary stages. It has a capital of Rs. 8·1 crores and is projected to generate 350,000 horse-power.

Hydro-electric works have also been projected in other parts of India. Two new schemes have been suggested in Mysore, one in connection with the River Shimsha, and the other called the "Mekadatu project," but work has not yet begun.

In Kashmir the River Jhelum has already been utilized for the generation of electricity and the works supply both Baramulla and Srinagar. The installation, which was promoted by the Kashmir Durbar, is capable of generating 20,000 units of electrical horse-power, and is used for lighting purposes and for the State silk factory in Srinagar.[4]

Before the Reforms hydro-electric work, such as the Imperial

[1] The original scheme for the generation of 30,000 electrical horse-power by a company with a capital of Rs. 1·75 crores was consequently increased to one designed to generate 40,000 horse-power, with a capital of Rs. 3·00 crores.

[2] It was calculated at that time that the Bombay cotton mills alone required some 100,000 horse-power, and that the potential demand of the city was not less than 160,000 horse-power. (*Indian Year Book*, 1920, p. 322.)

[3] The scheme includes plans for the utilization of electrical power for the manufacture of aluminium from bauxite, for which Tata Sons holds concessions at Belgaum and in the Central Provinces.

[4] V. *Industrial Commission*, p. 67, and *Indian Year Book*, 1920, p. 323.

Survey of 1918, was undertaken by the Central Government, but under the Reforms it became a provincial subject.

The first work of the kind to be undertaken by a provincial Government was a scheme in the Punjab. The preliminary work has been completed, construction has begun, and one section has recently been opened. The site of the works is in Mandi State, on the banks of the River Uhl, which is a snow-fed tributary of the River Bees. The scheme is to be promoted in three stages. At the first stage (which should be completed in 1929) power will be supplied to some twenty towns in the Punjab, extending from Gurdaspur to Lyallpur and Ferozepore, at an average price of about 9 pies a unit.[1] At the second stage the transmission system will be extended to supply "Simla, Ambala and Patiala in the east and also Gujranwala, Sialkot and possibly Montgomery and Fazilka in the west." At the third stage the transmission system will be extended to supply "Saharanpur, Meerut, Delhi and also the districts of Karnal, Paniput and possibly Rohtah as well. The whole scheme when thus extended will be able to deliver power to over forty-seven towns, extending from Delhi and Rohtah in the south to Sialkot and Lyallpur in the north, at an average cost of Rs. 95 per kilowatt year, which is equivalent to 5 pies a unit." [2]

This scheme should do far more than provide industrial power and light for the towns of the Punjab. It is intended to assist agriculture in a number of ways; it will be used to work pumps that will, on the one hand, prevent water-logging on irrigated land and, on the other, raise water to the required level for irrigation purposes. It should also improve health, both by providing a good and non-heating light, and fans, and by helping to drain malarious pools, etc. Moreover, the fruit and tea districts and the mineral deposits (silver, lead, iron, and copper) of the hilly areas should be made accessible and thus enabled to develop.[3]

Preliminary investigations have also been undertaken for hydro-electric works in the tea districts of Kalimpang and Kurseang in the north, and in the Nilgiris in the south, and also in Hyderabad State.[4]

Electricity is now used by at least 50 per cent. of the cotton mills and other large industrial concerns in Bombay City, whilst some of the suburban railway lines have been, and others are shortly to be, electrified. Schemes of suburban railway electrification are under consideration in Madras and Calcutta, and in the

[1] *D.O.T. Report on the Conditions and Prospects of British Trade in India*, 1924–25, p. 123.
[2] *Ibid.*, p. 123. [3] V. *Times*, October 24, 1927, and November 3, 1927.
[4] V. *Indian Year Book*, 1927. A project for utilizing the water of the River Sutlej for the generation of electricity has, however, recently been indefinitely deferred for financial reasons.

former city an important scheme for the generation of hydro-electricity for general purposes has recently been surveyed.[1]

The competitive power of oil-fuel is a straightforward quetion that depends mainly on transport and storage facilities and charges, but that of the cost of hydro-electric power is more complicated.

The great difficulty in India is the high capital cost of hydro-electric projects, caused by the seasonal nature of the rainfall. Either the factories must shut during the hot weather, when the water supply fails, or very large sums have to be expended on the building of dams to retain the monsoon water during the dry season.[2] The latter plan is the less extravagant, but necessarily raises the cost of generating electricity. For certain industries, where the cost of fuel does not form a large proportion of the total expenses of manufacture, the cost is not excessive. In such cases electric current at not more than 0·5 anna per unit (*i.e.* 6 pies per unit) is said to be able to compete with steam.[3] But it has been pointed out that in many electro-metallurgical or electrolytic processes electric current must be much cheaper, as the products have to compete with similar products produced in North America or Scandinavia, where current can be generated from water power at from 0·05 to 0·1 anna per unit. At present electricity is being supplied in Bombay at about 0·5 anna per unit.[4] At the first stage of the Punjab project the price will be 0·75 anna, and at the final stage (many years ahead) 0·41 anna per unit. It thus appears as if India must necessarily be handicapped by high costs. There are, however, reasons for thinking that, under the best conditions and on a sufficiently large scale, electricity could be generated more cheaply.

In the first place, although the capital cost of hydro-electric works is much greater than that of steam-driven plant, the running costs are much less, and the total cost of running any installation is practically a fixed sum per annum, and does not depend upon the amount of electricity actually generated. Hence the cost per unit is in inverse proportion to the number of units generated and declines as the "load factor" rises towards the ideal limit.[5] It is therefore clear that the cost per unit will depend upon the extent to which, and the number of hours per day during which, full use is made of the installation. By increasing the continuity of consumption and increasing sales up to the point at which extra plant would have to be installed, cost per unit can be reduced. For instance, the introduction of the shift system into industry would tend to equalize the consumption of electricity throughout

[1] V. *Moral and Material Progress of India*, 1926–27, p. 169.
[2] *Munitions Handbook*, p. 10.
[3] *Ibid.*, p. 59.
[4] *Ibid.*
[5] *Ibid.*, p. 148.

he twenty-four hours and thereby reduce costs.[1] The Munitions Board calculated that under the best possible conditions electricity could perhaps be delivered at 0·1 per anna per unit in India.[2] So far the "best possible use" has not been attained. In Bombay it is difficult to judge how far the price charged is a "fair" price, as the Tata interests are all interconnected and form one big monopoly. Joint contracts and guarantees have been formed by the various hydro-electric companies, acting as a united whole, with the mills, tramways, and railways of Bombay. The price charged is, therefore, limited by the competition of coal and oil with electricity, there being no competition between the various hydro-electric companies.

Other important problems are those of the better distribution of industries consuming electricity and the co-ordination of hydro-electric installations with irrigation works. The Munitions Board concluded that electrical transmission can be effectively extended up to 250 miles.[3] In some countries this would be considered excessive, and in any case it is more economical to concentrate industrial production in certain definite centres in which facilities for production and transport can be brought to a high point of efficiency. Alternatively, long-distance transmission may be obviated by the construction of new power-using works, which would increase the demand and therefore improve the "load-factor." Irrigation can be effectively combined with the use of water for the generation of electricity, as passing the water through the turbines does not in any way render it unfit for irrigation purposes. The Munitions Board suggested that, before the construction of new hydro-electric work was undertaken, a whole series of inquiries should be made as to the projected industries, amount of power desired, suitable sites for the generation of power, transport and marketing facilities, and the price of competing coal.[4]

One other possible source of power may here be noted, *i.e.* liquid fuel in the form of alcohol. This source has not yet been exploited on a commercial scale, but it is held that fuel alcohol could be obtained in large quantities by the distillation of "mahua," which grows extensively in many forest areas. A special committee was appointed to inquire into the matter, and recommended that pure alcohol should be freed from the liability to pay excise duty. This recommendation was carried out in 1927.[5]

[1] If electro-chemical industries are to be established on a commercial basis, they will almost necessarily have to adopt the shift system and thus attain continuous working.

[2] V. *Munitions Handbook*, p. 151. [3] *Ibid.*, p. 15.

[4] *Ibid.*, p. 155.

[5] V. *Report of the Industrial Alcohol Committee*, 1920; *Indian Trade Journal*, September 22, 1927 ("The Manufacture of Industrial Alcohol in the Bombay Presidency"); *ibid.*, October 6, 1927; and B. G. Sapre, *Essentials of Indian Economics*, p. 249.

The conclusions are, first, that it will be necessary to take a very long view of India's needs in respect of power, and to prevent monopolization of power resources by private individuals who may adopt a policy of restriction of output and maintenance of prices. Secondly, Government control will be necessary, as it alone can insure that a long view will actually be taken. Thirdly, it appears that in a number of modern " scientific " industries power must be really cheap and the localization of industry, organization of the consumption of electricity, and establishment of a number of by-industries, must all be planned ahead and co-ordinated if success is to be attained. The need for the establishment of by-industries has invariably been emphasized by the Tata interests, as is shown by their plans at Jamshedpur and in connection with the Koyna river project.

§ 4. THE GEOGRAPHICAL DISTRIBUTION OF INDUSTRIES

From the earliest times India has produced locally the simple articles needed to clothe and house the population, and to provide them with tools and utensils. The village handicrafts are, therefore, scattered all over the country, and include the preparation of textile goods, wood, metal and ivory work, pottery, the preparation of any special products of the district, such as coir, indigo, etc., and work in connection with the ordinary agricultural products, such as the grinding of grain, rice-milling and sugar-pressing. In the past the demand of the mass of the population for industrial products has been extremely limited, so that there has been little or no scope for any rapid or considerable expansion of the industries which cater only for the local market. Even to-day the majority of Indian dwellings, in rural areas at least, deserve the title of " huts " rather than of " houses," and are built in the simplest way from mud, timber, bamboos, sticks, and palm-leaves, or anything else that comes handy, including, in Bombay, kerosene tins. The Indian ryot or other villager does not pay a rent for his dwelling; he builds it himself on any convenient spot out of any available material. Even the " comfortable " classes use practically no furniture. A rope bedstead, a rug, a lamp, a mirror and some metal cooking and storing utensils (of earthenware, copper or brass, and recently often of aluminium) form almost the whole of the domestic possessions even of the well-to-do villagers.

Besides the production of cheap, simple goods for local consumption, there has always been, since the earliest times, a certain amount of localized manufacture of specialities and luxuries for export and for consumption at the courts and larger urban centres.

Such manufacture included, until the second quarter of the nineteenth century, the production of a great variety of cotton piece-goods of superfine quality. Gold and silver ornaments and vessels, carved ebony and ivory articles, sandalwood boxes, silk piece-goods, and various artistically wrought metal goods, were also produced. These industries were conducted on a " commercial " scale, *i.e.* in a specialized way and for an extended market, but the same simple methods and tools were employed as in industries serving a purely village market. Many of these artistic and export industries underwent decay during the nineteenth century, owing to the destruction of the export trade in textiles together with the invasion of the Indian home-market by the cheap products of the European factories, and the loss of the custom of the Mogul and other luxurious courts.

Nevertheless, such industries are still carried on in large and small urban centres practically all over the country, with a tendency to cluster in the neighbourhood of plentiful sources of supply of the raw materials (whatever they may be) and of transport facilities. It is, therefore, extremely difficult to give any clear idea of their geographical distribution. On the other hand, the modern large-scale factory and plantation industries are mainly concentrated in one or two definite areas which can be clearly indicated.[1]

The Presidencies of Bengal and Bombay are the great commercial areas, within which industrial production is carried on for a comparatively large market; in the former (the seat of the jute industry) mainly for export, in the latter (which includes about 70 per cent. of India's cotton mills) mainly for the Indian market. Both Bombay City and Calcutta, as first-class ports and commercial centres, also possess a number of subsidiary industries, including silk and flour mills, tanneries, etc. Bengal and Bihar, on account of their coal and iron ore, are the centre of India's iron and steel and engineering industries. Cotton mills are found in a number of " up-country " towns in the Bombay Presidency, especially Ahmedabad and Sholapur, and also in Nagpur, Delhi, Cawnpore, and in the south.[2] On the other hand the Presidencies of Bengal and Bombay possess comparatively few artistic handicraftsmen.

Cawnpore possesses (in addition to cotton mills) woollen mills, leather, sugar and brush factories, chemical works, and Government ordnance, saddlery, and boot factories. Delhi (in addition to cotton mills) has flour and biscuit factories, and oil mills.

[1] *V.* Fig. IV, facing p. 24, and Fig. V, p. 261.

[2] In 1926–27 out of 306 cotton mills in India as a whole, 258 were in British India. Of these 176 were in the Bombay Presidency, 23 in Madras, 22 in the United Provinces, 13 in Bengal, and smaller numbers in the Central Provinces, Ajmer-Merwara, Delhi, the Punjab, and Burma. *V.* Table XIV, p. 530 *et seq.*

Government ordnance factories have also been established at Cossipore, Ishapore, Dumdum, Kirkee, and Jubbulpore.

Southern India, Burma, and the inland provinces of Northern India are famous for their artistic crafts, the chief centres being Delhi, Agra, Benares, Madura, Gwalior, Jaipur, Decca, Amritsar, Murshidabad, Masulipatam, Ahmedabad, and Srinagar.

Madras has up-to-date textile factories, and Rangoon is the centre for the preparation of rice, timber, and mineral oil for export. Bangalore is also an industrial centre.

Engineering works, mainly engaged on railway repair work, have been established at most large railway junctions, such as Lahore, Jamalpur, Jansi, Bombay, and Hubli.

The chief commercial, as contrasted with industrial, centres, apart from the five first-class ports (*i.e.* Calcutta, Bombay, Karachi, Rangoon, and Madras), are also mainly at railway junctions, and include Cawnpore, Delhi, Amritsar, Agra, Lahore, Benares, Lucknow, Mirzapur, Hyderabad (Deccan), and Jaipur.[1]

The plantation industries are of necessity highly localized, usually in otherwise sparsely populated areas.[2] The tea plantations are located in Bengal, Assam, and South India ; coffee and rubber in the south, rubber also in Burma, and indigo in Bihar, the United Provinces, and Madras.

Apart from the plantation industries, whose location depends mainly on physical factors, the position of most large-scale Indian industries has been determined primarily by transport facilities : *i.e.* they are all situated at either the great ports or railway junctions. The second determining factor has been proximity to raw materials—for instance in the case of the jute and cotton industries. Proximity to a source of industrial power has, so far, been only a secondary consideration.

The iron and steel industry, it is true, is situated near the coalfields, but the presence of rich iron ore is an equally important factor. As (or if) industrialization extends from the textiles to the " heavy " and chemical industries—a process that has only just begun—power must inevitably become an increasingly important item in the cost of production, and the new industries will have to be concentrated in the neighbourhood of coal, oil or hydro-electricity, if the cost of transporting fuel is not to be a heavy handicap.

[1] *V.* B. G. Sapre, *Essentials of Indian Economics*, p. 232 *et seq.*
[2] *V.* Figure V, p. 261.

CHAPTER III

POPULATION, SOCIAL ORGANIZATION, AND ECONOMIC DEVELOPMENT

§ 1. POPULATION AND VITAL STATISTICS, AND THE POPULATION PROBLEM, p. 38.

The growth and density of population in India—Evidence in favour of over-population—Rural and urban population—Vital statistics.

§ 2. SOCIAL ORGANIZATION AND ECONOMIC DEVELOPMENT, p. 46.

The religious basis of Indian social organization—The rigid social stratification—The development of and principles underlying the caste system—The economic results of the caste system; restricted choice of occupations and traditional methods of production; waste in the sphere of consumption; support of unproductive mendicants; purely ceremonial purification; excessive expenditure upon ceremonies—The Joint Hindu Family and its economic results—The marriage system, position of widows, lack of female education, Purdah system, and their economic results.

§ 3. THE OCCUPATIONAL DISTRIBUTION OF THE POPULATION, p. 59.

The census returns of occupations—Changes in the proportion of the population dependent upon agriculture and industry—Occupational changes between 1911 *and* 1921*—The employment of women—The increase in numbers employed in the "organized" industries at the expense of those employed in the unorganized industries.*

§ 1. POPULATION AND VITAL STATISTICS, AND THE POPULATION PROBLEM

It has been estimated that towards the end of the sixteenth century the total population of India amounted to approximately 100 millions,[1] but there is no means of tracing its subsequent increase until the first census was taken (in 1872). All authorities agree that a great increase took place between the beginning of the nineteenth century and the first (but incomplete) census of 1872, at which date 206·1 millions were enumerated.[2] This conclusion is supported by circumstantial evidence, such as the increase in the area under cultivation and the rise in the value of land, and is attributed mainly to the increase in total production, the introduction of a greater degree of "law and order,"

[1] *V.* W. H. Moreland, *India at the Death of Akbar*, p. 22.
[2] *V.* Table I, p. 515.

and the suppression of certain customs, such as "sati" [1] and infanticide. Since 1872 the population has increased at a rate which has fluctuated from decade to decade, up to a total of 318·9 millions in 1921.

At first sight the increase since 1872 appears extraordinarily rapid, but allowance has to be made both for considerable additions to the area included in the census returns and for a progressive improvement in the completeness and accuracy of the enumeration. When such allowance has been made, it appears that the real rate of increase has been 20·1 per cent. in 49 years, or an average of 4·1 per cent. per decade.[2] The decennial rate of increase has varied between 1·2 per cent. (1911 to 1921) and 9·6 per cent. (1881 to 1891). It is impossible to decide whether or no there is now a tendency for the rate of increase to decline progressively, but in any case the recent fall must be attributed mainly to the operation of "positive" checks—*i.e.* poverty, disease, misery, and vice. Prudential checks, such as deferring the age of marriage, limiting the size of the family and contraceptive practices, have not yet been adopted in India to an extent which effectively limits the rate of increase, except in so far as intervals between births are prolonged by continuation of suckling. In other words, India is still at that stage, through which most Western countries have recently passed, characterized by a high death- and a high birth-rate.[3] This stage is necessarily accompanied by terrible waste of life, and moral and economic misery. An analysis of the causes of the excessive fluctuations in the rate of increase (which are in striking contrast to the steady rate experienced recently in most Western countries) shows that they are due to a prevailing tendency towards a rapid rate of increase, checked from time to time by widespread calamities (due in particular to harvest failures and epidemic diseases). For instance, the abnormally slow increase between 1911 and 1921 is almost entirely accounted for by the mortality which accompanied the influenza scourge of 1918–19 which alone directly caused 12 to 14 million deaths.[4] The influence on the size of the population

[1] "Sati" (or "suttee") means the (voluntary) burning of a widow on her husband's funeral pyre.

[2] *V.* Table I, p. 515, and *Census Report*, 1921, vol. i, p. 7.

[3] *V.* Table V, p. 520, and p. 42 below.

[4] The severity of the epidemic was vividly brought home to us in Bombay by the unending procession of bullock-carts laden with wood which filed through the city to the great Hindu cemetery in the Queen's Road. The Hindus were literally unable to cremate rapidly enough the appalling number of their dead. At this time deaths from influenza in Bombay City averaged between 700 and 800 per day. It has been estimated that 125 millions contracted influenza in India in 1918 and 1919. Plague accounted for 33·6 million deaths in India between the years 1896 and 1921 (v. *Census Report*, 1921, vol. i, p. 350), and widespread famine caused the death of several millions during one season on several occasions during the late nineteenth century.

of the other main "positive" checks, *i.e.* misery and vice, is plainly seen in the high infant and maternal mortality rates, and in the ill-health (tending to increase the death-rate) and sterility due to the prevalence of venereal disease.

At the present day India contains about one-fifth of the population of the whole world, whilst the density of population in the large cities and also in extensive rural areas exceeds that of almost any other part of the world.[1] In the West it is usually held that agriculture by itself is not able to support a population of more than some 250 persons per square mile,[2] whereas in India large rural districts have an average density of over 600 persons per square mile. The fertility of certain Indian districts, for instance in the Ganges delta, makes it possible to support a denser population than in the West, but there is good reason to suppose that in many areas the "optimum" population has long since been surpassed. For instance, Mr. Sapre estimates that "under Indian conditions" an average of twenty to twenty-five acres of "dry" land and of five to seven acres of "wet" land suffices to support a family, but that if holdings were rearranged on this basis more than half of the existing population would be displaced![3] "Sufficient to support" cannot be accurately defined, but all authorities agree that in most rural areas the whole agricultural population cannot find profitable full-time employment on the land.[4] Few subsidiary employments exist in rural areas, and at present industry (whether in rural or urban districts) offers only a limited outlet for the unemployed or under-employed. The introduction of improved methods of cultivation (and of transport and marketing) would probably on the whole tend to decrease the demand for agricultural labour by eliminating some of the existing labour-wasting devices. What in that case would constitute the optimum population would depend on the extent of alternative productive occupations.

It has been argued that India is not over-populated, but could advantageously support an even larger population if the best known means of production, distribution, and consumption were adopted.[5] That an even larger population could be supported under such conditions is not denied, but this does not affect the question of what would be the optimum population. Under present conditions it is practically certain that a smaller total could produce more per head. In the past an increase in productivity, as far as can be judged, has almost always eventually resulted not in a permanent improvement in the standard of life, but in the maintenance of a larger population at the old, or at an

[1] *V.* chap. ii, p. 12. The chief exceptions are parts of China, Java, and Japan.
[2] *V.* B. G. Sapre, *Essentials of Indian Economics*, p. 126.
[3] *Ibid.*, p. 195.
[4] This accounts, to a great extent, for their alleged "wasteful, idle habits."
[5] *V.* S. Kesava Iyengar, *Studies in Indian Rural Economics*, p. 11.

only slightly improved, standard.[1] It is undeniable that, in spite of the great increase in total production of India during the nineteenth century, there was no marked improvement in the material well-being of the masses, which remained miserably low.

The assertion that in India the population tends to increase until it presses upon the means of subsistence is supported by what has happened in the canal colonies of the Punjab, where small numbers and great individual prosperity are already giving way to larger numbers and less individual prosperity.[2] Debt has increased correspondingly, and Mr. Darling concludes that "this can be no mere coincidence, and it may be prophesied that, if present conditions persist, the canal colony districts will eventually become as much indebted as any other part of the province."[3] Again, in speaking of the original inhabitants of the formerly arid tracts which are now the sites of the flourishing canal colonies, Mr. Darling points out that the rise in the standard of life which has resulted from the irrigation and colonization has been accompanied by an alarming increase in the cost and frequency of marriages. "Now, too, they marry at fourteen or fifteen instead of thirty to thirty-five. Marriages, therefore, are not only more expensive but twice as frequent."[4] Similarly, Mr. Baden-Powell has noted that a low land revenue assessment may be followed by an increase in population which neutralizes the potential increase in prosperity. "Nothing can be more curious than the result of a low assessment. In one large district, where a low assessment was secured for thirty years, the result has been not that a wealthy class has arisen, but simply that all restraint has vanished and the poor population has multiplied."[5]

The high density of population (especially in rural areas), the fact that a rapid increase in population has taken place in areas where prosperity has been rather suddenly increased, and the experience of other countries where high birth- and death-rates have usually been accompanied by a low standard of life, all tend to the conclusion that the population of India tends to increase at an uneconomic rate, and that the mass of the people would be better off if this tendency could be checked.

[1] This tendency for the population to increase as fast as total productivity appears to be at work in India amongst all types of workers, industrial as well as agricultural.

[2] M. L. Darling, *The Punjab Peasant in Prosperity and Debt*, pp. 253 and 287. Mr. Darling refers to the *Chenab Colony Settlement Report*, 1915, p. 35. In the Lyallpur Colony the population increased from 60,000 to over 1,100,000 between 1891 and 1911, and of the additional population over 500,000 were born in or near the colony.

[3] M. L. Darling, *op. cit.*, p. 253. [4] *Ibid.*, p. 145.

[5] Baden-Powell, *Land Systems of British India*, 1882, vol. i, p. 346, quoted by Darling, *op. cit.*, p. 249. It is interesting to notice that in some districts population is restricted by the custom that one brother only should marry, the rest remaining bachelors. *See also* R. L. Bhalla, *Economic Survey of Bairampur*, p. 42.

The percentage of the total population living in rural areas remains extremely high, although it decreased from 90·5 per cent. in 1891 to 89·8 per cent. in 1921.[1] The percentage of the population living in towns varies greatly from province to province, the highest being 23 per cent. in Bombay and the lowest 3 per cent. in Assam.[2] Increasing urbanization is not, however, taking place equally with reference to towns of all sizes. On the contrary, the cities[3] and largest towns have tended to increase in population at the expense of the medium-sized country towns with populations of from 5,000 to 20,000,[4] which are said to be gradually decaying.[5] The villages have maintained their relative position on the whole, the medium-sized towns have lost, and the largest towns have gained in population.[6] The latter fact can be accounted for by the expansion of trade and commerce in the largest ports and industrial centres, and by the expansion of the one or two large-scale organized industries, such as the cotton and jute industries. This is unfortunate, as the death-rate in large cities is exceptionally high, and general health exceptionally poor. Moreover, the low proportion of females to males in all the large cities engenders grave social evils and an unnatural mode of life. The housing in the large cities is deplorable, and drink, disease, and vice are rampant.[7]

Indian vital statistics are still far from accurate and complete.[8]

In rural areas the village headman is usually responsible for collecting the facts, which he passes on periodically "to some local authority, usually the police, by whom registers are maintained. Extracts from these registers are sent to the local authority who is responsible for the records of public health, by whom they are compiled for the district and so eventually for the province."[9] In municipal districts registration is compulsory by law, but, owing to carelessness, the urban records are hardly, if at all, more accurate than the rural.

[1] *V.* Table I, p. 515. The percentage living in urban areas temporarily fell in 1911, owing to the exodus from the towns in that year on account of a severe outbreak of plague.

[2] *Census Report*, 1921, vol. i, p. 65.

[3] For census purposes a city includes all towns of not less than 100,000 inhabitants, together with a few other large towns selected by the provincial Governments as being of sufficient importance to justify the detailed presentation of statistics prescribed for cities, whilst a town is any distinctively "urban" district with not less than 5,000 inhabitants. (V. *Census Report*, 1921, vol. i, pp. 63, 64.)

[4] This supports the view that the organized have increased at the expense of the unorganized industries. *V.* p. 64 below.

[5] *Census Report*, 1921, vol. i, p. 66.

[6] Whereas in 1901 there were thirty "cities" in India, with an aggregate population of 6·1 millions, *i.e.* 2·2 per cent. of the total population, in 1921 there were thirty-five "cities" with an aggregate population of 8·2 millions, *i.e.* 2·6 per cent. of the total population.

[7] *V.* B. G. Sapre, *Essentials of Indian Economics*, p. 122, and chap. iv, p. 86 below.

[8] V. *Census Report*, 1921, vol. i, pp. 12–15, and Table V, p. 521.

[9] *Ibid.*, p. 15.

Both the birth- and death-rates fluctuate considerably, and no normal progression can yet be discerned. The percentage of probable error is greater with regard to the birth- than to the death-rates, but is particularly great as regards the causes of mortality.[1] The registered birth-rate rose during the prosperous pre-war years, and fell after the terrible influenza epidemic and scarcity of 1918, rising once again as conditions improved.[2] In 1925 the registered birth-rate for British India was 33·6 per thousand as compared with 18·3 in England and Wales.

An analysis of the birth statistics shows that the large number of births in proportion to the population in India, in comparison with other countries, can be accounted for not so much by relatively high fecundity as by social factors, *i.e.* the practical universality of marriage[3] and of early marriage, and the absence of prudential restraint.[4] The only counteracting social factors are the prohibition of the remarriage of widows amongst the Hindus and the Jains, and the loose standard of sexual morality which leads to the prevalence of venereal diseases and hence in certain cases to sterility.

The registered death-rate fluctuates even more violently, but even at its lowest is more than double that of England and Wales.[5]

[1] For instance, in the Punjab it was calculated that there was a probable error of 11 per cent. for births and 5 per cent. for deaths (*Census Report*, 1921, p. 14). Many births (especially of females) and still-births still escape registration (*v.* note 2 to Table V, B, p. 521). For India as a whole it is probable that the errors in both birth- and death-rates are considerably greater.

[2] It should be noted that in India a famine or scarcity is immediately followed by a decrease, not by an increase, in the birth-rate. Eventually an increase supervenes.

[3] There are no records of the number of marriages, as marriage being a religious sacrament no secular registration is necessary. For the same reason the average age of marriage cannot be accurately determined.

[4] Mr. Wattal (*The Population Problem in India*, p. 7) points out that although the crude birth-rate (*i.e.* births per thousand of the population) was 38·59 for India and 24·4 for the United Kingdom in 1911, the birth-rate per thousand females of reproductive ages (15 to 45) in the same year was 128 in India and 98 in the United Kingdom, whilst the births per thousand married females of reproductive ages was only 160 for India and 196 for the United Kingdom. Hence he argues that, contrary to the usual belief, fertility—as opposed to rate of increase—is actually less in India than in the United Kingdom. The argument is, however, fallacious, owing to the much later marriage of females in the United Kingdom, which means that the latter give birth to all their children within a relatively short period. In other words, the difference in social customs and institutions vitiates a numerical comparison of this type. The part played by the prevalence of venereal disease in checking fertility in India must not be forgotten, although it is impossible to measure the degree of prevalence.

[5] Since 1901 the death-rate has varied between 24·02 in 1922 and 62·48 in 1918. The death-rate in England and Wales in 1927 was 12·3 per thousand. The loose way in which vital statistics are utilized by those who wish to prove the evil effects of British rule in India should be noticed. For instance, the death-rate for 1918 (*i.e.* 62·46 per thousand) has been quoted as if it were the normal rate to which the Indian death-rate had risen under British rule. To utilize the figures for one particular year in this way is absurd and misleading in a country which is subject to such extreme fluctuations.

It is usually much higher in towns than in rural districts, and in the principal Indian cities is extremely high.[1]

Were it not for immigration from rural areas the population of the large Indian towns would progressively decline. In striking contrast with the extremely high death-rates in certain cities, such as Benares and Poona (*i.e.* 46·1 and 34·4 respectively, in 1925), are the very low rates (12·3 and 11·6 respectively) in the cantonments of the same towns. This illustrates the effects of overcrowding, lack of sanitation, and poor feeding in poverty-stricken areas as compared with conditions in well-to-do, sanitary and spacious districts in the near neighbourhood, and is an indication of what might be achieved by public health improvements.[2] It is instructive to notice the relative death-rates within the so-called "classes"; *i.e.* Christians, Hindus, Muhammadans, Buddhists and "others."[3] The "others" (including the most primitive tribes) have the highest death-rate (38·4 in 1926). Next come the Hindus (26·9 in 1926) and the Muhammadans (26·3 in 1926), sometimes the one and sometimes the other class having the higher rate. The Buddhists have a distinctly lower death-rate (20·8 in 1926), whilst the Christians (most of whom are Indians) have usually the lowest of all (but in 1926 had a rate above the normal of 21·3).[4]

The seasonal death-rate is again of importance. For India as a whole the lowest death-rate occurs during the monsoon (June to August—lowest in July). In the winter months it rises normally to two peaks, in December and February respectively (the latter being the higher), and then declines as the weather warms up in March and April. In May it rises slightly and then declines in June to the low-water mark in July. Certain epidemic diseases—such as plague—become prevalent annually throughout the dry months, but almost cease during the really hot weather of April and May.[5]

[1] *E.g.* 27·5 per thousand in Bombay, 47·9 in Madras, and 32·7 in Calcutta, in 1925. (*V.* Table VA, p. 20) The death-rate in London in 1925 was 11·7 per thousand.

[2] Sanitary conditions are not, of course, the only factors at work. On the other hand, it seems probable that the Europeans in the cantonments are inherently more, rather than less, liable to climatic and the prevailing epidemic diseases.

[3] V. *Statistical Abstract*, 1925–26, p. 358.

[4] In many years the Christians have a very much lower death-rate than the Buddhists.

[5] The reasons for the seasonal changes in the death-rate are obscure. In the case of plague it has been suggested that in the colder weather articles of bedding and of clothing that have been in close contact with rats, which may have even nested amongst them, are again brought into use. An alternative or additional explanation is that the "blocked" flea, which by its regurgitation is the usual means of spreading infection, is apt to die in very hot, dry weather from starvation. Balfour and Scott (*Health Problems of the Empire*, p. 244) say that "when the flea sucks up blood containing plague bacilli these multiply in the blood-clot at the forepart of the stomach, with the result that both the gullet and the stomach

Infant and maternal mortality are both extremely high in India, although the direct statistical evidence is so incomplete and unreliable as to be almost worthless. Indirect evidence of the high maternal mortality is given by the exceptionally high death-rate of females between the ages of fifteen and twenty-five, and by the fact that (contrary to what occurs in Western countries) deaths amongst females exceed those amongst males for the age group ten to thirty. Medical authorities agree, however, that the recorded infant and maternal death-rates on the whole underestimate the actual mortality, which, if this be true, must be terrible indeed. In 1924 the recorded infant mortality rate for India as a whole was 189 per thousand registered births, as compared with 69 in England and Wales. In the same year the recorded infant mortality rate in Calcutta was 317, in Bombay 419,[1] in Madras 264, in Rangoon 353, and it was equally great in many other cities. In some cases the infant deaths registered actually exceeded the births![2] In other areas an increase in the infant mortality rate was almost hailed with delight as evidence of the greater accuracy of registration.

In view of the inadequacy of the statistics it is difficult to draw any conclusions as to tendencies. City life is peculiarly inimical to infants, but even in rural areas conditions are extremely bad for both mothers and infants, owing to the lack of assistance from either doctors or trained midwives, prejudicial social customs, and the malpractices (due to ignorance and superstition) of the daïs or elderly relatives who normally take charge on such occasions.[3]

On the other hand it is clear, even from the inadequate data at our disposal, that in certain cities there has been a remarkable improvement in these respects during the last few years. Bombay city, with its "registered" and "corrected" infant mortality rates, is an outstanding example. Since 1921 both the registered and corrected infant mortality rates show a remarkable decline, and there is also circumstantial evidence corroborating the conclusion that great headway has been made,

become blocked by the bacillary mass. This prevents access of food to the flea and hence the starving animal makes violent efforts to get more blood and regurgitates its æsophageal contents. . . . If the weather is dry such a blocked flea is very apt to die."

[1] *V.* Table V, p. 520. In Bombay, when allowance was made for the death of infants born elsewhere but brought into the city after birth, the figure was reduced to 275. In 1926 the infant mortality rate in London was 70 per thousand births.

[2] *E.g.* in Poona. V. *Annual Reports of the Public Health Commissioner with the Government of India.* This is accounted for partly by defective registration, partly by the death of infants brought into Poona after birth.

[3] *V.* Appendix A, "Indigenous Midwifery," p. 489.

chiefly owing to the spread of the infant and maternity welfare movements.[1]

The principal causes of death[2] are "fevers" (15·6 per thousand living, in 1926), respiratory diseases (1·6), dysentery and diarrhoea (1·0), plague (0·8), cholera (0·6), smallpox (0·5), and injuries (0·4). Together these accounted for more than 76 per cent. of the total deaths in 1926. A large number of these are communicable, and a considerable number epidemic, diseases.[3]

These figures prove that India has exceptionally high and exceptionally fluctuating birth- and death-rates, and is also exceptionally liable to epidemics of a peculiarly virulent nature, whilst at all times life in industrial centres is especially insecure, particularly for mothers and infants.

§ 2. SOCIAL ORGANIZATION AND ECONOMIC DEVELOPMENT

The fundamental economic importance in India of the size, density, and distribution of the population, and of the high birth- and death-rates, has been indicated above. An account must now be given of the social causes of the facts described, and of other important effects of prevailing customs and institutions on economic welfare.

The religious attitude, no matter what particular creed is involved, pervades every sphere of life in India, and tends (as it has invariably tended, in all ages and climes, when it has governed secular life) to engender rigid traditionalism and conservatism, and to present unreasoning opposition to every innovation, however enlightened and humane.[4] Religion excludes the economic motive, and replaces it by the ideas of custom and status. The difficulty of breaking down religious opposition to material (and social) progress is greatly accentuated in India, as compared with the West, by the actual content of prevailing religious beliefs and

[1] *V.* chap. iv, p. 88 *et seq.* below, and Appendix B, "Infant and Maternity Welfare in Bombay," p. 491.

[2] *V.* Table VA, p. 520.

[3] Note the big fluctuations in the deaths from cholera, plague, etc. In England and Wales the principal causes of death in 1926 were as follows:

Heart and circulation diseases	188	per thousand	deaths.
Bronchitis, pneumonia, and other respiratory diseases	150	,,	,, ,,
Cancer	117	,,	,, ,,
Diseases of the nervous system	103	,,	,, ,,
All forms of tuberculosis	82	,,	,, ,,

[4] It may be noted in passing that the aristocratic stratification of religious beliefs and practices is characteristic of India to-day as it was of the Middle Ages in Europe. The Brahmans, like the mediaeval priests, have their own beliefs, philosophy and way of life. They do not aim at proselytizing the masses, but at keeping them in a position of dependence, physical and intellectual. Could there be a greater contrast than between the philosophic, intellectual asceticism of the Brahmans and the thinly veiled animism of large sections of the people?

by the specific type of social organization to which those prevailing beliefs have given rise.

Many religions are represented in India, but Hinduism and Muhammadanism prevail,[1] and it is they—together with several sects closely allied to Hinduism[2]—which have given its peculiar characteristics to Indian social organization, and have led to the overwhelming emphasis upon the spiritual, and sometimes purely ceremonial, as opposed to the material side of life. The religious tenets and practices of Hinduism and Muhammadanism have strictly limited economic development in the past, and influence fundamentally future potentialities.

The most important and widespread characteristic of Indian society, which is based upon religion, and which limits economic (and other social) activities at every turn, is the peculiarly rigid social stratification which has arisen out of the Hindu caste system, but which has extended its sway far beyond Hinduism, so that it influences Muhammadans and the greater part of the members of most other religions in India. Let us, therefore, begin by inquiring what is meant by " caste," and how it has influenced Indian society in general, and economic life in particular.

A caste has been defined as " an endogamous group or collection of such groups bearing a common name and having the same traditional occupation," [3] the members of which " are so linked together by these and other ties, such as the tradition of a common origin and the possession of the same tutelary deity, and the same social status, ceremonial observances and family priests, that they regard themselves, and are regarded by others, as forming a single homogeneous community." [4] In the words of Professor Rapson the caste system " now divides the great majority of the inhabitants of Northern and Southern India into hundreds of self-contained groups, *i.e.* castes and sub-castes. A man is obliged to marry outside his family, but within the caste, and usually within the sub-caste, to which his family belongs. A family consists of

[1] Out of a total population of 318·9 millions in 1921, 217 millions (*i.e.* about three-quarters) were enumerated as Hindus, 69 millions as Muhammadans, 11·5 millions as Buddhists, 4·5 millions as Indian Christians (mainly in the south), 3·2 millions as Sikhs (Sikhism is a Protestant sect of Hinduism, mainly located in the Punjab, which does not accept Brahmanism and the caste system), 1·2 millions as Jains, 102,000 as Parsis (mainly located in the Bombay Presidency), and 9·8 millions as members of primitive and aboriginal religions.

[2] For instance, the Jains, Sikhs, and Buddhists, who are prohibited from eating flesh or taking life.

[3] The occupational basis of caste is not ubiquitous. In fact, it is usual to distinguish seven types of caste: (i) Tribal; (ii) Functional or occupational; (iii) Sectarian; (iv) National (*e.g.* the Marathas); (v) Castes formed by crossing; (vi) Castes formed by migration; (vii) Castes formed by changes in customs or occupations (*v.* B. G. Sapre, *Essentials of Indian Economics*, p. 133). Nevertheless even when castes are not based primarily on occupations, the members of a caste tend to follow the same, or the same types of occupation.

[4] *Census Report*, 1911, vol. i, p. 387.

persons reputed to be descended from a common ancestor, and between whom marriage is prohibited. It is the exogamous social unit. A collection of such units constitutes a sub-caste or caste." [1] "The cardinal principle which underlies this system of caste is the preservation of purity of descent, and purity of religious belief and ceremonial usage." [2] Between 1,000 and 2,000 different castes and sub-castes are recognized in India, and these can be arranged more or less in a scale of social precedence, each having its own status, its own rights and duties, and its own rules and ceremonials. "The first point to observe is the predominance throughout India of the influence of the traditional system of four original castes.[3] In every scheme of grouping the Brahman heads the lists, then come the castes whom popular opinion accepts as the modern representatives of the Kshatriyas; [4] and these are followed by the mercantile groups supposed to be akin to the Vais'yas. When we leave the higher circles of the twice-born, the difficulty of finding a uniform basis of classification becomes apparent. The ancient designation of Sudras finds no great favour in modern times. In Northern and North-Western India . . . the grade next below the twice-born rank is occupied by a number of castes from whose hands Brahmans and members of the higher castes will take water and certain kinds of sweetmeats. Below these again is rather an indeterminate group from whom water is taken by some of the higher castes, not by others. Further down, where the test of water no longer applies, the status of the caste depends upon the nature of its occupation and its habits in respect of diet. There are castes whose touch defiles the twice-born, but who do not commit the crowning enormity of eating beef. In Madras . . . the idea of ceremonial pollution by the proximity of an unclean caste has been developed with much elaboration. Thus the table of social precedence attached to the Cochin report shows that while a Nayar can pollute a man of a higher caste only by touching him, people of the Kammalan group, including masons, blacksmiths, carpenters and workers in leather, pollute at a distance of 24 ft., toddy-drawers at 30 ft., Pulayan or Cheruman cultivators at 48 ft., while in the case of the Paraiyan (Pariahs) who eat beef the range of pollution is no less than 64 ft." [5]

[1] *Cambridge History of India*, vol. i, p. 53.

[2] *Encyclopaedia Britannica*, vol. xiii, p. 502 (1921).

[3] *I.e.* the Brahmans, Kshatriyas, Vais'yas, and Sudras. The first three are the "twice-born."

[4] The warrior class.

[5] Quoted in *Encyclopaedia Britannica*, vol. xiii, p. 504, from H. H. Risley, *Census Report*, 1911. The Nayadis have a far greater range of pollution than any of these. Brahmans number about 14 millions, non-Brahmans (who are included as members of castes) 143·5 millions, and out-castes ("the depressed classes") about 60 millions, making in all 217 million Hindus.

The institution of caste is essentially Brahmanical, and has spread with the spread of Brahmanism.[1] It is idle to speculate about its origin. The familiar theories on this subject obviously have to be reconsidered in the light thrown upon the origin and early history of Indian civilization by the momentous discoveries at Mohenjo-Daro and Harappa,[2] and the arguments advanced by Mr. Pargiter[3] that the original Brahmans were non-Aryans. What, however, is certain and most significant for our purpose is that for centuries there was a political struggle for predominance between the priestly caste of the Brahmans and the military castes termed " Kshatriyas," complicated by a religious struggle between orthodox Hinduism as opposed to the Buddhist and Jain religious movements which deprecated caste exclusiveness ; and that this double struggle finally resulted in the subordination of the Kshatriyas, the expulsion of Buddhism from India proper, and the complete ascendancy of the Brahmans.

In the West a similar tendency towards the formation of rigid and more or less hereditary class distinctions appeared during the Middle Ages, but was counteracted by the facts that the priesthood was celibate and that secular eventually triumphed over religious authority. In India the hereditary character of the priesthood and the restrictions on the marriage and social intercourse of the Brahmans with other castes naturally proved an extremely strong factor on the side of caste. Hence, when Brahmanism emerged victorious from the two-fold struggle against Buddhism and the Kshatriyas, the caste system crystallized and religion remained the basis of Hindu organization in general.[4]

The caste system is based on two main principles, *i.e.* the doctrine of karma, and the religious unity of the family.

The doctrine of karma lays it down that a man is born into that position which he has earned in a former incarnation. If he has deserved much he is born a Brahman or a Kshatriya, if little he is born into a low caste, or becomes an out-caste. It follows from this doctrine that it is every man's duty to accept the status to which his birth entitles him, and that inequalities of rights and duties are not unjust. They are not due to the accident of birth, but are the result of each individual's own

[1] V. *Cambridge History of India*, vol. i, "Ancient India," p. 53. The literature on the subject of caste is, of course, extremely large, and here reference can only be made to the bibliographies in the *Cambridge History* and the *Imperial Gazetteer of India*, vol. ii, and to F. E. Pargiter, *Ancient Indian Historical Traditions*, 1922.

[2] V. *Illustrated London News*, September 20, 27, October 4, 1924, and January 7, 1928 ; and *Times*, February 26, 1926, and January 4 and 5, 1928.

[3] F. E. Pargiter, *Ancient Indian Historical Traditions*, 1922. *V.* chaps. xxv and xxvi, especially chap. xxvi, pp. 304–306.

[4] For other causes of this crystallization see the *Imperial Gazetteer of India*, vol. ii, pp. 341, 346.

actions in previous incarnations, and resignation is thereby inculcated.

The principle of the religious unity of the family is largely responsible for the emphasis laid on community (or group) feeling, as opposed to individualism, which contrasts strikingly with the teaching of Protestantism, with its stress on personal initiative and responsibility. It also accounts for the joint Hindu family system, many features of the marriage system, and the position of Hindu women, all of which—as will be seen [1]—have far-reaching economic results. The Hindu laws of inheritance, which are also based on this principle, affect fundamentally the distribution and size of holdings, and are partly responsible for the fragmentation of land.[2]

The caste system was not, as might have been expected, destroyed or even weakened by the Muhammadan invasions which started in the twelfth century. On the contrary it influenced Muhammadanism and other religious sects to such an extent that they themselves have tended to form exclusive classes, comparable in many ways with Hindu castes, and the resulting fabric of society has thus become far more resistant to external influences, and far more consistently conservative, than has been the case in any Western country.

It is difficult to account adequately for this phenomenon, but to my mind a solution is to be sought not so much in psychological and moral qualities of a racial character, as in definite historical events and the pervading religious and social circumstances which surrounded them.

The historical circumstances which have in India controlled contact with external influences, prevented the amalgamation of races, and led to group segregation and what may be termed the peculiar psychological attitude of "tolerant intolerance," [3] must therefore be carefully considered.

It has been said that "the root conditions of the progress of culture lie naturally in the physical and psychical qualities of man, in his social instincts, in his speech, his intellect, his sporting instinct, etc., but the driving force of progress is neither in the individual nor in the separate groups, but in group contact and group amalgamation. Thus selection by means of the struggles between groups provides that progress shall be diffused and become universal." [4] The same writer points out that change of environment is necessary to continued progress, and that such

[1] *V.* p. 52, below. [2] *V.* chap. v, p. 99.

[3] That is, most Indians are extremely rigid as regards the behaviour of members of their own caste or family, but lack the proselytizing spirit and are therefore indifferent towards the belief and actions of those who do not belong to their own group, so long as no attempt at intimate social contact is made.

[4] Dr. Müller-Lyer, *The History of Social Development*, p. 315.

change of environment is mainly obtained by means of migrations or contact between formerly widely separated peoples, and by means of " the amalgamation and reciprocal influence of groups." [1] It is, indeed, generally recognized that contact is one of the main causes of material development.

In very early times Indian contact by sea with neighbouring countries appears to have been relatively great, and we now know that in 3500 B.C. India—or at any rate part of India—was in the van of civilization.[2] The decline of the ancient civilizations of Asia Minor meant that in subsequent periods such contact as continued took place with relatively backward peoples, and consequently led rather to the diffusion of Indian civilization than to its modification.[3] Still more important was the fact that lack of internal communications and political insecurity prevented the internal diffusion of the effects of contact, even during the Muhammadan period.

The primary results of the early Muhammadan invasions and rule were to leave village life fundamentally unaffected and simply to increase the insecurity of life and property. Their social and economic effects were very slight. The rule of the Moguls had much more far-reaching results. With their great administrative gifts they succeeded in reorganizing a large part of India, guided by the ideal of a well-developed, powerful, centralized State. The wealth of the Mogul courts undoubtedly affected favourably certain portions of the Hindu population who were brought into close contact with the increasing foreign trade and with the production of articles in demand at Court and in the prosperous urban centres. But Mogul rule did not succeed in welding the population into a unified whole. On the contrary, the presence of these foreign rulers rather caused the Hindus to tighten up their social organization in self-defence, and in particular prevented intermarriage, and hence racial amalgamation. One great and most unfortunate influence was exerted on Hindu society by the Moslem invasions and conquests ; *i.e.* the Hindus (again in self-defence) adopted to a great extent the purdah system of their conquerors. Economic enterprise was more than ever discouraged, partly because any display of wealth led to the forfeiture of goods, partly because the best posts were all reserved for the Muhammadans, and partly because of the Muhammadan customs which definitely discouraged the accumulation and inheritance of private property.[4]

[1] Dr. Müller-Lyer, *The History of Social Development*, p. 310.

[2] See note 2, p. 49.

[3] Incidentally, it may be noted that the victory of Hinduism over Buddhism dealt a blow to foreign trade, as whereas Buddhism is a missionary religion that encourages travel (and trade), Hinduism teaches that an overseas journey destroys caste.

[4] *V.* pp. 52, 53, below.

In addition a general social deterioration appears to have resulted from the degradation of defeat, which confirmed the tendency to cling to convention, custom, and the cow, and prevented the suffusion of a uniform general culture. The Hindus were thrust back upon themselves, and concentrated their efforts on fending off external influences, and on ignoring their unwanted neighbours and masters, rather than in welcoming and utilizing the stimulation of contact. Hence the different peoples of India all settled down in their own little water-tight compartments, concerned only with their own particular groups, and of necessity tolerating the neighbourhood of other groups whom fundamentally they detested, but from whom they could not hope to escape. The Muhammadans themselves tended to become a caste, instead of helping to break up the caste system, and the very contact which might have been expected to induce social progress became a factor helping to crystallize the *status quo*.

The outstanding result of all these forces has been that the peoples of India are divided into a large number of religious and social sects, classes or castes, each of which " keeps itself to itself," maintains purity of descent and its own social ideals and customs, and controls in detail the mundane activities as well as the beliefs of all its members. Social stratification has thus become an apparently irremovable fetter on material progress.

This largely accounts for the fact that, although India had reached a relatively high stage of economic development before the change in the trade routes brought her into direct contact with the West, she was not in a condition to adopt the technical changes introduced in the West from the end of the eighteenth century onwards. The other outstanding factor preventing advance along the lines of large-scale organization was the lack of political security. This tended to prevent the rise of middle-class commercial leadership, thus leaving social power mainly in the hands of a religious aristocracy, and led to the expectation that the Government would act paternally in the economic sphere, thus undermining self-reliance and enterprise.[1]

The economic results of this extraordinarily complicated social stratification, especially of the caste system, according to which each group has a special status within society as a whole, are naturally fundamental and extensive.

Caste rules determine the choice of occupations, which are

[1] In this connection the democratic principles of the Muhammadans were influential. Under the Moguls although officials received mighty incomes during their period of office, their wealth was not inheritable. Hence they spent, instead of investing, their surplus income. (*V.* W. H. Moreland, *India at the Death of Akbar.*) It is also worth noting that, although slavery existed, the slaves were seldom used for productive purposes, and no large proletariat was formed. Moreover, Indians took no part in the " discoveries " and colonization which led to such extensive exploitation of virgin lands and accumulations of wealth in the West.

followed as inherited callings, not as a means to greater prosperity.[1] Hence the higher castes disdain manual and technical labour, whilst the lower and out-castes are not permitted to adopt the more remunerative occupations. This accounts to a great extent for the prevalent lack of enterprise. The disabilities suffered by the out-castes in this and other respects are well known. For instance, the scavengers (such as the municipal "sweepers" in Bombay) cannot follow any other profession, are obliged to live in segregated areas, and their children are excluded from the ordinary schools. In addition, these unfortunates, who have no choice of occupation, are forced to bribe the Mukadams (*i.e.* middle-men) who engage them, in order to keep their jobs, and are often charged interest amounting to from 75 to 150 per cent. per annum on advances made to them.[2] One notable example of religious obstruction to material progress may be quoted—namely, the successful Hindu agitation against the erection of a weir over the Ganges at Hardwar, designed for the purpose of irrigation. The Hindus for religious reasons insisted that there must be an uninterrupted flow of water down the river channel. The result was that thousands of farmers were deprived of water and that Government simultaneously lost a potential source of revenue.[3] Even the Muhammadans are not free from prejudices which affect adversely economic enterprise, such as the objection to taking interest on money lent, which is still eschewed by many true followers of the Prophet.[4] Caste rules also regulate the actual methods of production, thus preventing experimentation and the exercise of initiative. For instance, the effects of caste prejudice on the relative efficiency of the high-caste Rajput has been described as follows: "Proud of his faith and traditions, more accustomed to fight than to till . . . he is by common consent the worst cultivator in the Punjab. If he is a pure Rajput, he is forbidden to touch the plough." On the other hand, the humble Jat "is the very marrow and soul of the peasantry. . . . Ploughing, weeding or reaping, he will bear the burden and the heat of the day, and at night take his turn at the well." [5]

Caste rules also lead to much waste of labour by preventing the co-operation of members of different castes, and to a tremendous waste in the sphere of consumption. Here the chief factors are the rigid rules with regard to what the members of certain castes may and may not eat, and how their food must be

[1] Caste rules also affect agricultural production adversely, as they may prevent the sale or lease of land to those able to make the best use of it.

[2] V. *Social Service Quarterly*, January 1918.

[3] *Round Table*, June 1925, p. 527.

[4] Certain classes of Muhammadans have discarded such scruples.

[5] M. L. Darling, *The Punjab Peasant in Prosperity and Debt*, p. 38. . *V.* R. L. Bhalla, *Economic Survey of Bairampur.*

prepared. For instance, the food of the higher castes must be prepared in certain definite ways, and only by members of the same caste, or of certain other specified castes, whilst particular types of utensils must be utilized. In a college hostel, to take an everyday example, each group of students must have its own dining-room, kitchen, and cook. Even domestic servants cannot partake of a communal meal, but each prepares his own food and eats it separately. The out-castes, who are free from such scruples and restrictions, do not benefit as they should from any rise in real wages, as their standard of life is so low, and their wants so limited, that if they do happen to procure any surplus income they tend to dissipate it upon drink, gambling, and vice.

Nowhere has "economic consumption" been more neglected. What terrible economic waste lies at the door of the sacred cow! Not only cannot advantage be taken of an existing source of food—meat of all kinds, and particularly beef—but the stock is injured owing to the sacredness of animal life (especially that of the cow), by allowing inferior diseased animals to survive, to eat up the precious (and strictly limited) fodder supply, and to mate and beget inferior young. Wonders could be done in India by scientific cattle-breeding and control were religious scruples removed as to the killing and eating of flesh.[1] It has been calculated that the annual loss due to the maintenance of old and defective cattle in India amounts to no less than Rs. 1,76 crores, or about four times the income from land revenue.[2]

Religious objections to the taking of animal life prevent the destruction of obnoxious pests—such as "the monkey, the flying fox, the squirrel, the jackal, the porcupine, and the rat,"[3] which do terrible damage to fruit and vegetable crops. This evil is accentuated by the lack of fences.

The emphasis laid upon spiritual and intellectual matters, as opposed to the grossly material, also leads to the support of a large class of entirely unproductive mendicants—sometimes truly "religious," sometimes mere frauds—by the working population. In addition elementary sanitary precautions are neglected in favour of purely ceremonial purifications. A "caste" Hindu will permit his dwelling to be permanently pervaded by the most unhealthy and nauseous smells and effluvia, but he will not

[1] It is not only Hindus to whom this criticism applies. Both Buddhists and Jains are prohibited from taking the life of even the most noxious sentient being. It is extraordinary, in view of the researches of Sir J. Bose, that they pick and eat vegetable matter. The disastrous results of the veneration for mere life, as contrasted with life that is worth while, can hardly be exaggerated.

[2] V. *Proceedings of the Board of Agriculture*, January 21, 1924 (quoted by the *Round Table*, June 1925).

[3] It has been calculated that the depredations of rats cost India some Rs. 60 crores per annum, i.e. more than the military defence of the country!

take water drawn by a low-caste man, however personally clean.[1]

Furthermore, the religious basis of many social customs and institutions, including in particular marriage, birth, and death rites, makes it a duty to spend freely on the ceremonies connected therewith. This encourages extravagance and the dissipation of savings, and frequently leads to permanent indebtedness.[2] The Brahmans impose a heavy financial burden on other Hindus, from whom they exact fees on every possible occasion, especially in connection with pilgrimages. The latter entail heavy travelling and incidental expenses, and are a fruitful means of spreading disease.

Caste works through the family. According to the joint Hindu family system the members—consisting typically of the head of the family and his wife, their sons and daughters-in-law, and a number of grandchildren—" pool " their earnings and are maintained out of the common fund. The advantage is that the blows of fortune are borne by the group, not by the individual, so that there is, for instance, no need for organized poor relief except in times of famine.[3] The disadvantage is that both personal ambition and the spur of need are lacking, and that therefore the incentive to effort is very slight. The authority of the head of the family gives additional weight to the forces of conservatism, preventing initiative and hindering social and economic changes.[4]

[1] " Thousands of Hindus," says Mr. Gandhi, " would rather die of thirst than drink water from a Muhammadan household " (*Life and Writings*, p. 123). It is possible that the ceremonial rules of the Hindus were originally based upon sound hygienic principles, but it is certain that, if so, these principles have now been completely forgotten and that the rules have degenerated into meaningless conventions. Only the other day my attention was called to an example of the elevation of an elementary sanitary precaution into a matter of almost religious, but illogical, scruple. Many even of the better-class Parsees of Bombay live in houses abutting on narrow gullies used by the scavengers when removing night-soil by hand. My friend and his companions were taught as children to regard these gullies with abhorrence and forbidden to enter them. Sometimes they were disobedient and would run into the gullies to fetch a ball that had fallen there by chance. On such occasions their mother would treat them as religiously "unclean," and even if they had only touched the gully with their feet they were made to take a complete bath and change all their clothes, and their mother would refuse to touch or go near them until their purification had been completed. In addition, as cats frequented these gullies, they became associated in the children's minds with uncleanliness, and the very sight of a cat would fill them with disgust.

[2] *V.* chap. viii. A heavy purchase price is often paid by parents in order to secure suitable brides or bridegrooms for their children, in addition to the heavy expenditure on the actual marriage ceremony. R. L. Bhalla (*Economic Survey of Bairampur*, p. 164) quotes Rs. 369 as the normal cost of the marriage of a son, and Rs. 473 as that of a daughter. In the latter case a price may also be paid in order to obtain the bridegroom. In certain Punjab villages it was found that 40 per cent. of the original debts of the inhabitants had been incurred for marriage and other social ceremonies. (*V.* M. L. Darling, *op. cit.*, p. 60.)

[3] There is no Poor Law in India.

[4] The part played by the " younger son " in striking out an economic line of his own in Europe, especially in England, has been extraordinarily important. In India there *is* no " younger son."

Even the man who leaves his home in order to take up industrial work in a town does not burn his boats.[1] He goes to the town with the express object of earning money and then returning to his inherited plot of land. The business man, instead of reinvesting his profits in his own business, or branching out in some new line, shares the proceeds with his brothers and sisters, brothers-in-law and sisters-in-law, nieces and nephews, to say nothing of his parents, grandparents, uncles and aunts. If a man loses his job he is not obliged to take another, but can live (with his wife and children) on the income earned by a more successful relative.[2]

According to Hindu beliefs male offspring are necessary for the performance of the religious ceremonies that will secure salvation. Caste rules, therefore, make marriage obligatory, but as they strictly limit whom a man may marry, they also make it difficult to find suitable brides (and bridegrooms). This leads to the practice of early, or "infant,"[3] marriages, which is also encouraged by the social pressure on a man to provide for his daughters. Marriage is the only proper provision that can be made for a girl, as the Hindu woman is valued primarily as the mother of male offspring, not as an individual. If marriage is deferred until after puberty the danger of loss of virginity is considered to be so great that difficulty is experienced in obtaining a bridegroom, and it is considered a terrible disgrace for a girl not to have a husband before she attains puberty. Hence parents do not hesitate to arrange the most unsuitable marriages rather than none. It is not at all unusual for men of sixty and upwards to marry girls of ten to twelve. This makes it likely that these girls will shortly become widows, and the latter are obliged to remain in a menial position for the rest of their lives and are prohibited from marrying again, even though they may have never even *seen* their so-called husbands. The unenviable position of Hindu widows is notorious.[4] Their position is invariably despised and miserable. Although they have a right to bare maintenance, in return they are condemned to toil unremittingly, for the benefit of their late husband's family, at the most irksome household tasks. This is considered to be the widow's just punishment for some unknown

[1] According to the *Census Report* of 1921 not more than 30 millions (9 per cent. of the population) had been born outside the district in which they were living. It is interesting to note that Orissa, the United Provinces, Madras, and Rajputana are the chief provinces which lose, and Assam, Bengal, Burma, Bombay, and Mysore those which gain in population.

[2] It is this fact that enables industrial workers to withhold their labour from the market in a manner that is surprising in view of their poverty. (*V.* chap. xii.)

[3] *I.e.* marriage under the age of ten (*i.e.* pre-puberty). In British India the legal "age of consent" is now fourteen for unmarried and thirteen for married girls. A committee has recently been appointed (June 1928) to inquire into the possibility of further legislation on this subject. (*V. Times*, February 10 and June 26, 1928, "Age of Consent in India.")

[4] There are about 26·8 million widows in India at the present day.

sin committed possibly in an earlier incarnation.[1] On the other hand, in view of the religious necessity for male offspring, a Hindu man may take a second wife if his first has no male issue, whilst widowers almost invariably remarry. The prohibition of widow remarriage and the early marriage system usually prevent a widower from obtaining a second wife of suitable age, and necessitates his marrying an infant.

Although marriage is usually contracted at a very early age amongst Hindus, as a rule marital relations do not begin until puberty is attained,[2] until when the girl-wife remains with her parents. Even when the girl receives any education, she must necessarily leave school at twelve or thirteen in order to consummate her marriage. The lack of female teachers, the purdah system (amongst Muhammadans and some Hindus), and the general absence of desire for the education of women, all tend to perpetuate ignorance, superstition, and ingrained conservatism, and render ineffective attempts at introducing more enlightened customs.

Amongst Muhammadans, marriage usually occurs at adolescence, but although the evils of pre-puberty marriage are thus avoided, the purdah system involves other and no less serious evils. Women belonging to those Hindu castes which observe purdah are at a double disadvantage. Purdah women naturally suffer physically as well as mentally from the absence of fresh air, exercise, and sunshine after they reach the age of puberty, and in practice they (and young children in general) are confined to the house even earlier, owing to the fact that their female relatives are in purdah.[3]

The universality and early age of marriage, together with the intense desire for male offspring, naturally tends to increase the birth-rate. At the same time early and frequent motherhood saps the vitality of Indian women, and tends to increase both maternal and infant mortality. The physical strain on the

[1] The Indian hoarding habit may be partly attributed to the customs with regard to women. "A quarrel may lead to separation, or her husband's death may leave her an unprotected and penniless widow, with no right to any share in his estate. Her natural anxiety, therefore, is always to have something that may be retained in her personal possession against the uncertainties of fortune, and nothing serves this purpose so well as jewellery" (M. L. Darling, *The Punjab Peasant in Prosperity and Debt*, p. 64).

[2] It is a frequent assumption that in India girls attain puberty at an earlier age than in the West, but it appears doubtful whether this is actually the case. Mr. Sapre (*Essentials of Indian Economics*, p. 95) mentions twelve to fourteen as the usual age of puberty for an Indian girl. If so, it seems unlikely that there is any great difference in this respect between East and West.

[3] *V.* chap. iv., p. 70. There are said to be at least 40 million women in India to-day maintaining strict purdah, but there have recently been signs of considerable relaxation of the system in certain areas and amongst certain classes owing largely to the examples set in Turkey and Afghanistan. V. *Asiatic Review*, July 1929, p. 373.

girl-wives of India is aggravated by excessive sexual indulgence—which is apparently in many cases deliberately induced in young children—and by the appalling prevalence of venereal diseases amongst both sexes in India, due mainly to the lax sexual standards of the men. These evils are accentuated by the frequent disparity in age between husband and wife. Considering the physical immaturity and ignorance of the young mothers, the insanitary surroundings and egregious customs at child-birth,[1] the lack of care for female infants, and the overcrowding and malnutrition which necessarily are found amongst large families belonging to the poorer classes, it is little wonder that a large proportion of the babies born die in infancy, and that others grow up as degenerate weaklings, who constitute a permanent burden on society in general and on their relations in particular.

The purdah system and pride of caste withdraw many women from productive employment, and prevent them from assisting their men-folk even at busy seasons.

" In Indian village life *purdah* is the hall-mark of the ' lady,' and in *purdah*, therefore, the Rajput's wife remains.[2] She can do nothing without the house, and very little within. She cannot even draw water from the well, and being a ' lady ' must have servants to help her in her domestic tasks." [3] She cannot even take her husband's breakfast to him in the fields, and in consequence the Rajput must " either employ a servant for the purpose or stay at home till breakfast is finished." [4] In this and in many other ways the position of women reacts adversely upon production.

The lower-caste women have more freedom, but, on the other hand, even when classed as " unoccupied " in the census returns, do a great deal of excessively hard manual labour, such as the grinding of flour, fetching of water and carrying of heavy loads, although in many cases custom prevents them from performing economic functions that are in themselves quite appropriate. The introduction of power-driven machinery for the preparation of food-stuffs and raw materials for the market has recently done something to relieve Indian women of a great physical burden, and may be considered as " the first step towards the introduction of a higher standard of family life and a general amelioration of the position of women." [5]

Under such circumstances is it any wonder that Indian women

[1] Appendix A., p. 489.
[2] The Rajput is, of course, only one example.
[3] M. L. Darling, *op. cit.*, p. 36. [4] *Ibid.*
[5] *Asiatic Review*, January 1926, review of Dr. Gadgil's book, *The Industrial Evolution of India*. On the other hand, some people allege that the pounding of rice is healthful exercise, and its abandonment a calamity for women, who without it (or some substitute) suffer from greater pain, difficulty, and danger in child-birth. It appears certain that mill-husked rice is deficient in vitamin content.

are normally ruled by custom, tradition, prejudice, and superstition? What chance have they got of developing useful and intelligent personalities?

Efforts are, of course, now being made to improve the position of women, but in spite of striking success in certain directions only the fringe of the problem has yet been touched, and on the whole they are still shackled hand and foot by lack of education and experience, and by the marriage and purdah systems.[1]

The economic results of the customs and institutions that have just been described can be summarized by saying that they tend towards over-population, improvidence, the checking of economic enterprise, and the prevalence of a poor standard of mental and physical development, particularly in the case of women. The economic effects of the prevailing low standard of public health, although seldom emphasized by the economist, are of such outstanding importance that the whole subject will be treated in a special chapter below.[2]

§ 3. THE OCCUPATIONAL DISTRIBUTION OF THE POPULATION

It is well known that almost three-quarters of the population of India are dependent upon agricultural and pastoral pursuits.[3]

Owing to changes in the basis of classification adopted at the various censuses, it is impossible to discover precisely what changes have occurred in occupational distribution even since 1881, although the census figures are often fallaciously quoted in support of the conclusion that the proportion dependent upon land has considerably increased, and tends to continue to increase.[4]

The figures for 1881 are entirely ruled out for comparative purposes, as dependents were not classified according to the

[1] The position and treatment of Indian women are in many ways full of anachronisms at present. The admission of women as medical students in the same institutions and on the same terms as men (a privilege still denied women in nearly all medical institutions in London), the grant of the franchise to women in most provinces, and the deference paid to educated women in general, may be quoted as instances of their remarkably high (and anachronistic) position in particular instances. It is interesting to note that in 1925 Sarudini Naidu, the poetess, was elected President of the Indian National Congress, and that the Begum of Bhopal was chosen to be Chancellor of the University of Aligarh. Women have been granted the suffrage for the Central Legislature, and for the Provincial Legislatures in Bengal, Bombay, Burma, Madras, the United Provinces, Assam, and the Punjab. In 1926 they were made eligible for membership of the Imperial Legislative Assembly, and they are eligible to sit on the Provincial Councils in Madras, Bombay, the Punjab, and the Central Provinces. Women possess the franchise in the Indian (Native) States of Travancore (since 1920), Jhalawar, Cochin, and Rajkot, and are eligible for election to the Assemblies in Cochin and Rajkot. V. *India To-day* (Bulletin of the Indian Information Centre, 14 Endsleigh Gardens, London, N.W. 1), May 1928, p. 3.

[2] *V.* chap. iv.

[3] *V.* Table VI, p. 522.

[4] *V.* B. G. Sapre, *Essentials of Indian Economics*, p. 111.

source of their maintenance, whereas in 1891 the distinction between earners and dependents was omitted in the tabulated results.

According to the census the percentage of the total population supported by agricultural and pastoral pursuits was 61·06 in 1891, 66·50 in 1901, 72·2 in 1911, and 72·98 in 1921, but a close analysis shows that the conclusion that there has been a strong tendency towards increasing dependence upon such pursuits is unwarranted.

Let us first consider the figures for 1891 and 1901. The numbers engaged in non-agricultural pursuits in 1891 were greatly exaggerated in two main ways. In the first place, all who carried on dual occupations were classed under the non-agricultural heading. In 1901 such individuals were classified according to their *principal* means of support, and many were therefore transferred from the non-agricultural to the agricultural heading. In the second place a number of " coolies " or general labourers were entered as non-agriculturists in 1891, although, in fact, they were engaged upon agricultural work such as digging. In 1901 these also were transferred to the agricultural heading. When allowance is made for these two facts it appears that there was little or no change in the percentage dependent upon agriculture at the two dates.[1]

The figures for 1901 cannot be compared with those of subsequent censuses, because in 1911 the whole basis of classification was changed. The detailed headings (copied from the English census) hitherto utilized proved unsuitable to Indian conditions. In 1911 the returns for those pursuing dual occupations were made much more accurate and complete; entries were made more definite [2]; and a number of actual mistakes in classification which had admittedly been made in 1901 were eliminated.[3]

It is, therefore, generally agreed that the figures prior to 1911 were far from reliable, and that the new and simpler classification adopted in 1911 (and adhered to in 1921), together with the improved methods of carrying out the census, have made it possible

[1] V. *Census Report*, 1901, vol. i, pp. 206–208.

[2] For instance, prior to 1911 " makers " and " sellers " of articles were not clearly distinguished. Many people both make and sell their own goods in India, and the rule was adopted in 1911 that such persons should be classified under the industrial, not the commercial, heading. Similarly in and since 1911 anyone who both extracts and refines is shown under the heading " mining " (*i.e.* extraction). This slightly exaggerates industrial and extractive as compared with commercial and refining occupations, but eliminates a source of great confusion.

[3] It must be remembered that a vast army of enumerators are utilized, many of whom have a very limited understanding of what is required. Hence the Indian census provides at times more food for merriment than is usually connected with statistical compilations. Even in 1921 the following were entered as " occupations " : " Drinks his mother's milk " ; " plays in the mud " ; " looking for a job," etc., etc.; and a club bridge-player out of a job was entered, on account of his well-known predilection, as an " engineer."

for the first time to gauge at all accurately what is the occupational distribution of the population in general, and to what extent the population is dependent upon agriculture in particular.[1]

We have already seen that the number registered as dependent upon agricultural and pastoral pursuits was 72·2 per cent. in 1911 and 72·98 per cent. in 1921. This increase is too slight to permit any conclusion to be drawn as to whether or not there is a permanent tendency towards increased dependence upon agriculture. It has been argued that owing to the industrial depression in 1921 there was a temporary exodus from the great cities to rural areas. However that may be it is clear that the change was small.

In view of the fact that the statistical data, when carefully analyzed, indicate that there was little change between 1891 and 1901, on the one hand, and between 1911 and 1921, on the other hand, in the percentage dependent upon agricultural and pastoral pursuits, it seems unlikely that a very great change in that respect took place between 1901 and 1911, particularly as this was a decade of considerable industrial expansion.[2] It may, therefore, be concluded that the apparent increase from 66·50 per cent. in 1901 to 72·2 per cent. in 1911 may be attributed in the main to changes in classification and methods of enumeration. The most that can be said is that there has possibly been a slight tendency to greater dependence upon agriculture, but that this is almost negligible when the large numbers involved are taken into consideration.

The changes in occupational distribution between 1911 and 1921 can best be gauged from the following table which shows the increase or decrease under the principal occupational sub-classes.[3]

Occupational Sub-Class	Percentage supported, 1921	Percentage Increase or Decrease since 1911
I. Pasture, agriculture, and hunting	72·98	+ 1·8
II. Mines and minerals	0·17	+ 2·3
III. Industry	10·49	— 6·0
IV. Transport	1·37	— 13·8
V. Trade	5·73	+ 2·0
VI. Public forces	0·69	— 9·0
VII. Public administration	0·84	— 0·1
VIII. Professions and liberal arts	1·59	— 7·1
IX. Independent incomes	0·15	— 11·1
X. Domestic service	1·44	— 0·6
XI. Unclassified	3·51	+ 20·1
XII. Unproductive	1·04	— 5·7
Percentage increase in total population	...	+ 1·2

[1] V. *Census Report*, 1911, vol. i, p. 403.
[2] *V.* chap. ix.
[3] V. *Census Report*, 1921, vol. i, p. 241.

From this table and from further details given in the census it will be seen that " compared with 1911 the agriculturists have increased a little faster than the total population, although fishermen and hunters are fewer. Miners have risen in number with the recent expansion of the industry. Industries have substantially decreased, and the principal forms (*sic*) of industry—the textile workers—have dropped considerably, as also have potters and workers in wood and metal. An increase under transport by rail is countered by a drop under transport by road. Trade has increased—trade in textiles showing a slight rise and trade in food a slight drop. The number employed in public administration is practically stationary, but the army has risen while the police force has fallen heavily. Law and medicine have gained at the expense of religion, and though instruction has spread, letters have fallen. Rentiers are few and domestic servants are many. Beggars and vagrants, the raw material of crime and disease, have decreased; but criminals, the finished article, have risen in numbers." [1] The number of persons " unclassified " increased by no less than 20·1 per cent.

Of the 10·5 per cent. of the population dependent upon industry, the bulk was supported by " unorganized," and only about 4 per cent. by " organized " industries.[2] The proportion between workers and dependents has altered but little since 1901, when there were forty-seven workers to fifty-three dependents, as compared with forty-six workers to fifty-four dependents in 1921. This slight increase in the number of dependents may be attributed either to greater prosperity (which would relieve a greater number from the necessity of working), a change in the age distribution of the population (which may have resulted from the influenza epidemic), or a mere variation in enumeration.

These are the actual facts as far as they can be ascertained from the census. The causes of certain particular changes—for instance, the drop in the number employed in the textiles—will be explained in the appropriate context later.

Naturally, the tendency towards industrialization (or the reverse) varies greatly from province to province. Unfortunately, detailed investigations have not yet been carried out on this basis. Details are forthcoming for Bombay Presidency alone,[3] and there—as would be expected from the fact that Bombay was

[1] *Census Report*, 1921, vol. i, p. 242.

[2] *I.e.* by industries in which the establishments included twenty or more employees. (Cf. *Census Report*, 1921, vol. i, p. 266.) 1·9 per cent. of the population was " occupied " in " organized industries," and as there were forty-six workers to fifty-four dependents in 1921 presumably about 4 per cent. were dependent upon organized industries. (*V.* Table VI, p. 522.)

[3] V. *Report on Agricultural Wages in the Bombay Presidency*, issued by the Bombay Labour Office. The representative nature, and hence reliability of even these figures, has been questioned by competent critics.

more influenced than any other province by the war demand—a distinct tendency towards industrialization has been revealed. The number of persons engaged in agriculture in the Presidency, excluding Indian (Native) States, fell by 14 per cent. between 1911 and 1921, and the number of agricultural labourers by 37 per cent. On the other hand, the number of "ordinary labourers" (a large proportion of whom are engaged in industrial work) increased by 24 per cent., and whilst "skilled labourers" fell by 2 per cent., factory workers increased by no less than 49 per cent. In this province, therefore, there has been a clear tendency towards industrialization.

One or two other statistical facts with regard to the occupational distribution of the population which throw some light on economic conditions may also be noted.

Attention has often been called to the waste of productive power due to the small extent to which women partake in production. Only about one-third of the women are "employed" in India, as compared with two-thirds of the men.[1] No doubt custom does hinder productiveness to a considerable extent by preventing women from taking part in various spheres of production, but there is also a great deal of truth in the following remark: "I suspect, however, that a very large part of the apparent want of employment of female labour arises from the fact that the classification of occupations was drawn up by men and not by women; many women appear as unemployed when they should be classed as actual workers engaged in domestic duties, in cooking, grinding of grain, drawing water from wells, taking food to their families in the field, preparing and mending clothes, and last, but certainly not least, in child-bearing and rearing. In fact the occupational tables will have to be completely revised before a fair comparison of the extent of male and female occupations can be drawn." [2]

Women are entered as engaged in three main types of occupations.

First, there are a number of occupations which they "follow independently," such as midwifery, tattooing, silkworm rearing, domestic service, and flour-grinding.

Secondly, women often supplement the work of their husbands or male relations, for instance, by spinning cotton for their menfolk to weave, and by selling the fruit, vegetables, milk and fish grown or obtained by their men-folk.

Thirdly, in a certain number of cases men and women are both employed, for instance, in agriculture (in some districts),[3]

[1] In England about two-thirds of the men are "employed," but less than one-quarter of the women, but this is credited to the relative prosperity and high standard of life.

[2] *Census Report*, 1921, vol. i, p. 241.

[3] *V.* chap. ii, p. 23.

basket-weaving, work on plantations and in mines, and in factory work.

It is interesting to note that although the extent to which women are "employed," in the census meaning of the word, varies enormously from district to district, there is no apparent correlation between the material prosperity of the people and "the extent to which women share in the labour of the men." [1]

In the censuses of 1891 and of 1901 an alternative method of occupational classification was made, which emphasized the primitive nature of the occupations of the great mass of the people. When agricultural occupations and village industries [2] conducted according to primitive methods were grouped together, it was found that in 1891 they accounted for 84·84 per cent. of the total. In addition there were ten other categories [3] partly rural in character, and carried on in a primitive or at any rate "unorganized" fashion, which, together with the occupations already mentioned, accounted for over 90 per cent. of the population. In 1901 it was calculated independently that the so-called "primitive" occupations supported 90 per cent. of the population.[4] No such calculations were made in 1911 and 1921. Even the increase in the percentage of the occupied population employed in "organized" industries—*i.e.* from 1·0 per cent. (1·5 millions) in 1901 to 1·9 per cent. (2·6 millions) in 1921—cannot be held to indicate a relative increase in industry, as the percentage occupied in agricultural pursuits had not appreciably altered. Hence the gain in the "organized" must have been mainly at the expense of the "unorganized" industries. This conclusion is borne out by the depressed condition of the indigenous industries, by the increased imports of machinery and millwork,[5] and by the tendency towards the concentration of the urban population in the largest cities.[6]

My general conclusions from the above analysis are that we do not possess sufficient data from which to generalize with any certainty as to changes in the occupational distribution of the

[1] *Census Report*, 1901, vol. i, p. 202.

[2] *I.e.* village cotton workers, goldsmiths, blacksmiths, brass- and coppersmiths, carpenters, masons, barbers, washermen, fishermen, oil pressers, potters, village servants, leather washers, scavengers, village priests, and village mendicants. (*Census Report*, 1891, vol. i, p. 94.)

[3] *I.e.* milk sellers, grain and pulse dealers, shopkeepers, moneylenders, grocers, tailors, piece-goods dealers, toddy drawers, cane workers, grass and firewood sellers. All entirely urban workers were excluded. (*Census Report*, 1891, vol. i, p. 94.)

[4] *Census Report*, 1901, vol. i, p. 197.

[5] The value of machinery and mill work imported rose from Rs. 2,25 lakhs in 1900–1 to a pre-war average of Rs. 5,61 lakhs. During the post-war boom, at the enhanced prices, it rose to a peak of Rs. 34,25 lakhs in 1921–22, but then declined to Rs. 15,93 lakhs in 1927–28. Even allowing for the rise in prices, this indicates a large increase in comparison with the beginning of the century, or even with the pre-war period.

[6] *V.* p. 42, above.

people except during the decade 1911 to 1921. Probably there has been little change since 1891 in the proportion of the population dependent upon agriculture, but the proportion engaged in " organized " industries has increased, particularly in certain provinces, at the expense of the " unorganized " industries. This tends to weaken the oft-repeated assertion that India is becoming increasingly dependent upon agriculture, but on the other hand shows that there has so far been no increase in the proportion of the population dependent upon industry. The transference from the " unorganized " to the " organized " industries may facilitate industrialization in the future, but is associated with many problems arising out of the excessive concentration of population in a relatively small number of large commercial and industrial centres.

CHAPTER IV

PUBLIC HEALTH AND ECONOMIC DEVELOPMENT

§ 1. THE RELATIONS BETWEEN PUBLIC HEALTH AND ECONOMIC DEVELOPMENT, p. 66.

The general connection between health and prosperity—The world-wide Public Health movement, and its connection with economic development—The urgency of the problem in India—The preventable nature of many of India's diseases—The difficulties confronting efforts at improvement.

§ 2. THE PUBLIC HEALTH MOVEMENT IN INDIA, p. 72.

(i) *The prevention of communicable and epidemic diseases.*
(ii) *The provision of medical aid.*
(iii) *Sanitary reform.*
(iv) *The spread of a knowledge of hygiene and of the laws of health.*

§ 3. CONCLUSIONS, p. 92.

The responsibility of the Government—Expenditure upon Public Health measures—The need for voluntary effort—Possible reforms.

§ 1. THE RELATIONS BETWEEN PUBLIC HEALTH AND ECONOMIC DEVELOPMENT

PUBLIC health and economic conditions act and react on each other. A low standard of health, and the prevalence of epidemic diseases, accompanied by a high death-rate, necessarily entail heavy expenditure upon the birth, rearing, and support of many individuals who are eventually cut off by preventable diseases and illness before, or soon after, they have attained an age at which they can contribute to the income of the community, and on the support of the sick, permanently disabled, or prematurely aged. The economic loss thereby involved cannot be calculated in figures, but is obviously an important factor.[1] A poor standard of general health is one of the chief causes of low output per head and of economic inefficiency. The terrible lowering of general health in India owing to the prevalence of endemic diseases, such as

[1] *V.* Lt.-Col. Dunn, "The Economic Value of the Prevention of Disease" (*Indian Journal of Economics*, January 1924). In this article Lt.-Col. Dunn estimates the minimum revenue value per annum of the deaths in the United Provinces from smallpox, cholera, and plague alone, and points out how these diseases could be practically eliminated.

malaria, hook-worm,[1] elephantiasis, tuberculosis and kala-azar, is recognized by all, and its effects on efficiency can well be imagined. The Indian Industrial Commission went so far as to recommend the establishment of an industrial health service as part of their programme for increasing the efficiency of labour.

Although it is "commonly accepted that a community or a country can obtain as much health as it is willing to purchase," [2] emphasis is generally laid on the fact that the power to purchase health is limited by the extent of available financial resources. It is a mistake to over-emphasize this point. In addition to securing beneficial social results "large sums devoted to the purchase of *Health* are certain to be remunerative financially." [3] Even when not directly profitable, such expenditure, if wisely directed, inevitably enhances productivity, restricts waste, and increases the taxable capacity of the people. This aspect of the Public Health movement is frequently ignored, and, indeed, it is seldom that expenditure on public health is so much as mentioned in connection with economic policy. Actually the conquest of India's preventable diseases would bring far greater economic gain than any number of commercial, industrial or financial reforms.

A review of the Public Health movement throughout the world reveals the fact that improvements in health have usually been closely connected with either an increase in prosperity or with specific economic changes. Health victories have been scored not only as the result of conscious medical and social efforts, but as by-products of particular changes in economic conditions and organizations. In modern times the fundamental improvements in health and sanitation that have so far been achieved have all

[1] Hook-worm, called in England "miners' ankylostomiasis," exists amongst some 80 per cent. of the coolies in the Darjeeling tea plantations, and is almost equally prevalent throughout the greater part of the plains of Bengal (*v.* Lord Ronaldshay, *India : A Bird's Eye View*, p. 277). In certain districts of Madras over 90 per cent. of the population is infected. Yet a cure for hook-worm is known, and in Ceylon treatment for the disease has in some areas increased the output of labour by no less than 25 per cent. (v. *Industrial Commission*, Appendix L). Moreover, as the parasite causing hook-worm enters the body through the soles of the feet, the disease can be prevented by the wearing of shoes. (Hook-worm is due to an intestinal parasite, and is contracted by walking with bare feet on ground contaminated with the faeces of infected persons. The use of latrines would also, therefore, reduce the incidence of the disease.) The Rockefeller Foundation's "International Health Board" maintains an officer for "hook-worm control" in the Madras Presidency (v. *Report of the Rockefeller Foundation*, 1925). This is the only case in which this Foundation carries on permanent work in India, but a request for assistance in reducing the death-rate has recently been made by the State of Mysore to the Foundation (*v.* K. Mayo, *Mother India*, p. 281). In the Cornish tin mines the incidence of hook-worm infection was reduced from 94 per cent. to 6 per cent. between 1904 and 1920 (*v.* Balfour and Scott, *Health Problems of the Empire*, p. 196).

[2] V. *Industrial Commission*, Appendix L, p. 160.

[3] *Ibid.*

occurred in connection with, or as a result of, those far-reaching economic changes usually associated with the term " Industrial Revolution." The conception and practice of far-reaching public health measures presuppose certain social conditions which only exist in a relatively wealthy and materially " advanced " community ; *i.e.* a knowledge of scientific principles on the part of those in authority ; a certain standard of education on the part of the masses of the people ; a relatively high degree of control over natural forces ; considerable accumulated capital under the control of public authorities ; and a reliable and educated body of subordinate administrators to carry out the prescribed policy.

In many cases it was the economic changes which resulted in the growth of large industrial and commercial centres (and thus temporarily intensified the evil effects of insanitary surroundings) that rendered epidemics spectacular, and stimulated attempts at introducing improvements directed towards the improvement of public health. Thus from the eighteenth century onwards the scientific and humanitarian movement, aided by the material improvements due to the industrial revolution, practically banished " diseases of poverty "[1] from countries with a materialistically advanced civilization.

The necessity of relating public health and economic policy in India at the present time is particularly urgent, owing to the present transitional stage of economic development, which entails many anachronisms, including the co-existence of scientific large-scale industries and large agglomerations of people living in towns, typical of " advanced " civilizations, with customs and modes of life typical of primitive civilizations, and it is also feasible, owing to the fact that the requisite scientific knowledge is available. What is needed is that existing knowledge should be put into practice, and spread amongst the people at large.

Scientific research has already led to a reclassification of diseases and thus to a new outlook with regard to the potentialities of the movement. Many diseases formerly considered to be typical of particular climates are now known to be diseases of a primitive stage of civilization, *i.e.* " diseases of poverty."

Colonel Glen Liston has clearly shown that plague, malaria, leprosy, relapsing fever, cholera, dysentery, typhus, trench and typhoid fever are all diseases appertaining to a low stage of civilization, and are not inherently more " at home " in tropical than in temperate climates.[2]

In India to-day the greater part of the high death-rate can be attributed to precisely those adverse factors that in the West

[1] *V.* p. 69, below.

[2] " The Plague," Millroy Lecture, 1924 (reprinted from the *British Medical Journal*).

have been fundamentally modified by the measures indicated above. The same epidemic and other communicable diseases prevail that used to prevail in the West; the high city death-rate is comparable with that of England in the eighteenth century; and the high rates of infant mortality and of women at child-birth are also equalled by those which prevailed in the West up till the nineteenth century.

For instance, 20·5 out of a total death-rate of 26·7 per thousand of the population, in 1926, were accounted for by cholera, small-pox, plague, "fevers," dysentery and diarrhoea—nearly all of which may be considered to fall under the heading of "diseases of poverty," and most of which may be considered to be preventable.[1] Better sanitation (including the provision of a pure water-supply, the prevention of the contamination of food,[2] efficient drainage and sewage systems, and better housing) together with the provision of sufficient proper medical advice and institutional treatment, would undoubtedly reduce drastically the excessive death-rates in the cities and the deaths from tuberculosis and respiratory diseases,[3] whilst the high infant mortality and death-rate of women at child-birth could be substantially reduced by education in personal hygiene and the laws of health. In other words it appears clear that a large proportion of the deaths (and ill-health) due to disease in India could be prevented by the introduction of means already successfully adopted in most Western countries.[4]

It must be admitted that in many ways the problem is more difficult in India than in the West, owing to the lack of education and extreme poverty of the people, and to the existence of customs and prejudices (based on religion) antagonist to the adoption of Western medical and sanitary measures. The existence of indigenous medical systems and of indigenous medical practitioners [5] militates against the adoption of Western methods, and the problem of improving the health of women and of children is complicated by the strength of the customs which make women

[1] *V.* Table V, p. 520.

[2] Typhoid, dysentery and diarrhoea, for instance, are chiefly conveyed by contaminated food and drink.

[3] The ravages of tuberculosis and respiratory diseases are greatly accentuated by bad housing, lack of ventilation and sunlight, and the prevailing low physical stamina of the population.

[4] The part played by lack of sexual restraint, and the consequent prevalence of venereal diseases, in lowering the health of the population is undoubtedly great. It is difficult to ascertain the incidence and results of venereal diseases in India, and still more difficult to reduce their prevalence, although tentative steps have recently been taken with this object in view. (*V.* p. 91, below.)

[5] The "Ayurvedic" (Hindu) and "Unani" (Muhammadan) and allied systems of medicine all closely resemble those of Europe in the Middle Ages. Hindu practitioners are called "Vaids" and Muhammadan practitioners "Hakims." For an interesting article on indigenous medicine v. *Times Educational Supplement*, October 3, 1925.

backward in seeking medical attention from male doctors, even where such attention is available.[1] Certain social institutions, such as the Hindu marriage system[2] and the purdah system (which prevails in many Hindu as well as Muhammadan households), also militate strongly against good health. For instance, there is an obvious connection between the prevalence of rickets,[3] tuberculosis,[4] and osteomalacia,[5] and the purdah system. The latter means that many girls from ten or eleven years onwards are shut up in a certain part of the house and are thus deprived of light, air, and exercise. Osteomalacia is caused primarily by want of light. "The arms, legs, and pelves of the sufferers soften and become deformed, and many Indian women are thus crippled owing to insufficient sunlight.[6]

It is often assumed that the climate of India itself has deleterious effects on health. These effects have been carefully summarized by Lt.-Col. Gordon Tucker in the "Indian Year Book" (1920). His conclusions have, however, been criticized in some detail by J. W. Gregory,[7] on the score that he has debited to the climate results which are really due to social and other remediable factors. The general insanitary conditions of life are sufficient to account for the greater part of the high death-rate of the indigenous population without dragging in climate at all. As regards Europeans, recent physiological research on

[1] The Calcutta women workers will not attend the dispensaries provided by the jute mill-owners, and in both Calcutta and Bombay advice is seldom sought for gynaecological complaints, midwifery cases, and for babies in the diseases of infancy (v. *Bulletin of Indian Industries and Labour*, No. 31, "Women's Labour in Bengal Industries," by Dr. F. Curjel, 1923, p. 18, and *Bombay Labour Gazette*, September 1922, "Report of the Lady Doctor on Maternity Benefits"). Within the city of Calcutta medical facilities are available for both sexes, and women workers are entitled to free attendance by the municipal midwives, but Dr. Curjel only discovered one instance in which advantage had been taken of this right. She concluded that most of the workers were ignorant that such medical facilities existed, and that "under present conditions women workers are practically shut off from medical benefit" (*op. cit.*, p. 20). Women at child-birth are usually left to the tender mercies of elderly relatives and untrained dais (*v.* Appendix A, p. 489).

[2] *V.* p. 56, above, and Appendix C, "Mother India," p. 495.

[3] *V.* the *Quarterly Journal of Medicine*, vol. xv, 1921–22, "The Aetiology of Rickets," by H. S. Hutchison.

[4] The incidence of tuberculosis amongst women is almost double that amongst men in India (Balfour and Scott, *Health Problems of the Empire*, p. 275).

[5] Osteomalacia is a disease akin to rickets, which affects the bones of women living in seclusion and deprived of light. "Tuberculosis carries off in Calcutta six girls between the ages of fifteen and twenty for every boy, all due to this shutting up of the girls" (*Times*, March 7, 1927, "Want of Sunlight in India").

[6] V. *Times*, March 7, 1927, "Want of Sunlight in India." Dr. Vaughan continues: "These women in acute cases (there are many in Bombay) can only crawl painfully along the floor, their knees drawn up to their shoulders. Child-bearing is dangerous, if not impossible. This disease is caused partly by insufficient diet, because Indian custom limits the diet of expectant mothers, but it never occurs in women living in natural conditions, and is caused by want of light, which is necessary for the proper formation of bone."

[7] *The Menace of Colour*, chap. viii, "Can the White Man colonize the Tropics?"

acclimatization tends to show that some of the reactions noted by Lt.-Col. Gordon Tucker as evidence of the evil effects of a tropical climate, are compensatory reactions fitting the white man to his new surroundings. For instance, it has been asserted on medical authority [1] that " dry heat affords no explanation of the heavy death-roll of the tropics " and that there is " no reason why coloured men should withstand higher wet-bulb temperature than white men." [2] Mr. Gregory quotes the vital statistics of the Lawrence Institute [3] in confirmation of his view that under good conditions the death-rate of Europeans need be no greater in India than in Europe. " The work of Sir Joseph Fayrer at the Lawrence Institute," he says, " shows that when the children of even the poorer classes of Europeans in India are well managed, their death-rate may be as low as in the British Isles." [4] This instance, however, hardly appears to be good evidence, as Mount Abu is a hill station with an exceptionally good climate, and the children remain at the school for nine months in the year, only returning to their own homes for a three months' holiday during the " cold weather."

A more convincing argument is his reference to the changes that have occurred in the past with regard to the supposed " healthiness " or " unhealthiness " of certain districts. At one period Algeria brought almost certain death to armies stationed there. It is now considered a health resort. Lagos used to be called the " White Man's Grave," but to-day has a moderate death-rate. Calcutta is now, for Europeans, one of the healthiest cities in India, but " in the early part of last century residence there for six months was said to be more dangerous than two Waterloo campaigns." [5] Mr. Gregory's thesis is supported by Lt.-Col. Dunn,[6] who asserts that " if the laws of health were regarded in India to the same extent as in England, and the same proportion of money was spent on public health, the death-rate in India would be no larger than in England." In support of this contention, he points to the low death-rate (of only 6·55 per thousand) amongst the Christians in the United Provinces, which he attributes chiefly to their customs and mode of life,[7] and to the death of only 10 per thousand in the Indian Army, which he compares with the death-rate of males between twenty and forty years

[1] J. W. Gregory, *op. cit.*, p. 178 (quotation from the *Lancet*, June 30, July 14, and August 4, 1923).

[2] J. W. Gregory, *op. cit.*, pp. 179 and 182.

[3] A school for the children of European soldiers at Mt. Abu, Rajputana.

[4] J. W. Gregory, *op. cit.*, p. 197.

[5] *Ibid.*, p. 201.

[6] *Indian Journal of Economics*, January 1924, " The Economic Value of the Prevention of Disease."

[7] It should be noted that a large proportion of the Christians are Indians of the same race as communities with a high death-rate.

of age amongst the general population (21·5 per thousand). It is probable that in the past the European has suffered mainly because he has not fully adapted his mode of life to tropical or Eastern conditions, and because he has been obliged to live in close contact with an "insanitary race." [1]

It can, therefore, be concluded that, although special difficulties are present in India, measures similar to those already adopted in other countries would undoubtedly radically reduce India's death and sickness rates, and would result in the economic and financial improvements already indicated. Whether or not this would mean a permanent economic gain to the country (leaving aside, for the moment, the non-economic benefits) depends on whether the improvements in health were accompanied by a simultaneous limitation of the birth-rate, or, if not, on whether or not an increased population could find profitable employment.[2] That the present situation is economically as well as morally disastrous is undeniable, and the task of improving public health must not be deferred only because it may bring other problems to the surface. The measures that have so far been adopted to improve public health will now be described.

§ 2. THE PUBLIC HEALTH MOVEMENT IN INDIA

The Public Health movement in India may be considered under four main headings: (i) The prevention of communicable and epidemic diseases; (ii) The provision of medical aid; (iii) Sanitary reform; (iv) The spread of a knowledge of hygiene and of the laws of health.

(i) The prevention of communicable and epidemic diseases

Plague is the epidemic disease which has, in India, attracted more attention than any other, probably because of its spectacular reintroduction into the country at the end of the nineteenth century. References in the early sacred Hindu books show that the association of plague with rats was understood at a very early date, as men were warned to quit their houses "whenever a rat falls from the roofs, jumps about on the floor in a drunken fashion and dies." [3] Apparently the disease died out from India early in the nineteenth century, but was reintroduced from China by a ship

[1] There are certain diseases, such as colitis and sprue, the causes of which are still obscure, and which therefore may, or may not, be directly related to climatic factors.

[2] *V.* p. 40, above. Annual births in British India average about 8·2 millions. A death-rate reduced to 20 per thousand would add some 1·8 million per annum to the population, apart from the eventual effects of their reproduction.

[3] *V.* Millroy Lecture, cited above.

which entered Bombay in 1896.[1] It spread like wild-fire; the city was deserted, and before the end of the year the plague had been disseminated all over the Presidency. By the end of the century deaths from plague were reported from almost all the provinces of India, and the disease also spread to many other parts of the world. In British India no less than 15·2 million deaths from plague occurred between 1896 and 1921, and 18·4 million in the Indian (Native) States; *i.e.* 33·6 million deaths in the whole of India in twenty-five years.[2] Now, although the reintroduction of plague into India may be considered purely adventitious, its rapid spread and the difficulty of eradicating it can be traced to the conditions of life of the poorer classes. The connection with poverty is clearly shown by the fact that in any infected area the poor are seldom spared, while the rich are hardly ever attacked.[3]

Plague is an acute infection of the blood by a bacillus which is usually introduced by the rat-flea.[4] As a rule the rat-flea prefers the rat to any other host, but when it infects the rat with plague and the latter dies, the flea will not remain on the dead rat, but escapes to the nearest living organism.[5] The danger of infection is thus directly related to the extent to which rats are brought into close propinquity with human beings, and this depends to a large extent upon the prevailing methods of constructing houses, which in India to-day closely resemble those of Europe in the Middle Ages.[6] Rats are naturally particularly numerous in the neighbourhood of grain shops or stables, which exist in almost every Indian street. Even in the European quarters of cities such as Bombay rats abound where the old-fashioned carriage has not been entirely ousted by the motor-car, but the European bed and mosquito-net prevent close contact between rat and man.

The measures adopted to cope with the epidemic of 1896 were too drastic, and defeated their own ends. Patients were removed to hospital, and the segregation of the infected, evacuation of infected households, disinfection of premises, enclosure of infected areas and medical inspection of travellers, together with a

[1] Bad epidemics occurred in Canton and Hong-Kong in 1894, 1895, and 1896. The disease is usually spread by rats, but it can also be conveyed direct from man to man, and it is thought that it can be conveyed by infected merchandise. A good account of the spread of the disease in India is given in the Decennial *Moral and Material Progress of India* for 1901–2. It was said that no case of plague had been known for sixty years in India, when the outbreak began in 1896 (*Moral and Material Progress of India*, 1901–2, p. 112).

[2] *Census of India*, 1921, p. 350.

[3] *V.* Millroy Lecture, cited above.

[4] Other rodents than rats are also a source of infection.

[5] "The flea bites the man and leaves a poisonous substance around the bite. The man, scratching the bite, scratches the poison into his skin and the deed is done" (K. Mayo, *Mother India*, p. 333).

[6] An Indian custom very favourable to the spread of plague is that of sleeping on the floor.

campaign against rats in the infected quarters, caused a regular panic and great opposition to these preventive measures. The "contacts" adopted every method of escaping detection and of getting away from the infected areas, with the result that the disease was spread by those who fled from the afflicted areas throughout the length and breadth of the land. A special Plague Commission was appointed to deal with the problem, which issued its report in 1898. The Commissioners not only made recommendations directed specifically towards the prevention of plague, but also included suggestions as to the general improvement of town areas and sanitation, as it was agreed that the ignorance of the people of elementary hygiene and domestic sanitation lay at the root of the whole trouble. They recommended that disinfection, inoculation, isolation, and evacuation should be carried out in towns, but that compulsion, or the appearance of compulsion, should as far as possible be avoided, and that the compulsory inspection of travellers should be dropped. In rural districts similar measures were to be adopted, except that the isolation of contacts was not considered necessary.[1]

These measures have since been adopted throughout India, with slight provincial variations, and much useful research work has also been accomplished on the subject,[2] including the discovery of the exact part played by rats and the rat-flea in the conveyance of infection, and the discovery of and provision for inoculation against plague. It has been asserted that plague "yields instantly to organization and hard work, and success is absolutely certain if proper arrangements are made."[3] If the known measures were adequately enforced, India could probably be cleared of plague within a few years.

More progress has been made with regard to the prevention of smallpox. In the past nearly everyone contracted it, usually in childhood.[4] Widespread epidemics are now comparatively rare, the actual attacks have become milder in form and less blindness is caused thereby.[5] Vaccination is carried out free of charge in British India through the agency of a special branch of the Sanitary Department in each province. As a rule it is voluntary, but in certain municipalities and villages it has been made compulsory, and the prejudice against it is certainly decreasing. The cost of vaccination works out at 6 annas 4 pies per successful

[1] For a summary of the recommendations of the Plague Commission see the *Moral and Material Progress of India*, 1901–2, p. 112.

[2] A special Plague Research Commission obtained most of the required information between 1904 and 1907.

[3] F. L. Brayne, *Village Uplift in India*, chap. x.

[4] In England until the end of the eighteenth century smallpox was equally prevalent, and was considered to be a children's disease.

[5] *V.* C. L. Dunn, *Indian Journal of Economics*, January 1924.

case.[1] The annual average death-rate from smallpox decreased from 0·45 per thousand of the population in the quinquennium ending 1900 to 0·24 in the quinquennium ending 1925.

Cholera is spread mainly by contaminated water and foodstuffs, largely through the agency of flies, but is also conveyed by convalescents who are discharged too early and by human "carriers" who have not actually contracted the disease. It is, therefore, particularly closely associated with general sanitary conditions. Better famine administration has done more than anything so far to decrease its ravages, but although the number affected at each outbreak has decreased, the number of outbreaks remains as high as ever. It has been estimated that quite three-quarters of the deaths from cholera could be prevented.[2]

We now come to the large class of diseases included under the heading of "fevers." Malaria probably accounts for from one-fourth to one-fifth of the deaths from "fever," the remainder being due principally to dysentery, pneumonia, and phthisis.[3] The actual number of deaths fundamentally due to malaria cannot be accurately estimated, as often, where malaria is the predisposing cause, some other malady supervenes and is registered as the "cause" of death.[4] In any case, deaths represent only a very small proportion of the suffering and loss due to the disease which, normally, is not a fatal one, but which undermines permanently the health and efficiency of countless numbers in India. Sir Ronald Ross's discovery in 1897 that malaria was communicated to man by the bite of the female of the anopheles mosquito opened a new chapter in preventive medicine. Previous to that discovery the administration of quinine was the only method of combating the disease.[5] After Sir Ronald Ross's discovery, preventive methods began to be adopted in India (as well as in many other countries) directed towards both the extermination of mosquitoes and the prevention of bites from mosquitoes, but so far the results have been less satisfactory in India than elsewhere. What can be done in a more limited area and under more favourable conditions has been shown by Sir Malcolm Watson in the Malay States, where in certain areas malaria has been practically exterminated, and where it has been calculated that 100,000 lives have thereby

[1] *Annual Report of the Public Health Commissioner with the Government of India*, 1923, vol. i, p. 146.

[2] Lt.-Col. Dunn proved this by practical experiments in particular areas; *op. cit.*

[3] V. *Census Report*, 1921, p. 12, and the *Imperial Malaria Conference*, 1909, p. 7. A strange assortment of causes used to be entered under the heading "fevers," including melancholia, senility, and drowning! (V. *Moral and Material Progress of India*, 1911–12.)

[4] The annual average number of deaths due *directly* to malaria in India was estimated in 1909 (at the Imperial Malaria Conference) to be 1·1 million.

[5] The Government introduced the cultivation of cinchona into India in 1860, and did what it could to lower the cost of quinine.

been saved within the last decade.[1] Owing to the great difficulty and expense of attempting to exterminate the mosquito throughout the whole country, it has been possible to adopt preventive measures in restricted areas only, and it has been recognized that "education of the people" is one of the most important, practicable, anti-malarial measures.[2] Sir Ronald Ross has attributed the relative lack of success in India to "the facts that the planting community is not nearly so large, and that there is much more popular, and therefore less instructed, control of the administration than in British Malaya."[3]

The anti-malarial measures that have been adopted in particular areas include improved drainage, the closing or covering of wells in towns, the spreading of a thin sheet of petroleum on the surface of stagnant water at the breeding period,[4] and the introduction into stagnant water of certain types of fish that feed upon mosquito larvae. Difficulties in carrying out these measures have been encountered both on account of the numbers of pools, etc., formed during the monsoon, and on account of the peculiar importance attached by high-caste Hindus to the use of well and tank water for drinking purposes, which causes them to present great opposition to interference with this source of water-supply, even when plenty of tap-water is available.[5] Hence reliance has still to be placed to a great extent on the use of quinine both as a preventive and as a cure. Quinine is supplied at a low cost by Government in conveniently small packages through postmasters,[6] private vendors, itinerant dispensaries, and, when an epidemic occurs, is distributed free. Steps are taken to educate the people with regard to the avoidance of malaria and the use of quinine by means of travelling lecturers and special instruction in schools. It should be noted, however, that the present world-production of quinine would not suffice to permit one-tenth of the total population of India to use quinine

[1] V. *Malaria in the Malay*, by Sir Malcolm Watson (1910), and the *Proceedings of the Royal Society of Arts*, 1927. See also *Times*, June 16, 1927. In West Africa, owing to sanitary measures in general, and anti-malarial measures in particular, the death and invaliding rates of non-native officials were reduced from 20·6 per thousand to 12·8 per thousand, and from 65·1 per thousand to less than 21·7 per thousand respectively, between the years 1903 and 1924. (*V.* Ormsby-Gore, *Report on West Africa*, 1926.)

[2] V. *Proceedings of the Second Imperial Malaria Conference*, November 16, 1911, p. 97. Malaria "is still the outstanding cause of admission to hospital and it cannot yet be said that any real measure of control has been obtained" (*Indian Year Book*, 1927, p. 520).

[3] *Times*, June 10, 1927.

[4] This method was utilized with great success in Panama, but when tried in India for tanks it did more harm than good, as it killed the larvicidal fish.

[5] The high-caste Hindu objects on religious grounds to drinking water from pipes. V. *Times*, July 9, 1929, "Bombay Anti-Malaria Campaign."

[6] In rural areas quinine is taken round and sold by the itinerant postman. Ten grains cost 1 pice.

as a preventive of malaria. The world-supply would suffice for some thirty millions only, and the total output of all Indian quinine factories would only suffice to treat some three millions.[1]

Mention must just be made of the high mortality from influenza (which is registered under the heading of " fevers ") during recent years. It is interesting to note that in some areas urban, and in others rural, districts suffered most from the scourge. It seems that the rural districts score as regards overcrowding, sanitation, and ventilation, whilst the urban districts provide better medical assistance and organized effort for combating the disease. The deaths in proportion to the total number of cases of influenza were extremely numerous—an indication of the poor physical stamina of the people.

Finally, a few words may be said about the prevention of leprosy, which, although not a prolific cause of death (in comparison with the diseases already discussed), is regarded with peculiar horror by most people.

This disease was one of the first to be deliberately attacked in Europe, and, owing to the fact that prolonged contact is necessary to produce contagion, a policy of segregation of the sufferers sufficed to check its incidence. Eventually it was practically eliminated from Europe, in spite of the fact that the actual cause of the disease has, even yet, not been discovered.

The Indian Mission to Lepers was founded in 1874, and established a number of asylums in co-operation with various Missionary Societies. In 1898 an Act was passed giving power to the Government to provide and maintain institutions for lepers. Since 1920 power has been given to Provincial Governments to deal compulsorily, if they wish to, with pauper and begging lepers who do not conform to certain rules, but so far compulsory segregation has only been carried out in a few districts where the existence of suitable institutions makes it comparatively easy to enforce. At present there are some 103,000 known cases of leprosy in India, of which only about three-quarters are treated in institutions.[2] It has been calculated that there are about 40,000 pauper and begging lepers still at large, who naturally constitute a serious menace to the people among whom they are allowed to live. In addition to these known cases, there are a large number of early cases, not yet receiving any special attention, which, it has been estimated, would probably bring the total up to between 500,000 and 1,000,000. " Many of the lepers live at home, sharing the house with healthy relatives ; eating from the

[1] V. *Proceedings of the First Imperial Malaria Conference.* Java is now the source of the bulk of the world's supply of quinine.

[2] There are some seventy-three leper asylums in India with an average of 100 inmates.

common food-dish, sleeping in the same bed with wife or child, using the village water-supply, rubbing shoulders with neighbours in daily intercourse." [1] A new campaign against leprosy was inaugurated in 1925 by Lord Reading, when the Indian Auxiliary of the British Empire Leprosy Relief Association was founded. Since then a new cure for leprosy has been announced, which, it is asserted, would enable the disease to be stamped out in ten years.[2] The chief difficulty in the past has been to get hold of early cases, but this difficulty has recently been lessened by recognition of the fact that " home isolation " suffices during the early stages of the disease. " If it were known that sufferers in the early stages coming forward for treatment would be allowed to live at home, but under supervision of medical authorities, the motives for concealment would disappear, or at least be relatively small, and the propagation of the disease amongst the relations and friends of sufferers would be cut short at its source." [3] Even if the new cure should not prove efficacious in all cases, the extension, co-ordination, and thorough enforcement of existing measures would undoubtedly practically eliminate the disease within a comparatively short time. Advanced cases should be treated in institutions, but early cases could be treated at home if out-patient " skin-clinics " were established in towns, and if the services of trained lecturers and advisers were utilized throughout the country. Research work and training in the treatment of leprosy are already conducted at the School of Tropical Medicine, Calcutta, and it is proposed that similar work shall be carried on at the more important institutions for lepers, and that the number of out-patient clinics and travelling lecturers shall be greatly increased.

From what has already been said, it is clear that considerable bacteriological and other research work has been carried out in India in connection with a number of communicable diseases. Sir Ronald Ross's own great discovery was actually made in India. Research is carried out under the control of the Public Health Departments, and valuable results have been achieved in a number of instances besides those mentioned.

(ii) The provision of medical aid

The introduction of Western medical knowledge and practice into India has been complicated not only by the opposition to, and prejudice against, Western medicine and methods of

[1] F. Oldrieve, *India's Lepers*, p. 26.

[2] The oil extracted from the dried fruit of the hydnocarpus tree is said to be a specific for leprosy (v. *Daily Telegraph*, February 20, 1928).

[3] *Times*, December 1924, " Empire Leprosy Campaign." V. *India's Lepers*, by F. Oldrieve, 1924.

treatment that have already been noted,[1] but also by the difficulty of dealing with the enormous population, and of training the requisite number of Indians for the medical profession.

Many Indians fear to enter a hospital, owing to the reputed high death-rate therein. In the past there has, in fact, been a very high death-rate in the hospitals, as the majority of the patients admitted were either incurable, or suffering from serious diseases at an advanced stage of development.[2]

In spite of these difficulties the number of European and European-trained doctors—in private practice and in public employ—and of hospitals and dispensaries (aided and unaided) increased rapidly during the nineteenth century and up till 1914.

During the war the medical services in India were drastically depleted in favour of the theatres of war, and in 1917 there were only 2,991 hospitals and dispensaries at work, as compared with over 4,100 before the war, but by 1924 the number had risen to 3,669. In addition there are seven medical colleges, and eighteen medical schools (giving a shorter and less complete medical training than the colleges). In 1919 there were some 3,043 medical students under training in India, a handful of whom were women.[3] In addition a number of Indian men students and a few Indian women students are normally training in various British hospitals. It is obvious that the provision made is extremely inadequate for a population of 318 millions.

The State Medical Service in India is the Indian Medical Service, which dates in reality, though not in name, from 1764.[4] The service was recruited in England by competitive examination, to which Indians have been admitted since 1853.[5] In addition, Government has maintained a number of both civil and military assistant surgeons and hospital assistants, and there are, of course, a number of private practitioners, the great majority of whom are Indians. Originally the primary duty of the members of the I.M.S. was to attend to the health of the Indian troops and of the British officers and their families, but a number of varied functions have since been added, including the care of the health of Civil Servants and their families, administration of the civil hospitals,

[1] *V.* p. 69, above.

[2] That this fear is due to the high mortality in the hospitals, the fear of strange surroundings, and the dislike of hospital regime, rather than, or at any rate in addition to, any deep-rooted prejudice against Western medicine and methods, is borne out by the fact that Indian servants evince no objection, but indeed great eagerness, to drink the "memsahib's medicine," but refuse emphatically to go to the hospital.

[3] It is interesting to note that in India women study side by side with men in the medical colleges and hospitals, although in London this is usually not permitted.

[4] *Indian Year Book*, 1914, p. 262.

[5] Eighty-nine Indians joined the service between 1855 and 1910 (*ibid.*).

supervision of the dispensaries (both Government and private), and control of sanitation in most rural and many urban districts. They also attend to the health of prisoners, carry on research work in the research laboratories, and act as professors at the medical schools. At the head of the I.M.S. is the Director-General of Medical Services, an official of the Central Government, who advises the Government on all medical matters.

The Lee Committee proposed a complete reorganization of the medical services, on the ground that it was unnecessary to have both the Indian Medical Service and the Royal Army Medical Corps.[1] The Government did not accept these proposals, but in 1928 sanctioned a revised scheme, whereby the suggested unification of the medical services was abandoned, but provincial civil medical services are to be constituted, and the I.M.S. is to be retained primarily to meet the needs of the Indian Army, provide a war reserve of military medical officers, and provide European medical attendance for European officials of the Civil Services (and their families).[2]

The needs of women and children have (until the recent institution of the Women's Medical Service for India) been chiefly met by the various missions that are at work in India,[3] and by the National Association for Supplying Female Medical Aid to the Women of India, founded by the Countess of Dufferin in 1885.[4]

The medical work of the missions is not, of course, confined to work amongst women, as a large number of general hospitals and dispensaries have also been established.[5] Medical missionary

[1] *Report of the Royal Commission on the Superior Civil Services in India*, Cmd. 2128 of 1924.

[2] V. *Times*, May 11, 1928; *Moral and Material Progress of India*, 1926–27, p. 151, and *ibid.*, 1927–28, p. 152.

[3] Many missions maintain women's hospitals staffed by medical women missionaries, who have accomplished wonderful work amongst the women of India. The scarcity of trained women in proportion to the demand is very great. I have known women obtain posts at the head of small hospitals immediately after obtaining their medical degrees.

[4] *V.* p. 88, below, for an account of the recent administrative amalgamation of the various funds and associations aiming at the improvement of the health of Indian women.

[5] The following list of missions which maintain hospitals and dispensaries—in several cases as many as half a dozen hospitals and ten or more dispensaries each—will give some idea of the medical work of the missions in India. The Anglican Church Mission, Church of Scotland Mission, United Free Church of Scotland Mission (nineteen hospitals), Baptist Missionary Society of Great Britain, Canadian Baptist Missionary Society, American Baptist Telugu Mission, American Baptist Foreign Missionary Society, American Baptist Bengal-Orissa Mission, Irish Presbyterian Church of North American Mission, American Presbyterian Mission, Canadian Presbyterian Mission, Welsh Calvinistic Methodist Mission, Arcot Mission, American Board of Commissioners for Foreign Missions, London Missionary Society (twenty-three hospitals), Poona and Indian Village Mission, Friends' Foreign Mission Association, American Evangelical Lutheran Mission, Evangelical National Missionary Society of Sweden, Kanarese

work began in earnest after the great famine of 1878, when the missions found themselves with large numbers of destitute women and children upon their hands. It was estimated in 1911 that there were some 118 men and 217 women European medical missionaries. The most important medical work amongst women is carried on by the Zenana Bible and Medical Association, which is an inter-denominational society working among women and girls in a number of stations throughout India, and the Ludhiana Zenana and Medical Mission at Lahore, which supports the Women's Christian Medical College, with which is incorporated the Punjab Medical School for Women.[1]

The National Association for Supplying Medical Aid to Women in India—or the "Countess of Dufferin Fund," as it is usually called—was founded in 1885 with the object of opening special women's hospitals and wards, and of training, and (if necessary) bringing out from Europe women doctors, nurses, and midwives. Thirteen provincial branches have been established, which are assisted from the Central Fund.[2] The Women's Medical Service for India, which now plays a leading part in providing medical aid for Indian women, was founded and is supported [3] and administered by the fund. This service now consists of forty-four medical women, with a training reserve of eight doctors and a junior service of twelve assistant surgeons, the appointments being made partly in England and partly in India.

In addition the Lady Hardinge Medical College Hospital and Training School for Nurses was founded in 1911 to commemorate the visit of Her Majesty to India. The college was opened in 1916 and the hospital in 1917.

The training of nurses is carried out by various hospitals, provincial nursing associations (such as the Lady Minto's Indian Nursing Association and the Bombay Presidency Nursing Association) and Seva Sadans.[4] The Victoria Memorial Scholarship Fund, organized in 1902 by Lady Curzon, aims mainly at training daïs, and the Countess of Dufferin's Fund has also made arrangements for training Indian women to be midwives to be

Evangelical Mission, Missouri Evangelical Lutheran Mission, Methodist Episcopolitan Church Mission, Wesleyan Methodist Missionary Society, and (last but not least) the Salvation Army. The Roman Catholic Missions do not undertake medical work (*Indian Year Book*, 1923).

[1] *Ibid.*, p. 574.

[2] An endowment fund of 6 lakhs was obtained by public subscription (*Indian Year Book*, 1927, p. 530). In addition, branches (with their own funds) have been founded in each province.

[3] The Government of India gives an annual grant of some Rs. 3·7 lakhs to this service, through the Dufferin Fund (*Ibid.*, 1927, p. 530).

[4] The Poona Seva Sadan and the Bombay Seva Sadan and other similar societies aim at making Indian women self-reliant and training them for missionary work, educational and medical.

employed by municipalities to attend the poor. The recent child welfare movement has acted as a stimulant.[1]

A fairly recent medical innovation is the establishment of travelling dispensaries, which tour the country giving advice and providing simple remedies. The idea was initiated in the Punjab in 1908, and has subsequently been adopted elsewhere.

Lunatic asylums were instituted under an Act of 1858 (as amended in 1912), and in 1923 [2] there were twenty-two in British Provinces, but none at all in the Indian States. Although the proportion of those who are recognized as insane is very low in India as compared with most other countries, the asylum accommodation is entirely inadequate and certainly would not suffice to house one-tenth of the afflicted.[3]

Finally, general medical work is carried on by the Indian Red Cross Society. This Society includes within its objects the care of persons suffering from tuberculosis, child welfare, and the giving of assistance to all branches of nursing, health, and welfare work carried on in India.

It can undoubtedly be said that the Government has done wonderful work in India with regard to the provision of medical aid, as have also the missionary societies—perhaps more extensive and better work than has ever been accomplished in any country by such agencies—but that only a small fraction of the population has as yet been reached. This fact, and the absence of extensive voluntary effort on the part of Indians themselves at providing medical aid, is hardly to be wondered at considering the exotic character of Western medical science, but it is useless to expect Government or missionary effort to provide medical assistance for the whole population. In this sphere education, propaganda, and voluntary efforts on the part of the general population, or at least of the leaders of the general population, are the prerequisites of progress.

(iii) Sanitary reform

Sanitary reform, town-planning, and housing schemes have, in India, been intimately connected with administrative decentralization and the modern development of local government. Unfortunately, the movement towards decentralization, instead of having developed out of the old traditional forms of local government in India,[4] started *de novo* in the last quarter of the

[1] *V.* p. 88, below.

[2] *Indian Year Book*, 1926, p. 522.

[3] It has been estimated that in India out of every 10,000 of the population five are insane, as compared with (for instance) forty in the United Kingdom and forty-five in New Zealand. The standard of insanity is not, however, the same, and this vitiates the comparison.

[4] For an account of the sanitary administration of the old village societies see J. Matthai, *Village Government in British India*, chap. xii. Sanitary rules

nineteenth century, and therefore sprang from the centralized form of government introduced into India by the English.[1] The result has been that it has not commanded that support, confidence, and respect which it might have done, could it have been based on traditional indigenous organizations.[2]

Local government under British rule started early in the nineteenth century in the presidency towns, and was extended in 1850 to other urban districts. The Report of the Royal Commission on the sanitary conditions in the Army issued in 1863 first attracted public attention to the need for sanitary reform, and recommended that a sanitary board should be established in every province, that greater legal powers for the enforcement of sanitary measures should be taken, and that in each province rules should be drawn up and enforced for the regulation and improvement of village sanitation. Lord Mayo introduced a scheme of decentralization in 1870, and Lord Ripon's Government laid down in 1882 the principles upon which decentralization should be based, whilst the Acts of 1883 and 1884 provided for the establishment of local and district boards in accordance with the recommendations made. Advantage has since then been taken of these Acts in most urban areas, but rural areas have, as yet, hardly been touched. Each presidency town has developed its own particular form of local government,[3] and public health functions have been entrusted to the new local authorities.[4]

By the beginning of the twentieth century the skeleton of a complete sanitary system existed, but the actual work accomplished by the various sanitary authorities had not proceeded far. The Director-General of the Indian Medical Service was appointed Sanitary Commissioner with the Government of India, and sanitary commissioners and deputy sanitary commissioners (all of whom were members of the I.M.S.) were appointed by (and were responsible to) the local (*i.e.* provincial) Governments. The latter also appointed advisory "Sanitary Boards," consisting of medical, sanitary, civil and civil engineering officials, together with a few public-spirited non-official members, to which all proposed sanitary measures were referred before they were put into execution.[5]

are mentioned in the ancient Hindu literature, such as the Mahābhārata, the Arthas'āstra, and the Code of Manu.

[1] *Royal Commission on Decentralization P.P.*, Cd. 4360, 1909.

[2] *Asiatic Review*, January 1926, "Village Panchayats in India."

[3] An account of the development of municipal government in each presidency town is given in the *Moral and Material Progress of India*, 1901–2, p. 93.

[4] *Ibid.*, 1891–92, pp. 374, 375. The system of local government varies from presidency to presidency. (*V.* G. Anderson, *British Administration in India*, p. 65.)

[5] *Report of the Indian Plague Commission*, 1898–99, Cd. 810 (1901), chap. vii.

In the Presidency towns each of the municipal corporations employed a European health officer, who might or might not be a member of the I.M.S. In other municipalities, as a rule, no special health officer was appointed, but the municipality was entitled to the assistance and advice of the civil surgeon of the area.[1]

The Report of the Plague Commission in 1898 enunciated the principles upon which subsequent measures for sanitary reform in general, and for the prevention of epidemic diseases in particular, have been laid. Under Lord Curzon a scheme of reorganization was undertaken, and in 1912 further modifications were introduced.[2] At the same time several research institutes were founded. In 1910 a new central department had been created—entitled the "Education Department"—to which control of health and sanitation (amongst other functions) was transferred.[3]

The growth of interest in sanitary matters at this time led to the holding of three All-India Sanitary Conferences in 1911 (Bombay), 1912 (Madras), and in January 1914 (Lucknow),[4] at which various sanitary and medical topics were discussed and proposals for administrative improvements put forward. A large number of provincial conferences have also been held.

Nevertheless the progress made with provincial schemes of urban sanitation was disappointing, whilst in rural districts progress was still slower. In Madras Presidency 98·6 per cent. of the towns and villages (of which there were some 42,000 in the Presidency) had no system of conservancy in 1911,[5] and in other provinces the percentage was at least as high. These disappointing results were attributed to lack of funds, the absence of a well-organized and trained sanitary staff, inadequate sanitary laws, and the failure of the people to co-operate in public health

[1] V. *Moral and Material Progress of India*, 1901–2, and *Report of the Plague Commission*, chap. vii. In the Bombay Presidency, however, no such responsibility devolved upon the civil surgeons, and hence a number of special health officers were appointed.

[2] *Progress of Sanitary Measures in India*, Cd. 6538, 1912, p. 243. The offices of Sanitary Commissioner and Director-General were separated in 1904, but the resulting separation between research and sanitary work, on the one hand, and clinical practice on the other, was found to be unsatisfactory. Hence in 1912 the administration of all matters connected with health, sanitation, and research was placed under the Director-General of the Indian Medical Services, whilst a separate Sanitary Commissioner was appointed to advise the Government and act as Sanitary Staff Officer for the Director-General.

[3] The inclusion of health and sanitation under the Education Department was not entirely to be deplored, owing to the close connection between the inculcation of sanitary habits and general education.

[4] *Proceedings of the First All-India Sanitary Conference*, Cd. 6538, 1911; *Report of the Second Conference*, Cd. 6373, 1912; *Report of the Third Conference*, Cd. 7542, 1914.

[5] *Proceedings of the First All-India Sanitary Conference*, 1911, Appendix 9–4, p. 165.

measures.[1] The only improvement that seemed to meet with general approbation in the villages was the lighting of the streets.

Public opinion had been roused in some centres and voluntary associations began to be formed with the purpose of working for the introduction of sanitary improvements. The Bombay Sanitary Association was founded in 1903, and similar associations were subsequently established in other provinces. In 1911 the Research Fund Association was founded, including non-officials, laymen, and professional sanitarians amongst its members. To this fund Government gave an annual grant of Rs. 5 lakhs, which was increased to Rs. 6·7 lakhs in 1926–27.[2] In addition to promoting medical researches this Association publishes quarterly the " Indian Journal of Medical Research."

By 1914 the effects of these sanitary developments in combination with the enforcement of precautions directed specifically towards the prevention of epidemic diseases were just beginning to make themselves felt.[3]

The chief effect of the war was to intensify the problem of town sanitation, whilst at the same time (after the first few prosperous years were over) intensifying financial difficulties. Bombay City was particularly affected, owing to the enormous increase in population attracted thither by the war demands for labour, without a corresponding increase in housing accommodation. The result was to accentuate all the previously existing evils of the city and to more than counteract the effects of the sanitary reforms of the previous decade, in spite of the unremitting work of the " Improvement Trust," a number of independent housing schemes, and the inauguration of an ambitious " Development Scheme " in 1920.[4] Improved housing accommodation has

[1] " The reason lies in the apathy of the people and the tenacity with which they cling to domestic customs injurious to health. While the inhabitants of the plains of India are on the whole distinguished for personal cleanliness, the sense of public cleanliness has ever been wanting. Great improvements have been effected in many places; but the village house is still often ill-ventilated and over-populated; the village site dirty, crowded with cattle, choked with rank vegetation, and poisoned by stagnant pools; and the village tanks polluted and used indiscriminately for bathing, cooking, and drinking. That the way to improvement lies through the education of the people has always been recognized" (quoted by the *Indian Year Book*, 1920, p. 441).

[2] The fund finances no less than forty-seven different inquiries (including investigations into malaria, plague, cholera, heliumthology, kala-azar, leprosy, nutritional diseases, tuberculosis, dysentery, diarrhoea and other intestinal diseases, skin diseases, relapsing fever, dengue and sand-fly fever, and diabetes). V. *Moral and Material Progress of India*, 1926–27, p. 149.

[3] The sanitary organization of British India before the war is well described in the *Moral and Material Progress of India*, 1911–12.

[4] *Indian Year Book*; *Bombay Labour Gazette*, October 1924, and September 1925 (" Enquiry into Housing Conditions among the Lower Middle Class in Bombay"); *Times Trade and Engineering Supplement*, February 20, 1926, and *Times*, March 10, 1927.

been provided by a number of different authorities in Calcutta, Cawnpore, Lucknow, Allahabad and other cities, as well as in Bombay, but the schemes have been checked by financial stringency. Bombay has been said to hold the unenviable record of having a higher death-rate than any other city in the world, and at the Trade Union Congress in 1925 it was stigmatized as " an easy first in the world for slums." [1] As a result of the reforms, sanitation became, after 1921, a transferred provincial subject. This in itself—partly owing to provincial financial " tightness " and partly to the agitation against Westernization—has tended to retard progress.[2] The Central Government retains advisory functions under the reforms which it exercises through the Public Health Commissioner and the Imperial Board of Health. An Epidemiological Statistical Office has also been instituted,[3] and it has recently been proposed that an Imperial Medical Research Institute should be established at Dehra Dun.[4] The Inchcape Retrenchment Committee included far-reaching proposals for a reduction of expenditure upon public health, which have not, however, been adopted.[5] These proposals entirely ignored the economic aspect of public health, as they would have tended to affect adversely the efficiency of the people just when it is particularly urgent for India to increase their efficiency and output per head.

In spite of all these efforts, neither the rural nor the smaller urban areas have improved their health conditions materially, whilst although good work has been accomplished in parts of many cities and urban centres it has seldom been extended to the whole of such areas, so that the improvement of one district has often been accomplished at the expense of the progressive degradation of others. In the cities it is still not uncommon in some districts for the water-supply to fail (except, perhaps, during one or two hours per day) during the hottest months, for sewage to be removed by hand, and the houses to be not only grossly overcrowded but also totally unsuited to the needs of the inhabitants. Lack of ventilation, light, any possibility of privacy, an inadequate water-

[1] *Report of the All-India Trade Union Congress*, p. 28. The death-rate in 1923 was 32·7 per thousand. A remarkable decline in the death-rate of Bombay City took place in 1925, when it fell to 25·38 per thousand—the lowest figure reached for fifty years, except in 1915, " when the average was untrustworthy owing to the general exodus of the population." The recent fall has been attributed to the stamping out of plague and cholera, the subsidence of influenza, and the general improvement in housing and sanitation.

[2] It is asserted that some municipalities, in their desire to eschew everything " Western," actually threatened to cut off the tap-water supply, and stop other sanitary services, in order to return to more " natural " conditions.

[3] Balfour and Scott, *Health Problems of the Empire*, pp. 134, 135.

[4] V. *Times Educational Supplement*, June 29, 1929, " Indian Medical Research."

[5] *Times*, March 29, 1923.

supply, and hand disposal of sewage prevail in most urban working-class quarters.[1]

How can efficient work and a high output be expected from people with such a low standard of life, and suffering from all the disabilities which must necessarily accompany the high birth and terribly high death and infant mortality rates? Higher wages can hardly be expected to yield an immediate increase in output when no better accommodation or conveniences can be obtained at any price. The problem of housing and general sanitation must be dealt with directly, and it will not suffice to trust to the indirect results of higher wages. Slum life is bad enough in Western countries, but the sordid cruelty of overcrowding, and of the denial of the elementary necessities of civilized life to an illiterate, superstitious population, sweltering in a tropical climate, and drawn to the city from districts so distant and dissimilar as to resemble foreign countries rather than different areas of the same country, has to be seen to be realized.

Many special attempts have been made to deal with the housing and town-planning problems, by the provincial governments, municipalities, philanthropic societies, and by employers of labour. Improvement, development, and housing schemes have been launched in various cities, and many employers all over the country (not only in the largest cities) have themselves provided accommodation for their own employees in the form of "coolie lines" or of "chawls" (tenement buildings).[2] In many cases accommodation is provided either free or at much less than market rate for industrial workers, but at best only a fraction of the problem has been solved, whilst in too many cases the accommodation provided is far from satisfactory.

(iv) The spread of a knowledge of hygiene and of the laws of health

Upon the spread of a knowledge of the laws of health among the general population depends to a great extent further progress with regard to the prevention of communicable diseases, the utilization and extension of medical aid, and improvements in sanitation. It is scarcely possible to draw a distinct line between movements directed specifically towards the promotion of health and those directed towards the promotion of education and social reform in general, but in the following pages attention will be concentrated upon the more definitely health aspects of the work of

[1] A fuller description of sanitary conditions in various towns at the end of the nineteenth century and at the present day is given in Appendix D, p. 496.

[2] Some of the housing schemes in Cawnpore, for instance, have been said to have really succeeded "in offering places that can be regarded as homes. The houses are built round courtyards and in addition each house has its own private yard" (*Social Service Quarterly*, January 1923).

certain modern social reform movements, whose more general aims will be discussed elsewhere,[1] and upon the work of a few organizations designed specifically and solely to promote a knowledge of hygiene and the laws of health.

In India, as elsewhere, attention began to be directed towards the condition of industrial workers as soon as modern large-scale industries appeared, and resulted first in factory legislation and later in " welfare work." The latter type of work was undertaken both by mill-owners and by voluntary associations, and was directed towards improving the lot of the wage-earners, in and out of the factories, and included the provision of adult schools and other facilities for education. It was, however, not until the war period that the necessity for promoting more definitely a knowledge of the laws of health was realized, as well as the fact that the best way of attacking the problem was to begin with the women and children. Since then the two main lines of attack have been the co-ordination and extension of medical work amongst women and the promotion of maternity and child welfare. An account has already been given of the former, and we have seen that a sound beginning has been made. In 1923 a great administrative improvement was effected by the co-ordination of the work under the various separate funds which have been founded from time to time to promote the physical welfare of Indian women. The Countess of Dufferin's Fund (controlling, it will be remembered, the Women's Medical Service), the Victoria Memorial Scholarships Fund, the Lady Chelmsford All-India League for Maternity and Child Welfare, and the Lady Reading Women of India Fund have all been placed under the same Governing Council and Executive Committee, although, of course, the actual funds are kept entirely separate and devoted solely to the specific purposes for which they were instituted.[2] The work can now be co-ordinated for the whole country, a unified programme can be drawn up, overlapping prevented, and the problem considered as a whole.[3]

The All-India Maternity and Child Welfare League, founded in 1920, co-ordinates isolated attempts which were made in various centres during the war. Branches of this association carry on work in all the great centres of population [4] and—in the face of

[1] *V.* chap. xii, p. 324, *et seq.*

[2] *Annual Report of the Public Health Commissioner with the Government of India*, 1923 (published 1925), p. 172.

[3] *Ibid.*

[4] Infant and Maternity Welfare work is now carried on at Bombay, Poona, Calcutta, Madras, Delhi, Ahmedabad, Karachi, Surat, Dacca, Nagpur, Lahore, Lyallpur, Quetta, Simla, Cawnpore, Ludhiana, Lucknow, Agra, Allahabad, Bareilly, Bangalore, Bijapore, etc. (v. *Indian Year Book*, 1927, pp. 523, 524). Some of the Indian (Native) States, such as Kolhapur, Baroda, and Jaipur, also undertake Child Welfare work. There are hospitals giving instruction in midwifery in fifty-one Indian towns, and in 1926–27 no less than thirty-eight towns held "Baby Weeks" (v. *Moral and Material Progress of India*, 1926–27, p. 302).

considerable opposition due to ignorance, superstition, prejudice, distrust, and "dastur"—are gradually beginning to earn the confidence of the women of India. Midwives and health visitors [1] are trained, maternity homes have been founded, baby centres and crèches (in connection with the factories) have been established. Mothers are instructed in the care of infants at these centres and in their own homes, and a number of vernacular leaflets giving information as to the proper methods of feeding and caring for children, and as to where medical and nursing assistance and advice can be obtained, are issued and distributed broadcast. The movement was initiated by Europeans, but Indian ladies (professional and unprofessional) have begun to play an increasingly important part in the movement. Their interest has undoubtedly been roused and directed towards matters of health by the various women's societies and organizations which have recently been formed for more general social purposes. The most outstanding example is the movement towards founding central organizations in large centres which shall co-ordinate all the social and philanthropic work carried on by women. This movement began in Bombay, and has been carried on in Calcutta, Delhi, and other centres. Women of all races and castes were brought together in Bombay by the extensive war work for the troops and hospitals, which was organized largely at the instigation of Lady Willingdon, and at the close of the war it was felt that war co-operation had been of great value in bringing together the leaders of the various communities and teaching them to work together as never before. It was therefore decided to form a Women's Council which should carry on in peace-time the work of co-ordination and co-operation.[2] If the suggestion of the Royal Commission on Agriculture in India (1928) that Women's Institutes should be formed in the villages is carried out, this should provide a centre for all kinds of social work amongst women and children in rural areas.[3]

Lt.-Col. C. L. Dunn concluded in his inquiry into the Economic Value of the Prevention of Disease [4] that "money spent in training midwives, health visitors, and daïs under the supervision of Medical Officers of Health in towns, would undoubtedly reduce by half the existing death-rate of infants," and estimated that an annual expenditure of 2 annas per head of the population would ensure an organization capable of attending all the children born in these towns and supervising them during the first months of life. It is true that this expenditure would

[1] Schools for training health visitors have been established at Delhi, Lahore, Madras, Calcutta, Nagpur, and Poona (v. *Moral and Material Progress of India*, 1926–27, p. 153).

[2] *V.* chap. xii, § 6. [3] *V.* chap. vii, p. 181.

[4] *Indian Journal of Economics*, January 1924.

not at first bring in any direct return, but he concluded that eventually, when the utility of the services of daïs and of the health visitors had been demonstrated, people would be willing to pay for them. If the birth-rate could be simultaneously diminished, the indirect benefits would obviously be enormous.

At the International Labour Conference at Washington in 1919 it was suggested that the countries represented should carry out inquiries into the question of maternity benefits for women workers. Two such inquiries were held in India, one by Dr. Barnes in Bombay City and one by Dr. Curjel in Bengal.[1] A Maternity Benefit Bill was subsequently introduced into the Legislative Assembly by Mr. N. M. Joshi, but has not yet been proceeded with.[2] Dr. Barnes concluded that home conditions were worse than conditions in factories, and that the cessation of work for one month before and one month after delivery (on full pay) would normally suffice. Women industrial workers are usually leniently treated and permitted to rest, sit down, etc., when tired, but the strain of factory work is greatly increased by the fact that the woman has usually home duties—the preparation of food and care of the children—both before and after work and during the midday recess. As a rule a woman with a young infant is given factory passes which permit her to feed the child, which is often brought to the factory for the purpose by some relation—often an elder child. In some cases the woman goes home to feed the child, but this causes extra fatigue. If the woman does not feed the child herself, the diet is usually buffalo's milk, often seriously contaminated and diluted. Moreover, in order to keep the child quiet it is the usual custom to administer opium. It has been calculated that 98 per cent. of the children of industrial workers are thus dosed. Dr. Barnes suggested that crèches under the care of trained nurses should be instituted at every factory, that hospitals, with special maternity wards under the charge of a woman doctor, should be built for the exclusive use of industrial workers, and that canteens should be provided at the factories and attempts be made to induce women workers to patronize them. Maternity benefits have been voluntarily introduced in two groups of Bombay cotton mills, employing in all nearly 4,000 women, but the proportion of women claiming the benefit is not high in relation to the number of women at child-bearing age, and does not involve the mills in any very heavy expenditure.

Dr. Curjel made inquiries in Calcutta, especially amongst

[1] V. *Bombay Labour Gazette*, September 1922, and *Bulletin of Indian Industries and Labour*, No. 31.

[2] Further inquiries into existing schemes were made in 1924 by the Government of India (v. *Moral and Material Progress*, 1925–26, p. 248).

workers in jute and cotton mills, and in the tea districts and coalfields of Bengal. She concluded that the strain of factory work on women of child-bearing age was very heavy,[1] but that in the tea-gardens and mining districts conditions are less onerous for women workers, who usually take a few weeks off at child-birth. In a number of tea-gardens, jute mills, and in some coalfields, maternity benefits have been voluntarily introduced, and in the coal districts women seldom go to work unless they are in a good state of health. Women inspectors are urgently needed, and municipal, district, and voluntary work in connection with the health of women and children is extremely backward. "Very few public bodies," she says, "such as Municipal and District Boards, concern themselves with this matter, nor at present are there any women Social workers to help industrial women in the Province." [2]

Similar schemes have been introduced by the Assam Railways and Trading Company, in the mines of Bihar and Orissa, and in various factories in the Central Provinces and Madras. In Bombay there are also maternity homes.[3]

The All-India Welfare Association held its first conference in Bombay in 1922, at which representatives from the principal provinces discussed such diverse matters as general sanitation, housing, co-operation,[4] and the formation of works committees.[5] Organizations exist for attacking special problems such as that of the drink evil and of venereal disease,[6] and the whole question of social hygiene was discussed at the Imperial and Social Hygiene Congress held in October 1925 at Wembley, at which many proposals were put forward.[7] A good example of the way in which the public conscience has been aroused was given during the

[1] *Bulletin of Indian Industries and Labour*, No. 31, p. 2.

[2] *Ibid.*, p. 4. Note the contrast with Bombay. Since then, however, a Women's Council has been established in Calcutta.

[3] *Moral and Material Progress of India*, 1925–26, p. 248, and *Social Service Quarterly*, January 1923, p. 170.

[4] It is interesting to note that an attempt is now being made to organize Co-operative Health Societies (*v.* chap. viii, p. 198).

[5] R. K. Das, *The Labour Movement in India*.

[6] A delegation from the British Social Hygiene Council visited India a short time ago, at the invitation of the Governments of Bombay, Madras, Burma, and Bengal. Visits were also paid to the Native States of Mysore and Baroda. Post-graduate courses to medical men and teachers were given by the delegates, who also made various recommendations to the heads of Government departments. Committees have been formed to carry out the proposals made. The Governments appear to be willing to provide increased facilities for free diagnosis and treatment for persons afflicted with venereal disease, and the universities and Government educational departments are contemplating extending their syllabuses for the training of teachers so as to include an adequate training in social hygiene. It is hoped that, as a result of this visit, provision for the treatment (for venereal disease) of the men of the mercantile marine will be greatly improved at the chief ports (*v. Times*, March 28, 1927; and the *Moral and Material Progress of India*, 1926–27, p. 33).

[7] *Times*, October 7, 1925.

influenza epidemic in 1918–19, when a large number of volunteer workers were immediately organized to distribute medicine and advice to the sufferers.

India's connection with the International Labour Office at Geneva has undoubtedly greatly stimulated the introduction of measures calculated to improve public health. Something has already been, and more could be, done by international co-operation in connection with the traffic in opium [1] and other dangerous drugs, child welfare, the "white slave" traffic, and the combating of preventable diseases, such as the various insect-born diseases.[2] In particular the League's health organization, with financial aid from the International Health Division of the Rockefeller Foundation, has recently opened a bureau of epidemical intelligence at Singapore, which receives cabled reports of health conditions in 140 ports, and broadcasts this information weekly to a number of Eastern cities, including Karachi and Madras.[3]

§ 3. CONCLUSIONS

We have now reviewed the main aspects of the public health movement in India. A good beginning has been made, and the knowledge exists, which, if translated into practice, would revolutionize public health, but so far the improvements achieved have not been sufficiently extensive to manifest themselves in India's vital statistics and sickness rates.

The responsibility of the Government is greater in India than elsewhere, because many of the most noticeable evils in the sphere of public health have been aggravated by changes, such as the growth of great cities, which have been stimulated by European agency. That responsibility has, in many cases, been fully assumed, but progress has been delayed, partly owing to the immensity of the problem in a country of the size of India, partly owing to financial difficulties, and partly owing to the inadequate voluntary support forthcoming for public health measures. Social customs, religious precepts, and the ignorance and apathy of the people, present serious obstacles to the improvement of health, and to a great extent lie outside the sphere of Government. Where the Government has had full control—as in prisons and over the army—progress has been correspondingly rapid, as is shown by the following table:

[1] *V.* chap. xiv, p. 378.

[2] *Asiatic Review*, January 1926.

[3] *Ibid.*, July 1928, "Asia's Stake in the League of Nations," by Norman White; and *ibid.*, October 1928, "The Eastern Bureau of the Health Organization of the League of Nations at Singapore," by Dr. F. G. Boudreau.

Death-Rate (per thousand) amongst the Troops and in Jails in India [1]

	1801–30	1831–56	1901–5	1906–9	1911	1920–24 [2]	1925
European troops	84·6	57·7	12·2	8·7	4·9	5·24	2·89
Native troops	...	15·6	10·0	6·5	4·5	7·70	4 01
Jail population	...	70·7	20·8	20·9	18·3	...	14·42 [3]

It would be interesting to compare public expenditure upon health and sanitation in India with expenditure in other countries, but it is difficult to obtain the necessary data for comparable countries and colonies.[4] In 1925–26 the gross expenditure on public health and medical services, imperial and provincial, amounted to Rs. 6,19 lakhs.[5] In England and Wales in 1925, exclusive of expenditure upon National Health Insurance, and despite the fact that many of the largest hospitals and other medical institutions are dependent upon voluntary subscriptions, no less than £59·4 millions (Rs. 79,20 lakhs) were expended [6]; but this figure included much expenditure by municipalities and other local bodies excluded in the case of the Indian figures. Expenditure by the Central Government alone, but including National Health Insurance, amounted to £18 millions (Rs. 24,00 lakhs). This figure excludes much expenditure that in India would fall within the sphere of the Provincial Governments.

Too much should not be made of the lack of adequate financial resources for carrying out the necessary sanitary reforms. Emphasis should rather be laid on the fact that only a community that has up-to-date sanitation can be really wealthy, and that it is no less than gross extravagance to fail to undertake the known measures of preventing disease, improving sanitation, and spreading a knowledge of the laws of health.

Government can provide the nucleus of a first-class medical service, maintain research institutions, and provide facilities for training doctors, nurses, and other medical officials. Local Governments can lay down (and administer) housing regulations and sanitation schemes. But this is not enough.

" The essential factor needed is a certain degree of training of the mind to revolt against dirt, against dark, dingy areas, offensive

[1] *Moral and Material Progress of India*, 1911–12, p. 133, and Balfour and Scott, *Health Problems of the Empire*, p. 128.

[2] The death-rate amongst the troops rose during the war to an average of 8·23 and 14·02 per thousand for Europeans and natives respectively, but now tends to decline once more (*v.* Balfour and Scott, *op. cit.*, p. 128).

[3] For the year 1924.

[4] Balfour and Scott (*op. cit.*) give the figures for the West Indies and British South American colonies only (p. 67). The total expenditure in this group of colonies in medical and allied services for a total population of 2·0 millions was £639,115 (Rs. 85 lakhs).

[5] *V.* Table XXI, p. 545 (this table gives net expenditure).

[6] *Eighth Report of the Ministry of Health.* Including expenditure upon National Health Insurance, the total amounts to £65·1 millions (Rs. 86,80 lakhs).

smells, dampness, vermin, and all those thousand and one things upon which one can expatiate even after a brief visit to the slums."[1] General education should be primarily directed towards all-round development of the child's capacities, mental, moral, and, last but not least, physical.[2] Physical development and school hygiene have, in the past, been grossly neglected in India. "I have seen a large class of coloured children," said Sir Ronald Ross,[3] "almost all of whom were suffering at the time from fever or enlargement of the spleen, being taught the dates of accession of the Plantagenet kings!" In other words, realism needs to be introduced into Indian education.

The time is far distant when the Indian Government can provide instruction in hygiene for all members of the community. Teachers must first be trained, and the people must be more anxious to take advantage of the facilities offered, especially for girls. It is difficult to see how adequate provision can be made for female education until the position of women has been so improved that they can safely and readily adopt the teaching profession.[4] Moreover, if the death-rate is to be permanently reduced and health improved, and the standard of life raised, something will have to be done to check the birth-rate.

One or two specific methods by which improved health might be promoted by the Government may be suggested. In the first place the measures which have been already described as initiated in the most advanced cities should be extended to all urban areas, and throughout the whole extent of those areas. In rural districts travelling dispensaries should be multiplied, and more drastic measures be taken to ensure a pure water-supply.[5] The example of Madras, where village unions or circles with public health functions have been formed in certain districts, might well be copied, and, in order to supervise these simple efforts at improvement, special sanitary officials should be appointed, instead of leaving the bulk of the work to the already overburdened civil surgeon. Co-operative health societies also offer a possible partial solution of the problem. Something might be done to raise progressively the standard of indigenous medicine, along lines proposed in the Madras Legislature in 1921, by creating a council (distantly comparable with the Royal College of Physicians) which should have power to prescribe the conditions under which

[1] *Social Service Quarterly*, January 1916, "Social Service and Sanitation," by Dr. Subba Rao.

[2] V. *The Labour Magazine*, October 1925, "Education and Health," by Dr. James Kerr; and *Times Educational Supplement*, July 6, 1929, "India: Physical Training."

[3] *Report of the Industrial Commission*, Appendix L, p. 160.

[4] *V.* chap. xvii, p. 481.

[5] Wells can be disinfected with permanganate of potash, and tanks should be protected from pollution from drains and from impure subsoil water.

Ayurvedic practitioners might be registered.[1] As it is impossible to provide sufficient medical aid without these practitioners, it would certainly be worth while to attempt to improve their qualifications, and to distinguish the more capable amongst them.

The introduction of Women's Institutes in villages, which has already begun in Bengal,[2] is also an extremely hopeful line of advance.

Finally, it may be suggested that a great deal could probably be done to improve general health if the people could be persuaded to adopt a more scientific diet. It has been asserted that malnutrition (due partly to poverty, but also to mistakes in diet) is the most far-reaching of the causes of disease in India.[3]

To summarize, it can be said that, apart from broader considerations, the economic loss due to preventable ill-health in India can hardly be exaggerated, and that in order to increase productive efficiency a higher general standard of health is one of the first essentials. Government has already done something and promises to do more to improve public health, but in order to procure far-reaching results voluntary efforts at stimulating interest in the subject and spreading a knowledge of the elementary laws of health are of fundamental importance.

[1] Legislation has recently been proposed for the establishment of an All-India Medical Council (*Moral and Material Progress of India*, 1927–28, p. 153). Apparently it is not intended that this council should control the qualifications of Ayurvedic practitioners, but its scope might eventually be extended. Control is also needed with regard to apothecaries and dispensers, as at present entirely unqualified persons can deal in drugs, etc.

[2] *V.* chap. vii, p. 181, and *Times Educational Supplement*, January 26, 1929.

[3] *V.* Lt.-Col. McCarrison's evidence before the Royal Commission on Agriculture in India; and *Times Educational Supplement*, August 20, 1927, "India: Ignorance and Superstition."

CHAPTER V

ECONOMIC ORGANIZATION

§ 1. INTRODUCTORY, p. 96.

§ 2. THE INDIAN LAND SYSTEM, p. 97.

Land rights in India before the introduction of British rule—The permanent settlement of 1793*—Subsequent settlements—Ryotwari, Zamindari and Joint Village tenures—The effects of prevailing tenures on cultivation and the agriculturist.*

§ 3. INDUSTRIAL AND COMMERCIAL ORGANIZATION, p. 103.

The organization of production and marketing in each important class of Indian industries: i.e. (i) *Village handicrafts;* (ii) *Rural, artistic and workshop industries;* (iii) *Large-scale industries—The development of Joint Stock organization—Voluntary commercial associations—The Managing Agent System—The organization and finance of foreign trade.*

§ 4. THE INDUSTRIAL WAGE-SYSTEM, p. 117.

The position of the industrial wage-earner—The work of women and children in the organized industries—The wage-system in coal-mining, on tea plantations, in the cotton mill industry and the jute industry—Nominal and real wages—Contract work and the gang piece-work system.

§ 1. INTRODUCTORY

A BIRD'S-EYE view of the history of India presents us with the picture of a great sub-continent containing a rich variety of "countries" and of peoples, which has been the scene of a succession of civilizations, each of which has in turn arisen and decayed, but—so far as is known from extant sources—has left fundamentally unaltered the general organization of economic life.

The self-sufficing village unit, which since times immemorial has formed the nucleus of Indian economic life, remains the basis of agricultural production. The main features of the present land-system have been inherited from the distant past. The earliest historical records contain references to the village trader and moneylender, the "hundi" (or indigenous bill of exchange), and the handicraft system of industrial production, which lead one to suppose that in many respects the present-day organization of industry and internal trade still resembles strongly that of many centuries ago.

The fact is that India attained early to "civilization," but, agriculture having reached the stage of intensive, traditional hand-culture, industry that of artistic handicrafts organized in gilds, and trade having developed in articles of luxury, little further material advance was made even after the introduction (from the sixteenth century onwards) of direct contact with the West. Under direct British administration modifications have been introduced, but economic organization has not yet been entirely revolutionized.

In this chapter a description will be given of the fundamental features of this economic "system," within which production, distribution, exchange, and consumption are carried on. As India is primarily agricultural, pride of place must be given to the land system. Industrial and commercial organization, which are closely interrelated, can then be treated together. Finally, an account will be given of the "industrial wage-system," the one entirely new feature of the Indian economic system.

§ 2. THE INDIAN LAND SYSTEM

The relation between the ownership and cultivation of land and the rights and status of the actual cultivators determine to a great extent the conditions under which agricultural production is conducted.

No single system of land tenure prevails in British India, and at first sight it seems an impossible task to summarize the various systems that are at work. Nevertheless, if it is clearly understood that enumerable local variations exist of which no complete account can be given, it is possible to classify the prevailing systems under one or two main headings, and to describe them in such a way as to give a broad idea, at least, of their main characteristics. This is all that can be attempted here.[1]

In early times the idea of absolute ownership of land did not exist in India. What did exist was the idea of the right of cultivation by, and of security of tenure for, the peasantry, on condition that the right of the overlord (whoever he might be) to a more or less definite share in the produce of the soil was respected. Over most of India in the eighteenth century,[2] owing to the low level of cultivation and the lack of political security, land possessed no market value. It produced merely enough to provide a (usually meagre) living for the cultivator and his family, considered to be a return for labour expended, together with a small (but variable) surplus payable to the overlord.

The idea of the East India Company, when it first attained

[1] For a list of works on the subject, *v.* Bibliography, p. 552.

[2] And, probably, until well on in the nineteenth century.

territorial sovereignty, was to continue the existing land systems, but to introduce security, certainty, and some degree of uniformity.

At first the complicated Indian system was a closed book to the servants of the Company. Then began the "search for the landlord" and the attempt to approximate the Indian to the English land system. This was not caused by any desire to change the Indian system, but by ignorance of it, and by the assumption that there must necessarily be a definite ownership of land vested in some particular individual.

Consequently inquiries and assessments—dubbed "land settlements"[1]—were carried out first in one area, then in another, with the object of discovering to whom the land belonged and what share of the produce was due to the Government.

In Bengal, where the first settlements were made, intermediaries between the ruler and the peasant did exist, but it subsequently appeared that in most cases these "zamindars" had not previously been "owners" of the land at all, but officials, or "farmers," appointed by the Moguls to collect the land revenue, and paid by means of a commission on what they collected. At the time they were mistaken for "landlords" in the English sense, and were treated as if they were absolute owners of the land. The "Permanent Settlement" of 1793, which applied to parts of Bengal, Bihar, and North Madras, was therefore made with the zamindars, and in order to introduce certainty, the revenue due from them to the Government was fixed in cash, in perpetuity. The zamindars were left to make their own terms with their "tenants," the land rights (*i.e.* rights of cultivation) of the latter being entirely ignored.

In course of time it dawned on the Land Revenue officials that the Indian differed fundamentally from the English land system, that in many areas, at least, absolute property in the land was vested in no one, and that all classes connected with the land possessed certain rights. In many areas that came into British possession during the nineteenth century, no intermediaries existed, and the Government was obliged to make direct settlements with the ryots. In others, groups of villagers possessed rights in the land, as well as the actual cultivators.

This is no place in which to trace the history of the land settlements and of the discovery of what really were the rights of the various classes connected with the land. Let it suffice to say that during the nineteenth century efforts were made to discover, register, and secure the land rights of all parties, and to adjust the

[1] A "settlement" may be defined as the official assessment of the land revenue due, in British India, to the Government from all land (except that which—for various reasons—has been granted "revenue free"). It is preceded by a more or less full survey, classification, and valuation of the land, and an inquiry into the rights of all persons concerned.

assessment of land revenue from time to time in accordance with changes in prosperity, instead of fixing it once for all. The result has been that British India has been divided into a number of areas (not necessarily contiguous) in which different types of tenure prevail.

Roughly, it may be said that over about half of the area of British India the State deals directly with the ryots, there being no intermediary classes.[1] The ryots possess the right to cultivate, whilst the State possesses the right to a share in their produce, namely, to "land revenue." During the nineteenth century, owing mainly to the introduction of order and political security, land has gradually attained a market value. Hence in many "ryotwari" districts the custom has arisen of letting and even sub-letting the holdings. The original holders remain responsible for the payment of land revenue, and hence it is no longer always the actual cultivator who is assessed by the Government.

Over the other half of the area of British India, intermediaries of one kind or another exist. They may be individuals (as in Bengal, North Madras, and in Oudh) or they may be groups of individuals (as in the Joint Villages of the Punjab). In all cases the intermediaries are responsible for the land revenue.

The outstanding result of these prevailing types of land-tenure has been to divide those interested in the land in India into two main classes. The one consists of those who "own" the land, whether they are zamindars, members of Joint Village Communities, or ryots, but who do not themselves cultivate it. These owners are responsible for the payment of the land revenue to the Government, and let their land to the actual cultivators, from whom they receive rent in money or kind, in return for which they perform few, if any, agricultural functions. These rent-receivers are, to a great extent, mere parasites, who batten on the product of the cultivators.[2] The other class consists of the actual cultivators, who either pay rent for the use of the land, or—in ryotwari districts—pay land revenue direct to the Government.[3] The land thus held is worked, as a rule, not by individuals, but jointly by families, and the tendency is for the number of persons dependent on the cultivation of the land to increase up to the

[1] Fifty-two per cent. of the land in British India is held by ryotwari proprietors, twenty-nine per cent. by temporarily settled, and nineteen per cent. by permanently settled, zamindari proprietors or co-partners (*Agricultural Statistics of British India*).

[2] "It is probably correct to say that every owner of more than twenty-five acres lets part of it to a tenant" (B. G. Sapre, *Essentials of Indian Economics*, p. 195). "The Zemindars as a class have not realized their responsibilities of proprietorship of land" (*ibid.*, p. 458).

[3] In ryotwari districts, therefore, some of the ryots are mere rent receivers, and others are actual cultivators.

point at which they can just obtain a bare existence. Every male, by Hindu law, is entitled at birth to a share in the land. By Muhammadan law daughters can claim a one-third share, whilst in Burma males and females inherit equally. Sometimes the land is held and cultivated in common, sometimes it is worked individually, as, on the death of the head of the family, in most cases the adult sons are entitled to, and sometimes actually do, claim a division of the land.[1] Equal inheritance is not bad in itself, as it tends to a widespread and equitable division of wealth, but it becomes an evil when the population increases up to the point when it begins to press on the means of subsistence. This is now the case over the greater part of India. The average holding should be large enough to provide a fair living for those dependent upon it, and to provide full-time occupation for at least one pair of bullocks. Smaller holdings than this can only be approved if there are also larger holdings near by to employ the surplus working power of the occupants. If a holding is subdivided beyond this point, either some members of the family will have to leave and earn a living elsewhere,[2] or else the cultivators begin to borrow heavily from the money-lender, to whom they mortgage their land.

Once the land has been mortgaged to a moneylender, the cultivator has normally little chance of redeeming his position and of paying off his debt. After a time he will either lose his land entirely and have to seek some other type of work, or he may remain on the holding as the tenant of his creditors, to whom he is obliged to pay as interest whatever he can get out of the land in addition to his bare subsistence. If the land falls into the possession of a money-lender who is not a member of the cultivating classes, no improvement in cultivation will follow. When the moneylender leases the land to the former owner, the latter merely carries on cultivation as before, but without the stimulus of the hope of benefiting by improved cultivation. Dr. Mann[3] gives examples of progressive subdivision. In the Deccan village which he describes and whose history he traces, the average size of holdings decreased from 40 acres in 1771 to 17½ acres in 1818, 17 acres in 1820–40, and only 7 acres in 1915. At this latter date 60 per cent. of the holdings were less than 5 acres. In the Deccan a 5-acre holding is not economic. Neither when land is held in common nor where the cultivator has alienated his holding is there any inducement to sink capital in it.

[1] The interpretation of the Hindu Law of Inheritance by Anglo-Indian judges has tended to encourage the partition of estates, and hence to produce subdivision of the land, and to break up the Joint Family System.

[2] *I.e.* in industry, or as domestic servants. In this case they usually return to work on the family holding at busy times.

[3] *Land and Labour in a Deccan Village*, vol. i.

The result is that a large part of the land in India is cultivated by poverty-stricken peasants, living on the margin of subsistence. Many ryots are permanently in debt, and few possess the means of making improvements in the land, or can afford to adopt better methods of cultivation. In areas remote from the railways the villages are still to a great extent self-sufficient, and form more or less isolated communities whose chief contact with the outside world arises through the payment of land revenue. In addition to the evils arising out of the subdivision of the holdings, due to the increase of the numbers of those dependent upon the land, there is also the evil of "fragmentation," *i.e.* of the division of the holdings into a number of fragments or plots which are scattered throughout the arable lands of the village.[1]

Excessive subdivision prevents the cultivator from sinking capital in the land, even when the total holding would otherwise be large enough for profitable cultivation.

A Bill to permit the registration of "economic holdings" which should be indivisible was proposed for the Bombay Presidency in 1916, but met with violent opposition, because it interfered with the laws of inheritance and with the family system, and was withdrawn.[2]

It has actually been suggested that the best way would be to attack particular areas, one by one, and make a "clean sweep" of the whole system, including family and legal rights of every kind.[3] This, however, appears entirely impracticable until fully responsible government has been granted.[4] The better way would be to extend the promotion of consolidation by co-operative societies, as has already been successfully accomplished in certain Punjab districts. In only three years 133 societies were formed for this purpose and succeeded in consolidating 35,000 scattered plots of land into 4,500.[5] This, however, deals with fragmentation only, and not with excessive subdivision.

The Government has been almost helpless in the face of these evils, as they arise out of religious and social customs and

[1] The object of fragmentation is to ensure a fair distribution of good and bad land. This is customary both under joint cultivation and where the land has been divided, and is often carried to ridiculous lengths. In the Deccan a one-acre field is frequently divided into eight or nine plots, and a case is known where a holding of one-sixteenth of an acre was divided amongst five brothers, each brother cultivating each of the five holdings in rotation. (*V.* G. Keatinge, *Rural Economics of the Bombay Deccan*, p. 70.)

[2] G. Keatinge, *op. cit.*, pp. 74, 243.

[3] *The Consolidation of Agricultural Holdings in the United Provinces*, by H. Stanley Jevons, 1918 (Bulletin No. 9 of the Economics Department, University of Allahabad).

[4] Sir R. H. Craddock points out that such interference would certainly arouse the most violent opposition, and that a drastic remedy would probably be worse than the disease (*Asiatic Review*, January 1926, p. 2).

[5] M. L. Darling, *The Punjab Peasant in Prosperity and Debt*, p. 272, and *Sixth Annual Report of the Indian Economic Association*, 1923, p. 121 *et seq.*

institutions. It has, however, been possible to establish compact holdings in the Canal Colonies,[1] and since the conclusion of the war, owing to the rise in the price of agricultural produce, a demand has arisen amongst the zamindars in certain areas for larger holdings under their own direct management. This movement has not yet, however, proceeded very far.[2]

The land settlements carried out under British rule have given rise to new problems with regard to tenant rights and loss of land by former cultivating owners, which have necessitated legislative interference.

Under British rule, accompanied by the growth of population, the extension of the area under cultivation, and the consequent increase in the value of land, the landlords (especially in permanently settled zamindari areas [3]) began to raise their rents, and even to evict their tenants (if the latter failed to pay the increased rents), whilst the more prosperous cultivators, even in ryotwari areas, began to lease their land (which they had previously cultivated themselves) to a new class of cultivators who had no legal security or protection.[4] The introduction of the more vigorous enforcement of civil rights by the servants of the East India Company strengthened the position of the landlords, and tended to facilitate the enhancement of rents and eviction of the tenants.

The policy adopted by the Government to prevent these evils has taken the form of legislation to give security of tenure and compensation for improvements to tenants, and to prevent the alienation of the land to the non-cultivating classes, which arose out of the increased indebtedness of the cultivators.

The former type of legislation began with the Bengal Rent Act (X) of 1859, which was amended by the Bengal Tenancy Act of 1885 and the Bengal Act (I) of 1907. The Acts of 1859 and 1885 provided " that every ryot who has held any land in a village for twelve years acquires thereby a right of occupancy." [5] Some 80 to 90 per cent. of the ryots now have a right of occupancy under these Acts. The rest either hold at fixed rates of rents, or are without any right of occupancy. " Even the latter, however, cannot be ejected except in execution of the decree of a competent court, nor can their rents be enhanced at shorter intervals than

[1] *V.* chap. vii, p. 161.

[2] *V.* H. Martin Leake, *Land Tenures and Agricultural Production in the Tropics*, p. 27. The Oudh Act of 1923 provides facilities for landowners to reabsorb the land in order to form larger holdings, which they cultivate themselves with the aid of hired labour.

[3] In these areas, as we have seen (p. 98, above), the rights of the cultivators who were not owners of the land were at first entirely ignored.

[4] *V.* P. P. Pillai, *Economic Conditions in India*, p. 103, and M. G. Ranade, *Essays on Indian Economics*, chaps. xi and xii.

[5] P. P. Pillai, *Economic Conditions in India*, p. 103.

five years." [1] Minor improvements suggested by administration experience were introduced in 1907. Similar Acts, aiming at fixity of tenure, fair rents, and compensation for improvements, have been passed in the United Provinces, the Central Provinces, Madras, and Malabar.[2] Such legislation has not been extended to tenants in ryotwari districts, where their status is practically that of tenants-at-will.[3]

To check the evil of land alienation through debt the Punjab Alienation of Land Act was passed in 1901, and the same principle was incorporated in the Oudh Settled Estates Act, 1900,[4] the Bombay Act of 1901, and the Bundelkhand Alienation of Land Act, 1903. The Punjab Act prohibited mortgages containing a clause for the conditional sale of the land, and the sale of land to non-agriculturists. The latter type of legislation does not appear to have been very effective, as it has merely encouraged the "agriculturist" money-lender, as opposed to the trading usurer.[5] This policy has been reinforced by measures facilitating the grant of loans to agriculturists on easy terms.[6]

This legislation aimed primarily at preventing or mitigating evils which arose incidentally out of the introduction of British rule, not at interfering with the prevailing systems of land tenure, or at controlling the size of holdings, the transfer of land, or the status of tenants. In fact, the Government has invariably and necessarily aimed at maintaining and interpreting justly the traditional land systems, radical reforms being politically impossible.

§ 3. INDUSTRIAL AND COMMERCIAL ORGANIZATION

In no country is it possible to distinguish sharply between industrial, commercial, and financial organization, especially where (as in India) the same middlemen, or dealers, act as bankers, traders, and promoters of industrial enterprises. The best that can be done is to describe the organization of production and marketing in each important class of Indian industries, and the organization and finance of overseas trade.

On the basis of scale and type of organization, Indian industries may be divided into three main classes : *i.e.* (i) Village handicrafts ; (ii) Rural, artistic, and workshop industries ; (iii) Large-scale industries (including the plantation industries).

In spite of the opening up of India by railways, the competition of cheap imported manufactures, and the introduction of a money

[1] P. P. Pillai, *Economic Conditions in India*, p. 103. [2] *Ibid.*
[3] B. G. Sapre, *Essentials of Indian Economics*, p. 461.
[4] H. Calvert, *Wealth and Welfare of the Punjab*, p. 142.
[5] *Ibid.*, p. 139. [6] *V.* chap. viii. p. 188.

economy, the old village unit still retains something of its traditional self-sufficiency, except in the immediate neighbourhood of large railway or urban centres.

Each village or small local group of villages that is not directly under the influence of a large town still has its own local artisans, among whom may be found a carpenter, potter, washerman, blacksmith, goldsmith, weaver, dyer, tailor, shoemaker, and sweetmeat-maker.

These artisans, together with the village servants—such as watchmen and members of the untouchable castes who perform menial and despised services—form, perhaps, some 10 per cent. of the total population of a village, and are still usually paid for their services to the villagers by means of a grant of " inam " land,[1] or by a share in the village crops.[2] The exact system under which the village artisans work, and their position in the village, vary from province to province and district to district, but as a rule they deal direct with the consumers of their products, although they may (like the agriculturists) fall into the clutches of the village money-lenders.

The rural, artistic, and workshop industries of India are often designated the " indigenous industries," or else the " unorganized industries," to distinguish them from the highly organized, modernized plantation and factory industries.

It is uncertain upon how large a scale these industries were conducted in early times, but it is undoubted that centres of specialized production of high-grade articles for the courts, the wealthy classes in general, and for export, existed at a very early date. The artisans engaged in this type of production were organized in gilds, which by the sixteenth century contained representatives of various castes, and were similar to the European gilds of the Middle Ages.[3] Then, as now, the artisan sometimes worked as an independent master with, or without, apprentices, and sometimes lost his independence and worked for a dealer.[4] In addition, at that time, a certain number of handicraftsmen were collected together in royal workshops. In any case, the actual artisans rarely, if ever, received more than a bare subsistence.[5]

[1] *I.e.* land free from full liability for land revenue.

[2] The services of the untouchable castes include working in leather, acting as servants to the headman, taking messages, scavenging, and the making of ropes, baskets, brooms, and matting.

[3] The entrance to a trade, wages (*i.e.* earnings, not necessarily paid in money), sales, prices, and conditions of work were all carefully regulated.

[4] The dealer might either simply advance money, and have a lien on the product, which he eventually bought at a price previously settled, after deducting the advances made, or he might act as a fully fledged entrepreneur, and provide the raw material, which he put out in turn to spinners, weavers, fullers, and dyers.

[5] *V.* W. H. Moreland, *India at the Death of Akbar*, p. 188.

The East India Company did not alter this system fundamentally. Its agents bought goods (chiefly cotton and silk manufactures) through the native dealers. It sometimes appointed its own agents to give orders and advance money to, and collect the goods from, the actual handicraftsmen. Sometimes (as in Madras) the attempt was made to attract workmen to particular centres, and employ them in a manner comparable with that of the old royal workshops. Whichever system was adopted, the Company complained of having to pay more than was just for the articles in which it traded.

After the Industrial Revolution began in England some of the indigenous artistic products began to be undercut by the English factory goods, in the home, as well as in foreign, markets.[1] Moreover, India has shared in the " decadence " of the peasant handicrafts, and in the general vitiation of public taste, which has occurred all over the world. There has been an ever-growing demand for the cheaper, less artistic factory products, with their relatively crude colours and designs.

By the end of the nineteenth century there was no longer any question of keeping out factory products. It was too late. The problem was how to reorganize on a sounder basis the surviving artistic and other handicrafts,[2] and how to stimulate and improve the new commercial industries.

The efforts made since 1900 to check the decadence of the artistic indigenous industries[3] have met with a certain amount of success, especially in the textile hand industries. But even where the decline in the volume of production has been checked, there have been changes in organization which have altered the position of the artisans.

Until the end of the nineteenth century artistic handiwork was carried on by a strictly limited class of workers, carefully trained in all the traditions of design and process. Organization, methods, and markets were alike strictly regulated and unprogressive, but stable. Purchasers of the products were either wealthy Indians or exporters for sale to foreign connoisseurs, all of whom demanded the highest workmanship, artistic designs, best and most durable materials, and who were willing to pay to get the best. Stimulated in the first place by the London Exhibition in 1851, a new type of foreign demand for Indian goods grew up during the second half of the nineteenth century. At the same time the richer classes in

[1] *V.* chap. ix, § 1.

[2] *E.g.* cotton weaving, silk weaving and embroidery, woollen manufactures (including the making of carpets), stone and wood carving, metal-working (especially in brass, silver, and copper), ivory carving, and lacquer work. Many of these industries were, in urban areas, carried on in workshops as well as in the homes of the artisans, and, as a rule, the workers lived (and still live) close together in streets which specialize in particular products.

[3] *V.* chap. ix, § 3.

India began to adopt European fashions, and either purchased imported goods, or were content with the cheaper indigenous products sold to Europeans that previously they would have scorned. The lesser Indian gentry or newly rich commercial and industrial classes also began to ape their " betters " and to purchase different types of articles for clothing and domestic use.

The new purchasers understood nothing about quality, design, and workmanship, and were unwilling to pay the price necessary to increase the production of first-rate articles. The consequence was a great influx into the crafts of less-skilled workers, who produced quickly a large number of inferior articles which flooded the markets and reduced prices. This spoilt the market for the real craftsmen, who could no longer obtain an adequate reward. Cheap material, meretricious designs, and scamped workmanship became universal, and the ignorance and bad taste of the new purchasers made them unwilling to pay more for good than for inferior articles.

These changes led to a great increase in the number and power of the middlemen, and a loss of direct contact between the artisan and the consumer. Designs for, and samples of, the required articles (in the case of textiles at least) are now often sent out from Europe, whilst in certain cases (for instance, in the carpet industry) antiques are even faked by the use of faded colours.[1] It seems that the root of the trouble with regard to the quality of the workmanship is not—as has sometimes been asserted—the " lack of adaptability " of the Indian artisan, but rather " the bewildering rapidity with which he follows every change in fashion. The experience of the past has been sacrificed in the hope of satisfying the fickle taste of the modern European customer." [2]

The result has been the growth of a considerable class of industrial wage-earners who can never hope to become masters, and the replacement of a stable, limited, local market by a larger but more fluctuating market, partly local, partly provincial, and partly foreign.

Hence there has been the tendency towards the break-up of the old Gild System and its replacement by the entrepreneur or " domestic " system.[3]

[1] The changes in internal organization indicated above can be traced in the history of a large number of the artistic industries described in the series of Provincial Monographs published during the first decade of the twentieth century (*v.* Bibliography, p. 555).

[2] *Monograph on Carpet-Making in the United Provinces*, p. 10. This monograph continues, with reference to the Indian carpet-weaver: " With perfect impartiality he copies the most worthless design and the finished product of art."

[3] Gilds still exist in many industries in many areas, although in most cases their functions have become more limited. Some observers think it possible and desirable that they should be revived.

Nowadays many workers still work in their own homes, but have fewer opportunities of improving their economic position, and no form of systematic control has as yet been developed to take the place of the gilds. The problem of freeing the artisan from the clutches of the middleman who has advanced money to him has thus been accentuated.

In the industries engaged in the preparation of the agricultural staples for the market (such as cotton ginning, cleaning and pressing, jute pressing, rice, oil and sugar mills, and timber works) conditions have been more prosperous owing to a stable demand, but in nearly all a struggle has been going on between large-scale and "traditional" methods of production. The expansion of such industries depends mainly upon the possibilities of increased productiveness of the soil. On the whole, although it seems probable that there is room for both large-scale and small-scale industries (provided that each type is conducted in an efficient manner), in practice large-scale industry tends to be more prosperous, largely because the promoters are more apt to adopt better methods and machines. A temporary reaction against large-scale organization was caused, during the first decade of this century, by the members of the Swadeshi Movement, who founded a number of small workshops in different parts of the country. A great many of these workshops failed, but the retail Swadeshi stores, which were started in many centres (such as Bombay) in order to provide marketing facilities for Indian-made manufactures of all kinds and description, were more successful and have fulfilled a useful function.

Conditions of employment and methods of payment in the unorganized industries are now extremely varied, and there is considerable difference in the degree of independence enjoyed.

The unit of production may be either the "small master" (possibly assisted by one or more apprentices) working on his own, the itinerant artisan or retailer, or the dependent worker, working in his own home or in a small workshop under the orders of an entrepreneur. The same artisan may sometimes work at home (for a wage, or in order to manufacture and sell for a profit), and sometimes work under the roof of either an entrepreneur or the ultimate consumer of his product.[1] To add to the confusion, an artisan (for instance, a carpenter) is sometimes part-owner of the business for which he works, and hence receives profits and interest as well as wages.[2]

[1] The dirzie (tailor) sometimes works for wages in a workshop, sometimes works at home to the order of a shopkeeper, sometimes works at the house of a private person who hires his services for a week or more, and sometimes undertakes work at his own home for piece-work pay.

[2] *V.* P. N. Gilchrist, *Wages and Profit-Sharing*, p. 297. Similarly agricultural wage-earners are sometimes part owners of the land on which they work for wages.

Throughout agriculture and unorganized industry time rates are normally paid, but contract piece-work is also undertaken by an artisan who carries out the job with the aid of other artisans to whom he pays wages. Since the beginning of the nineteenth century the use of money has greatly extended, but part payment in kind is still practically universal, and full payment in kind is found in certain backward areas. Tobacco and one or more meals are frequently included in the contract. Thus a man may receive a money wage, plus a meal, plus an allowance for tobacco. Or he may receive a money wage, plus so much in lieu of a meal, plus so much for the purchase of tobacco.[1] Presents on certain occasions and at special times of the year are universally given in domestic service and in unorganized industries. For instance, cloth may be given to employees at some particular festival (*e.g.* Divali), or a coat and rug may be given to a servant when he is taken " up-country." [2]

Whatever the unit of production or the method of payment, the part played by the middleman is usually large, and even the master-craftsman may be dependent on him both for the wherewithal to carry on his craft and for a market for his products. The middleman may belong to one of two classes. He may be only a small village money-lender,[3] who advances money to the producers and sells their products—agricultural or industrial—either retail in the vicinity or to dealers in larger commercial centres, who themselves pass the goods on again to still larger centres, or sell them to exporters. On the other hand, he may belong to one of the special trading castes which carry on extensive trading and banking functions throughout the country.[4]

A great deal of criticism has been levelled against these middlemen, who have been charged with being avaricious and extortionate, and hence one of the main causes of the impoverish-

[1] P. N. Gilchrist, *Wages and Profit-Sharing*, p. 297.

[2] On going to a hill-station extra expense on account of the servants is considerable. No rug or coat ever lasts for a second visit. Such presents really constitute additional payment, and not merely additional comfort. Again, " bhatta " money has to be paid—*i.e.* extra money for food when away from home—although even at home each servant is supposed to provide all his own food and actually does his own cooking.

[3] These village money-lenders are commonly termed *Mahajans, Tharakans, Sahukar* (i.e. *Sowcar*), etc.

[4] " Almost every province has its peculiar trade castes. The Mawaris of Rajputana are, however, found almost everywhere, and in Assam they are of more importance than the natives of the province. In Bombay the Parsees . . . tread close upon the heels of the great English houses, while Lohanas, Variis, Bohras, Memars, Khajas, and Lingayate occupy different areas in the Presidency. Lingayate are found also in North Madras and Mysore, but farther south Chettis and Komatis predominate. The traders of the Punjab are largely Khattris and members of the numerous castes included in the generic term of Bania. In Bihar and the United Provinces Banias take the lead, while in Bengal Brahmans and a number of lower castes share different classes of trade" (*Imperial Gazetteer*, vol. iii, pp. 301, 302).

ment and indebtedness of the Indian ryots and artisans.[1] It is true that their number has been, and is, excessive, and that often they charge exorbitantly for advances, and attempt to get the producers permanently into their debt and hence into their power, but at the same time they serve a useful function, and without them the craftsmen, in many cases, would be still worse off. The latter are frequently too ignorant, and have not the requisite capital, to market their own goods.[2]

So far we have been dealing with industries which have been established for many centuries in India, and in the organization of which Europeans have taken little or no direct part. The plantation and large-scale industries[3]—including the tea, coffee, rubber, textile,[4] coal-mining, engineering, iron and steel, and chemical industries—have, on the contrary, grown up during (or since) the middle of the nineteenth century ; many of them have been actually promoted by Europeans, and their organization has been influenced fundamentally by Western ideas.

Although originally many plantations and some factories were started by private capitalists (European and Indian),[5] Joint Stock companies became the prevalent form of organization during the nineteenth century. Thus at the beginning of the twentieth century a large part of India's foreign trade and large-scale industries was dependent upon foreign (mainly British) capital, and was under the control of Joint Stock companies registered abroad (mainly in England). A certain number of Joint Stock companies had been formed in India for banking, trading, and industrial purposes, but their capital and influence were small in comparison with that of companies registered outside.

Since 1900 the number of Joint Stock companies registered (and at work) in India has increased almost fivefold, and the Joint Stock system has become prevalent in a much greater variety of industries.

Part of the capital even of these concerns is European owned,

[1] At the Eighth Conference of the Registrars of Co-operative Societies, Sir Daniel Hamilton spoke of "the modern thug, the Mahajan, with his bit of silver tied in his silken noose," and asserted that he "strangles the life of the people, and until the noose is loosened and slipped round the Mahajan's neck, India will not breathe or live" (quoted by K. S. Narayana Murty, *The Position of the Middlemen in Village Industries*).

[2] *V.* K. S. Narayana Murty's pamphlet, *The Position of the Middlemen in Village Industries* (read before the All-India Economic Association at Patna in 1922).

[3] *V.* Table VII. p. 523.

[4] The textile industries include the cotton, jute, woollen and silk industries, and are concerned with cleaning, ginning and pressing, as well as with spinning and weaving.

[5] The cotton mill industry is mainly Indian owned and managed, and the steel industry is entirely in Indian hands and dependent upon capital raised in India. Both have adopted Joint Stock organization and the Managing Agent System (*v.* p. 113).

and the direction and management of a large proportion of the concerns is in European hands, but it is difficult to obtain accurate statistics on this matter,[1] especially as in India " bearer " shares are popular, and consequently a large number of holders are not registered. It is known, however, that most of the capital in the cotton industry is held by Indians, and, according to the Jute Association, an " increasing majority " of the capital in the jute industry is also owned by Indians.

The progress of Joint Stock organization amongst Indian traders and industrialists is still considered unsatisfactory,[2] and in 1925–26 it was calculated that there were 819 companies at work in India, but registered elsewhere, with a sterling capital of £554 millions (Rs. 738 crores), as compared with 5,311 companies with a capital of Rs. 277 crores registered and at work in India. India cannot yet avoid recourse to foreign capital, but the more the much needed capital is supplied by Indians themselves, the quicker will be the country's economic progress.

Since the beginning of the twentieth century there has also been a very rapid growth of unofficial commercial associations aiming at the protection of the interests of traders and the facilitation of business transactions.

The more important of these associations and Chambers of Commerce have considerable influence, as they focus commercial opinion and represent the commercial community in its dealings with the Government and on other important occasions. They possess certain privileges and are definitely represented on various official bodies. For instance, the Bengal and Bombay Chambers of Commerce are each represented on the Council of State and on the Legislative Bodies of their Local (provincial) Governments, and various Chambers of Commerce are represented on Port Commissions, Improvement Trusts, and Municipal Corporations.[3]

These commercial associations can be divided into four main classes: General Associations; Local Associations, including both Chambers of Commerce and associations representing particular branches of trade which work in close touch with the Chambers of Commerce and sometimes even share their secretariat; Trades Associations representing retail traders in the principal cities; and the Indian Stock Exchanges.

General Associations include the Associated Chambers of Commerce of India and Ceylon, founded in January 1920 at a Conference of representatives of the various local Chambers of Commerce, the Indian Jute Mills Association (dating from 1884), the East Indian Cotton Association (1921), the Indian Tea Associa-

[1] P. P. Pillai, *Economic Conditions in India*, p. 281.
[2] *Ibid.*, p. 167.
[3] C. W. E. Cotton, *Handbook of Commercial Information for India*," pp. 28, 29.

tion (1881), the Indian Central Cotton Committee (1921), the Indian Mining Association (1892), the Indian Mining Federation (1913), the Mining and Geological Institute of India (1906), and the Wine, Spirit, and Beer Association of India (1892). All these are open to both European and Indian members, except the Indian Mining Federation, which was specifically founded to represent Indian capital in the Bengal, Bihar, and Orissa coal-mining industry.[1] Their membership, however, is necessarily preponderatingly European, as—except in the cotton industry—the majority of the chief industrialists and leading traders are Europeans. Some of these associations, such as the Indian Tea Association and Indian Central Cotton Committee, have been financially assisted by Government and entrusted with considerable power and responsibilities.

Local Associations include the Chambers of Commerce which exist in all important centres, local or provincial commercial associations, and planters' associations. The majority of the Chambers of Commerce (of which there are twenty in all) consist chiefly of Europeans, but admit Indians. There are, however, a certain number of purely Indian Chambers. In important centres such as Calcutta, Bombay, and Madras, there are two Chambers, one of which is purely Indian. Amongst the local associations representing particular branches of trade may be mentioned the Calcutta Jute Balers' Association, the Calcutta Wheat and Seed Trade Association, the Calcutta Hides and Skins Shippers, the Bombay Millowners' Association (dating from 1873), the Bombay Cotton Trade Association (1876), the Bombay Native Piece-goods Merchants' Association, the Ahmedabad Millowners' Association, the Indian Sugar Producers' Association, Cawnpore, and the Employers' Federation of Southern India (1920).

Planters' associations have been founded in Bengal, Assam, and Southern India.

Trades associations representing retail traders are found in Calcutta, Bombay, Madras, and Rangoon.

There is also a French Chamber of Commerce in Bombay, founded in 1921 to promote trade between France and India, and in 1912 the London Chamber of Commerce opened an "East India Section" to advocate "questions of commercial interest in India"[2] in the United Kingdom.

There are now Stock Exchanges in Bombay, Calcutta, and Madras. The latter was founded in 1920 and deals principally in mill shares. In Calcutta and Bombay there was no regular organization during the nineteenth century, but business was done in the alleys of the business quarters without any rules or

[1] C. W. E. Cotton, *Handbook of Commercial Information for India*, p. 33.
[2] *Ibid.*, p. 29.

regulations except those arising out of the established custom of those cities. In Calcutta a mercantile exchange called the Royal Exchange was established in 1893 in the premises of the Bengal Chamber of Commerce, which acquired in that year what had been the buildings of the Oriental Bank. In 1908 the " Calcutta Stock Exchange Association " was formed, and the present Royal Exchange buildings were constructed in 1915. There are some 150 members of the latter, including European, Jewish, Marwari, and Bengalee firms, of whom the Marwaris predominate. " There are no settlement days, delivery is due the second day after the contract is passed, and sales of securities are effected for the most part under blank transfers." [1] Dealers on the Exchange act as brokers as well as dealers.

In Bombay there is a general " share bazaar " or Stock Exchange, and a special Cotton Exchange.

The old share bazaar was established in 1899, when the " Indian Share and Stock-Brokers' Association " bought a special hall for the purpose. They undertake the sale and purchase of Joint Stock securities throughout the Presidency, and their activities are regulated by special rules. There are between 400 and 500 European and Indian members of the Association, of whom, however, only about 200 actively pursue their calling. " Business in Government Paper and all other Trustees' Authorised Securities is carried on under the rules of the Bombay Stock Exchange, but in the street outside the hall." [2] The admittance fee for a broker was at first only Rs. 5, but was gradually raised to Rs. 7,000.

A Committee appointed by Government to inquire into the constitution and rules of the Share and Stock-Brokers' Association, with a view to protecting the investing public, reported in 1924, and made proposals for preventing corners and facilitating the handling of complaints.[3] These proposals were not, however, accepted by the Association, and in 1925 heavy speculation led to a crisis, the temporary closing of the Exchange, and a public agitation for Reform. After a threat of Government intervention new rules were adopted, designed to discourage such speculation.[4]

A new Share Bazaar or " Bombay Stock Exchange " was incorporated as a Joint Stock Company in 1917, but has already ceased to function.

The outstanding features of the organization of firms concerned with India's foreign trade and large-scale industries are that most of the trading firms do not specialize, but deal in a large variety of goods, and that they undertake the actual management of

[1] *Indian Year Book*, 1927, p. 662. [2] *Ibid.*
[3] *Report of the Bombay Stock Exchange Enquiry Committee*, 1924.
[4] *Indian Year Book*, 1927, p. 662.

most of the plantations and other industrial enterprises capitalized and controlled by Europeans. This latter system is known as the " Managing Agent System," [1] and arose out of the peculiar circumstances prevailing in India,[2] where the external trade was developed by foreigners who never took up permanent residence in the country. The East India Company simply followed in the footsteps of earlier foreign traders, and utilized the existing forms of commercial organization. As the Company, as a body, undertook less and less trade, and finally (after 1833) entirely ceased to trade, the place of its servants as traders was taken by private merchants, who also accepted the existing system. These merchants undertook foreign, but did not interfere radically in internal trade. Under the East India Company some degree of continuity of policy and organization was maintained, but it was difficult for private merchants to attain this end. When Joint Stock Companies—usually British companies, with a sterling capital and with their head offices in London—gradually replaced private firms and partnerships, although corporate organizations tended towards greater continuity, this was partly counteracted by the shortening of the period during which individual merchants remained in India and their more frequent visits to England. As commerce expanded and larger-scale projects were undertaken, it became more and more difficult to maintain the requisite continuity of policy and efficient direction and management. Moreover, British companies, with their headquarters in London, needed to secure the services of managers in India with first-hand knowledge of conditions on the spot. Thus, when new companies were formed, the system arose of handing over the actual management of the new projects to old-established, well-known firms. These latter came to undertake the " management " of one thing after another on a commission basis, and were called the " managing agents " of the various companies for whom they acted.

Alternatively the Managing Agent System was introduced when a private business was for any reason turned into a public company. If, for instance, a merchant on retirement wanted to retain some interest in his business, he might well feel that his interests would be best represented if he formed a company and handed over the actual management to a well-known firm of agents.

The actual promoters of new companies, founded either in England or in India, as the case might be, in many instances were members of one or other of the old-established firms. These men

[1] The origin of this system is obscure, but traces of it, in embryo form, can be found as early as the eighteenth century (*v.* H. Sinha, *European Banking in India*, p. 4).

[2] And in China, Malaya, and the East Indies.

would see the chance of establishing a new industry or line of trade, and would come forward with a project and form a "Directorate" which would raise the necessary capital.[1]

Articles of Association would be drawn up, defining carefully the powers and duties of the "Secretaries and Agents" of the new company. As a rule an annual sum was paid to these managing agents for office and other expenses, and a commission would be paid to them on either output, sale, or net profits.[2]

The old-established firms preferred to undertake a Managing Agency, rather than to promote a new enterprise directly, because it saved trouble, made it easier to raise the capital, and diminished risk. To undertake new activities, entailing the holding of land, raising of capital, etc., new legal powers had to be obtained in any case. This was arranged by the new company. Some of the directors of the new company were recruited from amongst persons not previously connected with the "Managing Agency" firm, and they helped to raise the necessary capital from hitherto untapped sources. The risk was less because the Managing Agents commonly earned a regular fee independent of profits, whilst in addition they had the chance of earning a good commission.

On the other hand, the Board of Directors and promoters of a new enterprise liked the system because of the great difficulty in India of finding suitable managing directors. The number of Indians of the requisite calibre has been very limited, and in any case Indians have not commanded the confidence of European investors, whilst European managers did not remain at the work long enough to secure continuity of management and were difficult to replace quickly in case of illness, "leave," or death. The firms chosen as Managing Agents were above suspicion as regards integrity and financial position, and secured continuous efficient management, as they were usually large enough to comprise several first-rate partners who were able to replace each other.

The system has several disadvantages. The directors are relieved of any real responsibility for the enterprise, while this is apt to result in a surprising and even culpable ignorance on their part.[3] The responsibility and power of the shareholders are also almost non-existent,[4] and the Managing Agencies have been

[1] V. *The Round Table*, March 1923.

[2] In the plantation industries—as also in all the concerns in the East Indies and the Malay Peninsula—a commission has usually been paid on a definite quantitative basis, such as on the quantity of goods shipped ("shipping commission"), sold ("sales commission"), or purchased ("buying commission"), or according to the amount of money advanced on behalf of the project ("financing commission"). In other types of concerns in India a commission is generally paid on profits.

[3] *V.* S. Davar, *Business Organization*, p. 28.

[4] It has been said that the system restricts the "free exercise of the voice of the shareholders in the management and enterprise in which their savings are staked" (S. Davar, *op. cit.*, p. 28).

charged with undue conservatism and with reluctance to embark on new ventures. They have tended to favour commercial rather than industrial enterprises, to the detriment of the economic development of India. During the nineteenth century the system worked well, on the whole, but it is probable that India has now outgrown it.[1]

The economic strength of the system is based partly on the fact that it favours the concentration of power in the hands of a relatively small number of business magnates (and is, therefore, strongly supported by them), and partly on the superior efficiency of unitary, autocratic control. In England such control is exercised, to a great extent, by the managing directors of Joint Stock companies, but in India it is feared that a local board of directors would interfere unduly and prevent efficient and expeditious management.

The plantation industries are organized in a similar manner to the large-scale factory industries, although they control the actual cultivation of crops as well as the preparation of the produce for the market. They have mostly been established by Europeans, on a large scale, with European capital, in areas previously sparsely populated. The crops grown do not as a rule compete with the ordinary agricultural staples, but (with certain exceptions [2]) have become additional products in previously undeveloped areas. The labour supply, as a rule, is obtained from a considerable distance, and the same workers take part at different times in both agricultural and industrial processes.[3] Each plantation thus forms a productive unit employing a large band of labourers, under capitalistic management, like a factory or mining concern. Both cultivation and preparation of the products for the market are usually carried out scientifically, the factories being well equipped with plant and machinery.

The organization of the indigo industry is quite different from that of the other plantation industries. Tea, coffee, and rubber plantations are under the direct management of individual Europeans, European companies, their agents, or Indian firms which imitate European methods. In the indigo industry few European planters or agents undertake direct cultivation, but the so-called "planters" as a rule merely make advances to the agriculturists and supervise the consequent cultivation. When such advances are made the cultivator agrees to plant so many acres of indigo, and is obliged to sell the product to the planter at a price fixed when the contract was made, subject to deductions on account of the advances made. During the nineteenth century

[1] *V.* Appendix E., p. 501.

[2] Notably the indigo industry.

[3] As a rule plantation companies engage in both the cultivation and preparation of their crops.

this system caused much unrest, and relations were bad between the planters and the cultivators. Sometimes, but not often, the planters actually own the land, which they then lease to the cultivators on condition that indigo is grown and sold to them.

Except in the indigo industry the methods of production depend directly upon the planter. The problem of efficient production is the same as that which confronts tropical and subtropical plantation production all over the world, except that in India the labour problem has perhaps been less difficult. Indian planters have had the advantage of being able to command a source of labour eminently suited to their requirements. Even when labour had to be recruited from a considerable distance (*e.g.* for the Assam tea-gardens), it was not at first, at any rate, found difficult to attract the requisite supply. Regulations for recruitment were introduced from 1863 onwards, which have prevented the conditions of labour from falling below a certain level.[1]

Incidental reference has already been made to the fact that India's foreign, as contrasted with her internal and coastal trade, is mainly in the hands of foreign (chiefly British) firms.[2] The Exchange banks[3] help to finance this trade. To finance the import trade a bill is drawn on the Indian[4] importer of foreign merchandise, and sent to one of the Exchange banks, which discounts it and collects the payment from the importer when the bill matures. If the drawer of the bill (*i.e.* the seller of the goods) wants to have command over money in India, he sends the bill to the Indian branch of the Exchange bank, which credits him with so many rupees. If the drawer wants sterling in London, he takes the bill to the London office of the Exchange bank. This office buys the bill—*i.e.* pays him sterling for it, reckoning interest in proportion to the length of time for which the bill has still to run before it matures—and sends the bill to its branch in India for collection on maturity.

To finance the export trade the Indian exporters draw bills on their debtors payable in London, and take them to the Exchange banks to be discounted. These banks pay the exporters in rupees and collect the money in sterling, in London, on maturity.

If the value of the exports from, and imports to, India of merchandise normally balanced each other over a long period, the produce bills due to be paid in India in rupees would, in the long run, equal in value the bills due to be paid in England (or

[1] *V.* chap. xii, p. 309. For an account of the early legislation, v. *Moral and Material Progress of India*, 1891–92, p. 412.

[2] The bulk of this trade is also done by British ships.

[3] *V.* chap. xv, p. 408.

[4] *I.e.* "Indian importers" in the sense of importers who are in India. They may, of course, be Europeans!

in all other foreign countries). But as a rule the goods exported from India greatly exceed in value the goods imported into India. Hence the value of the bills which the banks discount in rupees in India (*i.e.* the payments for exports) greatly exceed the value of the bills which, when they mature, are collected in rupees in India (*i.e.* the payments for imports). The banks provide themselves with funds to meet this continuous excess of demand for rupees in India, either by importing sovereigns (or gold and silver bullion) into India, or by buying the Secretary of State's Council Drafts.

The Government of India is in an exactly opposite position to the Exchange banks. It receives the whole of its revenue in rupees (or their equivalent) in India, whilst it has to pay annually a large sum in sterling in London on account of its "Home Charges." [1] Thus the Government normally wants to send money from India to England. Instead of actually transporting the money or bullion, the Secretary of State, until recently, sold in London, for sterling, the so-called "Council Drafts," which entitle the holder to receive rupees in India.[2] Since 1927 the Council Draft System has been superseded by one of Governmental purchase of sterling by public tender in India.

Sometimes there is a falling off in the excess of exports over imports, or the Government may temporarily desire rupees in India in exchange for sterling in London. Under such circumstances the Government of India sells "Reverse Councils"; that is, it offers to give rupees in India in return for gold in London.

The "rate" offered for these bills is normally limited, in both directions, by the "gold point."

§ 4. THE INDUSTRIAL WAGE-SYSTEM

The information necessary for a comprehensive study of the industrial wage-system in India has not yet been collected.[3] No efficient labour offices existed, until quite recently, for the collection and compilation of statistics, and the nomenclature with regard to occupations and types of workers varies throughout India, making the classification of wage-earners extremely difficult. Moreover, there is invariably a great difference between "real"

[1] *V.* chap. xiii, p. 333, and Appendix G, p. 509.

[2] After 1904 Council Drafts were freely sold in response to the demands of trade (*v.* chap. xv, p. 413). Council Drafts might be either bills or Telegraphic Transfers. A bill bought in London had to be sent to India and hence could not be cashed for at least a fortnight, entailing loss of interest. "Telegraphic Transfers" entitled the holder to immediate cash in India, and were therefore sold at a higher price than bills.

[3] Even the so-called quinquennial wage census which was first taken in 1908 (and repeated in 1911 and 1916) was abandoned in 1921, owing to the difficulties experienced in obtaining reliable facts.

and " nominal " wages, and no means of valuing the concessions granted in addition to cash wages. Employers in India object to publicity,[1] whilst compulsory powers as to furnishing returns of wages given do not exist, except in Bombay.[2]

The rise of a class of industrial labourers mainly dependent for their living upon wages in cash is a novelty in India, and even now the number of those entirely divorced from the means of production is extremely small.[3] In fact, industrial workers, even in the " organized " industries, are still agriculturists at heart, and in many cases take an active part in agricultural operations during certain periods of the year. Usually the industrial worker has his own plot of " family " land to which he does return at harvest time, and to which he can return, if he loses his job, falls ill, or is dissatisfied with the conditions of his employment. He takes up industrial work, as a rule, either because his share of land is too small to maintain him and his family, or because he is ambitious and wishes to increase his income. This means that the labour supply in most cases is not a permanent one, and that even the most regular employees do not work continuously at their jobs throughout the year. On the other hand, the wage-earner possesses an independence unknown to the proletariat of the West. If he loses his job, his means of subsistence is seldom seriously endangered, and there is as yet no industrial " unemployment problem " in India.[4] The change of climate and rest from factory work and city life undoubtedly helps to keep the workers fit and hence to preserve their efficiency.

The labour force is much more difficult to organize than if it were permanent and continuous, and it is difficult to achieve collective bargaining. The employer naturally dislikes this state of affairs, partly because of the comparative independence of the workers, and partly because of the loss and waste involved by a

[1] For instance, the wage bonuses on piece-work granted in the jute industry are kept a " deadly secret " (P. N. Gilchrist, *Wages and Profit-Sharing*, p. 300).

[2] *V.* P. N. Gilchrist, *op. cit.*, pp. 243, 244. Returns of wages are indirectly implied by the Factory Acts and by the Workmen's Compensation Act, but it is a very different thing simply to be able to compel employers to furnish particulars in any specific instance when there is occasion to take legal action, than to obtain regular and complete returns from all employers.

[3] It is not possible to estimate their number, but only 2·6 million persons are engaged in the organized industries. *V.* chap. iii, § 3.

[4] Unemployment among the educated classes is a serious evil. It has been estimated that the proportion of educated men seeking employment to the demand for them is roughly two to one (v. *Times Educational Supplement*, December 31, 1927). " A test advertisement for a post carrying a salary of Rs. 35 (£2 12s. 6d.) per month drew no fewer than 666 applications " (*Ibid.*, p. 584). V. *Moral and Material Progress of India*, 1915–16, p. 99. What is called the " famine " problem is now fundamentally a problem of widespread unemployment in the areas where crops fail, and is dealt with mainly by State provision of work and wages, but this affects chiefly agriculturists and handicraftsmen, not workers in organized industries.

continuous change in the personnel by which the efficiency of the workers is seriously impaired. Hence many attempts have been made to induce the workers to settle down and break their connection with their ancestral land.

For instance, in many areas wages are paid monthly instead of by the week, and the first payment is not made until the new employee has been at work several weeks. A monthly pay day is fixed, usually at the end of the second week in any month, and on that day payment is made for the last calendar month.[1] The worker has, therefore, even on pay day, done one or two weeks' work for which he has not been paid. Of course, if he has given notice that he wants to leave he can claim his month's pay at the end of the month and go off with it. But it will not pay him to leave without notice.

Housing accommodation and a plot of land may be given to each employee in order to induce him to send for his wife and children and to settle down permanently on the spot.[2] This is the method adopted by the Tata Iron and Steel Company at Jamshedpur, and in several of the mining districts where the problem of a shifting labour supply is particularly acute. As a rule, however, the miners do not take their families with them. In some areas the mine-owners cannot make such provision because they do not possess, and cannot obtain, zamindari (*i.e.* landlord) rights in the neighbourhood.

Again, in large cities (such as Bombay and Calcutta) the method of the yearly bonus in proportion to the length of service, or the gratuity fund for long service, has been introduced. This usually means that a worker receives a gratuity of 5 to 10 per cent. of his total wages after some ten years' service. The complaint is made that during a depression workers are unfairly deprived of this gratuity by systematic dismissal of the employees of longest standing. These additional payments add to the difficulty of calculating average wages, and another complication is introduced by the custom that the regular workers shall provide substitutes (*badlis*) when they go off for the harvest, or take leave for some other purpose. The *badlis* receive the same basic pay as those for whom they act as substitutes, but not any extra payment for length of service, etc. " It is part of the code of honour that the

[1] The same method of payment exists for domestic servants. They, however, like agricultural workers, often ask for an " advance " on wages which they gradually work off. It is generally better to lend the money without interest oneself rather than to force the servant to resort to the money-lender. We made many such advances whilst in Bombay, sometimes for considerable sums (as compared with the wages given) and in no case ever failed to obtain repayment. In the jute industry, wages are paid weekly.

[2] As a rule the industrial worker does not bring his wife and children to the city with him at first, unless the wife also wishes to obtain factory work. Should he get on well he will send later for his dependents.

temporary man, or *badli*, will not try to get the job permanently," [1] and this code is strictly kept.[2]

The recruitment and dismissal of the employees in organized industries lie in the hands of the " sirdars " (*i.e.* overseers). It is the ambition of every intelligent and efficient worker to become a sirdar. Not only does the latter receive higher wages, but he exercises great power in distributing jobs and thereby obtains the opportunity of adding considerably to his earnings. It is a recognized thing to pay bakshish (*i.e.* commission) to him in order to obtain a post, or in order to escape dismissal, as the case may be.[3] " With increasing seniority he (*i.e.* the wage-earner) may become a *sirdar*, the ambition of all workers. As a *sirdar* he will be able to give jobs to other men—at a price. He will perhaps become a small landlord, and his men will live in the houses he owns ; they will pay him rent as well as a fee for retaining their jobs. He may also invest his savings in a shop, and the men under him all naturally buy their provisions there. He will lend them money when they are in difficulties. In his own native village he will buy more land . . . his children may go to school, become *babus*, perhaps change their names from their artisan appellation to a name signifying a high caste. When the *sirdar* retires he will in all probability have so arranged matters at the mill that, if his control has gone, the family power remains. His younger brother, or son, or cousin will step into his shoes, and the mills will in the future provide as in the past for the members of the family who have to go to the great outside world to earn money." [4]

The custom of recruiting labour through sirdars is undoubtedly one of the most important causes of the oppression and exploitation of industrial workers. In many cases the factory worker never comes into touch with his employer, whose name he may not even know. He only knows that he is under the immediate supervision of an unsympathetic foreman who has the power to dismiss him.[5]

This system tends to convert into exploiters of labour the

[1] P. N. Gilchrist, *op. cit.*, p. 247.

[2] The same system prevails in domestic service. If a servant leaves for a few weeks (or even months) but wishes eventually to return, he always finds a *badli* who will keep his place warm for him during his absence. Such *badlis* often do their very best to please and keep the job whilst their friend is away, but cannot be induced to remain permanently even if the employer would prefer that they should.

[3] Such payments are a normal feature of Indian life, and all attempts at abolishing *dasturi* (*i.e.* customary fees or payments) have proved abortive. Domestic servants regularly charge *dasturi* for any purchases they may make. Third-class passengers at up-country stations are still sometimes charged *dasturi* when they buy a railway ticket. As long as the charge is not exorbitant the custom is considered legitimate and honest.

[4] P. N. Gilchrist, *op. cit.*, pp. 247, 248.

[5] *V.* G. M. Broughton, *Labour in Indian Industries*, pp. 111, 116.

very men who might be expected to act as labour leaders. The system is no longer necessary, as there is now usually a more or less adequate supply of labour voluntarily offering itself for employment, at least in the larger industrial centres.

When it is remembered that only some 2 per cent. of the population is engaged on work in the "organized industries," that this small quota is scattered in a large number of industrial centres throughout the country, that it is recruited from a great variety of districts with different customs, religion, languages, etc., and consists of a continually shifting body of persons, the difficulties of organizing trade unions or of instituting collective bargaining will be appreciated. Until quite recently nothing existed comparable with our Western labour movement. Nevertheless conditions and wages were not entirely under the autocratic control of the employers, and the workers have not been nearly so helpless as is sometimes imagined, so that it has been extremely difficult for employers either to reduce wages or to worsen the conditions of employment.[1] It might perhaps be said that the workers have had considerable independence with regard to the mill-owners and European managers, but have tended to be severely oppressed by the overseers. As a result of the recent rise of collective bargaining in the most highly organized industries, such as the cotton industry, regular agreements have now taken the place of *dastur*.

One matter has not yet been regulated by definite agreements, namely, deductions from wages made on account of unpunctuality, spoilt work, etc. Such deductions are often excessive, and should be limited by law or by agreement, and not left to the discretion of the managers.[2]

About half a million women are employed in factories and mines in India, of whom some 80,000 are in mines, including about 63,000 in coal-mines.[3] In some industries, such as the textiles—in which they mainly act as reelers and winders—they undertake certain processes in which young workers are also often employed, and in others, for instance coal-mining, they act more or less as assistants to the men. In no organized industry do they

[1] Two amusing incidents from my own domestic experiences may be mentioned. My ayah informed me that she was ostracized (she did not use that expression !) by the other ayahs because she looked after both my children. "They say : one baba, one ayah." (She remained with the children and walked alone.) On another occasion I could not get a hamal (male housemaid), but was told that I could get *two* hamals, because the hamals said if there were stairs in a bungalow one man must not work alone ! On yet another occasion a friend of mine could get no cook for several months, as she had been "blacklisted" at the cooks' club.

[2] V. *Asiatic Review*, October 1925, "Labour Legislation in India," by Lady Chatterjee, and *ibid.*, January 1926, p. 45.

[3] Women form about 35 per cent. of the total labour force in coal-mines (*Moral and Material Progress of India*, 1924–25, p. 245). They work below as well as above ground.

outnumber the men. In the plantation industries women and children perform the lighter tasks, such as picking tea. Most of these women are married, many of them are mothers, and there is no striking preponderance of young women. This is in great contrast with conditions in England, where the majority of the women industrial workers are unmarried and between the ages of eighteen and twenty-four.[1]

It is not the actual conditions of work so much as the conditions of life of women and children engaged in organized industries that are extraordinarily unhealthy and socially undesirable. Overcrowding and lack of sanitation have more disastrous results on women and children than on men, partly because a large number of the women are at the child-bearing age, and partly because the women are even more prejudiced than the men against Western ideas which might help them to live healthily. It is obviously particularly bad for children to exist in such surroundings during their most impressionable years. Moreover, it is normally only the poorest and most ignorant class of women who seek industrial employment.[2]

There is also great danger of moral deterioration, partly owing to the bad housing conditions, and partly to the fact that many of the women are "unattached"—*i.e.* are either widows or are living apart from their husbands.[3] "Women in India have not yet reached the stage when it is possible for them to live safely in isolation in this way."[4] In this connection the Hindu prohibition of the remarriage of widows is an important factor. The miserable conditions of young Hindu widows may drive them to seek industrial employment and hence almost necessarily (under present conditions) to enter into illicit sexual relationships. Women obtain industrial employment partly because they receive much lower wages than men,[5] partly because they perform the same type of comparatively light work as boys, but are steadier workers, and partly because the employment of women is said by the managers to be "necessary" to keep the men contented.[6] Their work is usually supplementary to that of the men.

The recent prohibition of the employment of children under

[1] *V.* Lady Chatterjee's paper read before the Royal Society of Arts on March 19, 1926 (*Times Educational Supplement*, March 27, 1926), and an article by N. M. Joshi, *Indian Review*, August 24, 1924.

[2] Lady Chatterjee says that women are chiefly induced by grinding poverty to seek such employment.

[3] Many of the women have been "out-caste" for some offence, and quite a considerable proportion are of doubtful reputation. In many cases loose living is deliberately encouraged by the sirdars or sirdarins.

[4] *Times Educational Supplement*, March 27, 1926.

[5] For instance, Rs. 4 to 9 per month in the tea industry as compared with an average man's wages of Rs. 9 to 12 (Dr. Curjel's *Report*, p. 24; *Bulletin of Indian Industries and Labour*, No. 31).

[6] *V.* Dr. Curjel's *Report*, p. 24.

twelve in factories and of children under thirteen in mines has now ejected the youngest children from organized industrial employment,[1] and the more vigorous administration of the Factory Acts during the last two or three years has greatly reduced the formerly prevalent illegal employment of children. For instance, the number of children employed in cotton spinning and weaving mills has declined since 1921 by no less than 25 per cent.[2] Nevertheless, a number of half-timers still obtain employment in more than one mill and so work double shifts. The children who are employed in factories at the age of twelve seldom get the opportunity of any further education, and often lapse into illiteracy.[3] The recent limited provision for compulsory education in certain districts does not affect children of the factory age. Only in certain exceptional cases, such as at the Buckingham and Carnatic Mills, Madras, are educational facilities provided by employers for their half-timers.[4] There is undoubtedly great need for the improvement of the educational facilities for both half-timers and adult workers.

The coal-mining industry illustrates most clearly the problems connected with an ever-changing labour supply.[5] In the mining districts of Bengal and Bihar, two principal areas may be distinguished—*i.e.* the Raniganj and Jherria coal-fields, which between them employ some 184,000 workers. In the Raniganj area the miners are agriculturists living at a distance of some ten to twenty miles. They work in the mines simply in order to supplement the agricultural earnings of their family. They go to the mines for three or four days per week, work as hard as they can during that time, and then go home for the rest of the week. They would rather not work at all than work only some six or eight hours per day, as their object is to earn enough during a few days to enable them to enjoy the rest of the week.[6] In an exceptionally prosperous agricultural year some of them do not work in the mines at all.

In the Jherria district the workers come from a much greater distance and settle down for some eight to nine months, returning home for three to four months at harvest time.

Many efforts have been made to increase output and secure a more permanent labour-force in the mines, but with little success. When wages were raised 20 per cent. in 1920, after a lightning

[1] *V.* chap. xii, p. 302.
[2] *Moral and Material Progress of India*, 1924–25, p. 244.
[3] Assuming that they have ever received any education!
[4] *V.* chap. xii, p. 325.
[5] Mr. P. N. Gilchrist gives an interesting account of the wages system in the coal-mining industry (*Wages and Profit-Sharing*, p. 307 *et seq.*). He conducted a confidential inquiry into wages in coal mines in 1921.
[6] Hence in the Mines Act of 1923 a maximum weekly hour limit was laid down, instead of a daily one.

strike, the result was a reduction in the number of days worked, and a great reduction in total output.[1] They do not think of saving, and if they can earn enough to buy their customary food and drink, they stop work. Equally unsuccessful was the attempt to give extra pay for increased output.

Rather similar problems are met with in the Assam Tea Gardens.[2] Most of the coolies are imported from Chota Nagpur, the United Provinces, and the Central Provinces. Piece-wages are given for a definite task set, and can be obtained for extra work. Time-wages are given for certain processes, such as plucking. Bonuses are paid at the end of the term of service for which the contract has been made, in order to induce the coolies to stay. This is simply a form of deferred wage. All kinds of "concessions," including the provision of housing accommodation, free medical attendance, cheap rice, land for cultivation and grazing, clothing, blankets, etc., became customary, and many of them (including free housing and medical attendance) were made obligatory by Government rules, under the Acts passed in the nineteenth century controlling the recruitment of coolies. These rules still remain in force, and are administered by the Labour Board, which supervises the engagement and treatment of plantation coolies.

Coolies are still engaged under contract for a certain term of years, although the contract is no longer enforceable at criminal law.[3] On the whole the wages and conditions of work on plantations compare favourably with those prevailing amongst workers of similar calibre in other industries.[4] Nevertheless, recruitment has not always proved easy. The distance of the plantations from the homes of the coolies naturally acts as a deterrent, and dislike is felt at signing a long-term contract.

More information is forthcoming with regard to conditions of work and methods of payment in the Bombay Presidency Cotton Industry than in any other industry.[5] Both time- and piece-wages are paid in this, as in most other organized industries, but the methods of payment vary considerably. Time-work accounts for 56 per cent. of the total, and predominates amongst men and "big lads" (*i.e.* of fifteen to eighteen years). Most women

[1] Not in output per head, per hour or per shift, which was unaffected (P. N. Gilchrist, *Wages and Profit-Sharing*, p. 310). Concerning the strike *cf.* "Proceedings of the Fourth Conference of Directors of Industries," *Bulletin of Indian Industries and Labour*, No. 27, p. 6.

[2] *V. Annual Reports on Immigrant Labour in Assam*; the *Reports of the Assam Labour Board*; the *Reports of the Tea Districts Labour Association*, of the *Tea Association*, and of the *Assam Labour Enquiry Committee of* 1921–22.

[3] *V.* chap. xii, p. 308.

[4] *Report of the Assam Labour Enquiry Committee*, 1921–22, p. 2.

[5] *V.* the two reports on "Wages and Hours of Labour in the Cotton Mill Industry" of 1923 and 1925.

workers are paid by piece-work. Payment by time predominates in spinning, but piece-wages predominate in the weaving processes. Bombay City factory labour is largely imported from the Ratnagiri, Poona, and Satura districts of the Presidency, and from the United Provinces, but there is a larger class of more or less permanent factory workers than anywhere else in India.

During the war a bonus (in proportion to profits) was granted, in order to compensate the workers for the rise in prices and to prevent unrest. It was given in the form of both an addition to wages and a yearly bonus,[1] but the workers came to look upon the bonus as a right, whether or no the industry was earning profits, and several serious disputes took place when the bonus was withdrawn.[2]

The failure of this method of compensation for a high cost of living amongst the working-class population of India is hardly a matter for surprise. The principle upon which the grant of such a bonus is based is not clear.[3] If the bonus is to compensate for the high cost of living, why should it depend upon the profits earned? If it is the reward for extra effort, then it should take the form of additional wages. If it is a pure gift, not due in any way to the efforts or needs of the workers, then it would probably be better that it should be put into a reserve fund to be utilized for the employees' benefit. For instance, it might be utilized in providing housing accommodation, founding an insurance scheme, promoting co-operation, or in building workmen's institutes or providing playing-grounds. In any case it is quite clear that the yearly bonus system is almost certain to lead to misunderstandings and disputes, and should be avoided.[4]

In the jute industry in and near Calcutta most of the labour is imported (mainly from Bihar and Orissa, the United Provinces, North Madras, and North Bengal) and the Bengali is taking an ever smaller share in the industry. In 1886 nearly all the workers were Bengalis, whilst now some 90 per cent. of the labour is imported.[5] Here, as in the cotton industry, most of the workers are recruited by sirdars, who very often strengthen their position by owning the huts in which the operatives live. Although overcrowding is not nearly as acute in Calcutta as in Bombay, most of the operatives are "poorly housed among surroundings insanitary

[1] The war-bonus system was adopted in other industries as well as the cotton industry.

[2] *V.* P. N. Gilchrist, *Wages and Profit-Sharing*, p. 305; the *Bombay Labour Gazette*, March 1924; and the Appendix to the *First Report on Wages and Hours of Labour in the Cotton Mill Industry*, 1923.

[3] *V.* H. A. Silverman, *Economics of Social Problems*, pp. 198, 199.

[4] This was clearly understood by the Assam Labour Enquiry Committee, 1921–22, which reported that the bonus system was "impracticable and undesirable."

[5] *Industrial Commission Report*, 1916–18, pp. 10, 11.

and unpleasant." [1] They live mainly in " bustis," or collections of huts, built in the neighbourhood of the mills and owned sometimes by sirdars. The mill-owners have attempted to improve the housing accommodation by building " coolie lines " near the mills, but these dwellings, while sanitary and decent, are depressing, and, it is complained, lack privacy for the women. Moreover, in the vicinity of the mills overcrowding springs up, as the workers take in subtenants. Wages in the jute industry are paid weekly, instead of monthly as in the cotton industry. Mill-owners complain of the unwillingness of the labourers to respond to the stimulus of higher wages, saying that they do not increase output when put on to piece-work, but merely work for fewer days per week or per month. In consequence time-work predominates more markedly than in the cotton industry.

Not only is it particularly difficult to persuade Indian workers to increase their output by offering an increase in the rates of pay, but it is also said to be almost impossible to obtain greater output by managerial " drive." The bonus on piece-rates appears the most successful method that has yet been adopted, but only amongst certain types of workers.

Another peculiar addition to wages was made in the jute industry. In order to suit the market—that is, not to produce too rapidly in normal times, but to retain the power of increasing output considerably at any time should the occasion arise—the system was adopted of working only four instead of six days per week. When the new system was first put into force, in order that the workers' weekly earnings should not be too drastically reduced, an addition of one day's wages called the " Khoraki " (or " subsistence wage ") was given to all workers.

This worked well so long as only four days were worked, but when it became necessary to work six days, and the workers obtained wages for six days, they struck because they no longer ceived the " Khoraki." [2]

Even in well-organized industries there is a great difference ween nominal wages and real earnings. Free quarters, housing commodation at less than the economic rent, cheap grain, free medical attendance, free transport, and occasional presents, are

[1] *Industrial Commission Report*, 1916–18, pp. 10, 11. The bad housing conditions and high rents in Bombay are notorious. Ninety-seven per cent. of the working-class families in Bombay live in single rooms. The preponderant number of families in France and Belgium live in two rooms, in Germany in three rooms, and in the United Kingdom and United States in four or five rooms. The average rent of a single room in Bombay is Rs. 3 12a. 0p. per mensum : 3,125 one-roomed tenements contained two or more families in 1921 (Findlay Shirras, *Report on an Inquiry into Working Class Budgets in Bombay*, 1923). Bombay has been called " a foreign wen on the face of India," and the high cost of living, temptations to extravagance and additional liability to disease in all Indian industrial centres is well known.

[2] *V.* P. N. Gilchrist, *Wages and Profit-Sharing*, p. 306.

frequently given in addition to wages. The attention given by mill-owners to welfare work of the most varied description has increased enormously of late years, partly owing to the desire to obtain a permanent labour force and increase efficiency, partly in order to assuage discontent and prevent strikes.[1]

One characteristic of Indian labour that affects earnings fundamentally is the great extent of absenteeism. It was calculated that whereas an average wage of Rs. 32 1a. 0p. per month could have been earned by all cotton workers in the Bombay Presidency if they had worked twenty-seven days per month, as a matter of fact the actual average earnings only amounted to Rs. 28 9a. 1p. per month (the average number of days worked being 23·7).

Contract work and the "gang piece-work system" are still very common in organized as well as in unorganized industries. For instance, the gang system is quite common amongst miners, the pay being fixed at so much per tub of coal, and then divided amongst the members of the gang.

Contract work is almost the normal system in the building industry, in the engineering workshops, and for much loading and porterage work. Additional work of this sort may be contracted for by the sirdar, who makes his own terms with the workers. The provision of additional labour in this way is considered part of the ordinary duties of a mill sirdar. In the railway workshops and in coal-mining the gang piece-work system is common: *i.e.* a figure is fixed as payment for a particular job and is distributed amongst the members of the gang upon an agreed-upon basis.[2] This system has something in common with the Russian "artel" and with the Italian gang system.

[1] *V.* chap. xii, p. 325.
[2] *V.* P. N. Gilchrist, *Wages and Profit-Sharing*, p. 301.

CHAPTER VI

TRANSPORT AND COMMUNICATIONS

§ 1. INTRODUCTORY. ROAD TRANSPORT, p. 128.

The continuance of primitive methods of transport in the nineteenth century—The opening-up of India during the second half of the nineteenth century—The Road System—The increase in motor traffic.

§ 2. THE DEVELOPMENT OF THE RAILWAY SYSTEM, p. 130.

The main periods of railway construction in India—Railway administration and Governmental control—Railways during and since the war—The Acworth Committee, 1921—The question of nationalization—Recent reforms, including the separation of the railway from the general budget—The financial position of the railways—Summary of present-day railway problems.

§ 3. THE ECONOMIC RESULTS OF THE CONSTRUCTION OF THE RAILWAYS, p. 143.

The effects of railways on trade—The stimulus to the "economic transition"—Incidental disadvantages—Criticisms directed against the construction of railways—Conclusions as to their economic effects.

§ 4. SHIPPING AND PORT FACILITIES, p. 148.

India's principal ports and harbours—Recent changes with regard to shipping—The trade of the principal ports.

§ 5. SUMMARY AND CONCLUSIONS, p. 153.

§ 1. INTRODUCTORY. ROAD TRANSPORT

ALTHOUGH the rough tracks of Northern India, and of certain other favoured districts, are easily traversed in the dry weather, and although coastal and river transport have, in many areas, provided an easy means of communication, it has proved exceptionally difficult and expensive to introduce improved means of transport.[1] Hence, until the middle of the nineteenth century, transport was conducted by means of the pack-animal, palanquin, bullock-cart, small river-craft, and small coasting sailing vessels, just as it had been for many centuries. Despite Lord Bentinck's attempted improvements in the road system of the north, no far-reaching scheme was carried out until the time of Lord Dalhousie. During the latter's rule not only were the roads vastly

improved and extended, the postal system reorganized, the telegraph introduced, and the Public Works Department established, but railway construction was begun and planned in a systematic way capable of being developed so as to serve and open up the whole of India.[1]

By the end of the nineteenth century a revolution had been effected in the means of transport and communications. An excellent (and cheap) postal service had been evolved,[2] a telegraph service had been introduced (although its efficiency was hindered by high charges), 25,000 miles of railways had been constructed, and there were 37,000 miles of metalled and 136,000 miles of unmetalled roads. Shipping and port facilities had been greatly improved, especially after the opening of the Suez Canal in 1869.

In a country as large as India, with an enormous inland area, dense population and potential self-sufficiency, the improvement and problems of inland transport overshadow those of shipping, especially in view of the fact that India owns only an insignificant fraction of the ships engaged in her own foreign trade. We shall therefore give first place to the question of inland transport, dealing first with roads and then with railways.

Since 1900 the mileage of metalled or first-class roads has risen from 37,000 to 59,000 miles,[3] these being under the control of the Central Government. All other roads fall within the sphere of the various local authorities.

Second-class roads are not provided with permanent bridges, and third-class roads are usually only passable for eight months in the year. India is thus still very backward with regard to her supply of first-class roads,[4] which prevents the more extensive use of motors both for passengers and for hauling goods. Only the best roads are suitable for motor traffic and the distances as a rule are in any case too great to suit this type of traffic. In addition motor haulage is unsuitable for the bulky cargo which constitutes the major part of Indian trade. Nevertheless the use of motor cars and motor cycles (as well as of ordinary cycles) has increased very rapidly since 1914. Before that date motor cars were practically unknown, except in the great cities, and even there horse-drawn vehicles prevailed. During and just after the war the use of motor cars by Europeans and the richer classes of Indians began to prevail in the cities, and to become common in the large towns, whilst the use of motor lorries (mainly as feeders

[1] V. *Dalhousie*, by Sir William Hunter (Rulers of India Series), p. 11. Lord Dalhousie was Governor-General from 1848 to 1854.

[2] *V.* G. Clarke, *The Post Office in India*.

[3] This compares with 436,400 miles in France!

[4] *V.* chap. ii, p. 14. Road building is still extremely costly in India, and, unlike railways, roads bring in no direct return to the Government.

to the railways) also increased.[1] Imports of motor cars rose from some 3,000 in 1913 to a post-war quinquennial average of about 8,000, and to over 15,000 in 1927–28.[2] Of these about 33 per cent. came from the United States, 23 per cent. from the United Kingdom, 22 per cent. from Canada, and 9 per cent. from Italy. The import of motor omnibuses, vans, and lorries increased from 2,162 in 1924–25 to 8,682 in 1927–28, but their effect has been to assist and stimulate railway traffic, rather than to act as a substitute.

The new traffic resulted in the deterioration of the roads, a problem which, together with the proposal to form a Central Road Board, was considered by a special Committee of both Houses of the Indian Legislature in 1928. This Committee recommended the institution of a Central Road Fund, but not of a Central Road Board, which it held would be a needless expense. The Committee also recommended that a periodical All-India "road conference" should be held, that the railway department should contribute to road development, and that all tolls should be abolished except on bridges specially built for motor vehicles.[3]

It can be concluded that so far improved roads have had no fundamental influence on Indian economic development, but have acted primarily as an essential adjunct to the railway system, and the time is still distant when the prosperity of the railways will be threatened by competition from motor traffic.

§ 2. THE DEVELOPMENT OF THE RAILWAY SYSTEM[4]

The history of the construction of the Indian railways is an oft-told tale, but must be shortly summarized at this point if we are to understand at what periods railways had important reactions on trade, industry, and finance, and in what ways (and to what extent) they initiated far-reaching changes in the general economic development of the country.

Railway projects were first mooted in India in the eighteen-forties. Nothing was actually done until after the arrival of Lord Dalhousie (in 1848), full of plans for the building of railways and canals and for reform of the administration. In 1849 the preliminary legal agreements were signed with the East Indian and the Great Indian Peninsula Railway Companies. The first twenty miles of the Great Indian Peninsula line was opened in 1853 (from Bombay to Thana), the first part of the East Indian

[1] *Moral and Material Progress of India*, 1926–27, p. 171.
[2] *Annual Review of the Trade of India*, 1927–28.
[3] *Times*, November 21 and 23, 1928.
[4] Fig. I, Frontispiece, and Table VIII, A and B., pp. 524, 525.

Railway (Calcutta to Raniganj) in 1854, and the line from Madras to Arkonam in 1856.

In 1853 Lord Dalhousie wrote his famous Minute on Railways, recommending a general system for the whole country, and discussing the general principles of management, finance, and construction.

Progress was temporarily stopped during the Mutiny, but in 1859 Lord Dalhousie's scheme was adopted, and the construction of 5,000 miles of railroads, by eight companies (including the three already mentioned) which had been formed for the purpose,[1] was sanctioned. From the beginning it was realized that the capital for railway construction could only be raised in England, and that the work would not be undertaken by private enterprise, unless it were stimulated by financial aid in some form or other.[2]

The contracts made with the eight original companies provided that the Indian Government should guarantee interest at rates varying (in accordance with the money market conditions prevailing when each contract was signed) between 4½ and 5 per cent., in return for which it had the right of controlling expenditure and operation; that Government had the right of purchase on the expiry of each of the (twenty-five year) contracts; that Government should furnish the necessary land, free of cost, for ninety-nine years; that the companies should carry the mails free and troops at reduced rates; and that any surplus profits (above the guaranteed rate) were to be shared by the Government and the companies.

This method was successful in eliciting the requisite capital and enterprise, but it resulted in an excessive financial burden on the State. Not only was the cost of construction very great owing to the pioneer nature of the work, the peculiar physical difficulties which had to be overcome, the necessity of importing a great deal of the machinery and raw material from England, and the difficulty of securing an adequate supply of skilled labour,[3] but the guarantee system—at a time when there was no apparent chance of earning profits above the guaranteed minimum—did not induce economy. Hence there was a regular and heavy annual deficit, which the Government had to make good, just when the financial position of

[1] Namely, the East Indian, Great Indian Peninsula, Madras, Bombay Baroda and Central India, East Bengal, Oudh and Rohilkland, Sind Punjab and Delhi (now merged in the North Western State Railway), and what is now the South Indian Railway Companies.

[2] The Government at this time had no power to raise loans itself for productive purposes.

[3] "Instead of the £8,000 per mile for which Dalhousie planned to cover India with railways, those in operation by 1868 had averaged £18,000, without reckoning dividends advanced upon the guarantee, which were charges upon the future possible earnings of the roads" (L. H. Jenks, *The Migration of British Capital*, 1927, p. 222).

the Government was in other ways most unsatisfactory.[1] The guarantee system became discredited, and a policy was adopted of refusing support to any new companies. In the sixties two attempts were made at starting railways without guarantees, but in both cases the Government had eventually to come to the aid of the companies. The result was a definite check to railway expansion, despite the general recognition of the need for accelerated construction.

These factors led to the second period of railway construction (*i.e.* from 1870 to 1880), during which a policy of direct Government construction and management was adopted. In 1867 the principle had been introduced (in connection with the construction of irrigation works) [2] that the Secretary of State might raise loans on behalf of the Indian Government for productive purposes, in London, on the security of the Indian revenues. As money could be borrowed at not more than 4 per cent., this was a definite economy. Nevertheless, financial difficulties soon arose, preventing the hoped-for progress. According to Dalhousie's scheme a gauge of 5 ft. 6 in. had been adopted for the whole railway system, but after 1870, for economy's sake, a narrow gauge (3 ft. 3 in.) had been adopted for nearly all the new lines. Unfortunately frontier wars and famine necessitated the reconstruction of some of the Indus Valley and Punjab lines from the narrow to the broad gauge at a heavy expense.[3] At the same time the heavy and continuous fall in the gold value of the rupee, due to the appreciation of gold, which set in during the seventies, meant that the burden of interest which had to be paid on Government debts and other payments in England increased yearly. Finally the Famine Report of 1880 made it quite clear that it was urgent to increase the rate of railway construction.

Hence in 1880 the Government returned to the policy of encouraging private companies to construct railways [4] by offering some kind of financial assistance, but on terms less onerous to the Government. Under these new conditions (which varied slightly in each particular case) several new companies were immediately promoted.[5]

Meanwhile the twenty-five year contracts of the old guaranteed

[1] At this time there was a general rise in prices and wages, several severe famines, and an ever-increasing demand for more money for administrative purposes.

[2] *V.* chap. viii. p. 161.

[3] Elsewhere the unsuitability of the metre gauge for heavy traffic carried at reasonable speeds, and the intermixture of sections of different gauges, have proved a serious drawback to the efficiency of transport.

[4] The Government henceforward restricted direct construction to lines required for military purposes or for famine prevention and relief.

[5] In each case the Government retained the right to purchase the lines on the expiry of the contracts.

railways had begun to fall in and, in each case, the State purchased the lines.[1] Government thereafter ran some of the lines itself and the others were handed back again to the companies to be run under new contracts, whereby the companies were to operate the lines, which now were the property of the State, under a governmental guarantee of interest.

A very complicated system has thus been evolved. Some lines are State-owned and State-worked, some are State-owned but worked by companies with a Government guarantee; some are owned by private companies and worked either by the owning companies, State lines, or other companies working lines in the vicinity. In most of the Indian (Native) States the lines have been constructed by the Ruler (or Government) of the State, but are managed under contract by the companies (or Government, as the case may be) managing railways in neighbouring areas of British India. In 1900 there were no less than thirty-three separate administrative bodies working railways in India.[2]

In order to ensure centralized control of railway expansion, so that the limited Indian supply of capital should be directed towards the most needed extensions, it was decided in 1896 that companies with Government guarantees " should not be permitted to borrow capital in India, but that all money raised in that country for railway purposes (except that required by unassisted or rebate-aided companies) should be borrowed by the Government of India, who would make advances to companies." [3] In this way the Government has controlled the expenditure of all the railways for which it has any financial liability.

By 1900 the greater part of India's present railway system had been completed. Between 1900 and 1914 nearly 10,000 miles were added, mostly consisting of links between the main lines,[4] or branch and feeder lines.

[1] The old guaranteed railways were acquired by the State at the following dates:

East Indian Railway	in 1880
East Bengal ,, ...	,, 1884
Sind, Punjab and Delhi Company's lines .	,, 1885–86
Oudh and Rohilkland Railway . .	,, 1886
South Indian Railway	,, 1890
Great Indian Peninsula Railway . .	,, 1900

V. *Moral and Material Progress of India*, 1901–2, p. 262.

[2] For an account of each of the main Indian railways, *v.* the *Indian Year Book*, and the official (annual) *History of Indian Railways*.

[3] *Moral and Material Progress of India*, 1901–2, p. 265. During this third period of railway construction some of the railway companies were assisted by the grant of a rebate on the gross earnings of the traffic interchanged with the main line, in order to help to raise the dividend earned to 4 per cent. The rebate was limited to 20 per cent. of the gross earnings.

[4] The most important of these was the Nagda-Muttra line, uniting Bombay and Delhi through Eastern Rajputana, completed in 1909. In addition the Kalka-Simla line was completed in 1903; the Quetta-Nushki line in 1905; the

Up to the end of the century, in spite of the developments that have been described, the State had to bear an annual net deficit on the lines under its control. In 1899–1900, for the first time, a net profit (of Rs. 11 lakhs) was earned. Between 1900 and 1914 (except in 1908–9) a substantial net profit was earned annually, although the charges for both passengers and goods remained extremely low.

From this account it can be seen that although normally the majority of the Indian railways have been constructed, and many have been managed, by private companies, in reality the Government has exercised control over both construction and administration. At the present day there are only about 5,000 miles (out of a total of 39,048 miles) for which the Government has no responsibility, and hence over which it exercises no control.[1] Moreover, the bulk of the railways are now Government owned, even when they are actually managed by private companies.

The lines under direct Government management are worked as independent Government Departments. The Secretary of State has absolute final control over the railways that are worked by private companies under contract with Government, and has power to appoint one member of the board of directors of each company, this member having the power of veto. An official consulting engineer is also appointed to whom the Secretary of State can apply for information or advice as occasion arises.

In India, subject to the Secretary of State, the Governor-General in Council possesses, within the terms of the contracts, the power to control (through the Railway Department) the management and expenditure of the railway companies, but has not power to appoint or dismiss any of the employees. The companies are directly managed by boards of directors in England, represented in India by an " agent " or general manager, assisted by a consulting engineer (often, in practice, the Government consulting engineer).

By this means control has been exercised over the most trivial matters, and all expenditure has required the previous sanction

Dhanbaid and Maupar line (completing the " East Indian Railway Grand Chord," *i.e.* the direct route between Benares and Calcutta) in 1907; and the Southern Indian Railway was extended to Dhanushkodi, on the Island of Rameswaram, opposite Ceylon, in 1908. At the same time the Ceylon Railway was extended on to the Island of Manaar, off the Ceylon coast, facing India, and thus a channel of only 40 miles now separates the Indian and Ceylon Railways. There is a project for bridging this channel and establishing direct railway communication between India and Ceylon.

[1] The great majority of the latter (*i.e.* over 3,000 miles) are railways owned or financed by Indian (Native) States, and the rest belong to private companies, some of which are entirely unaided, but some of which receive financial assistance from local authorities or from rebates paid on traffic interchanged with the main lines. About 80 per cent. of the capital invested in Indian railways has been raised either directly by the Government or with Government assistance.

of the Government.[1] Moreover, no well-thought-out, co-ordinated programme, extending over a period of years, could be undertaken, because the railway budget formed an integral part of the general budget, so that the amount available for railway purposes depended not upon the railway needs of the country, but upon the general financial situation.

The system proved so unsatisfactory that a series of inquiries took place between 1900 and 1914,[2] with the object of introducing greater elasticity. The only important reform made before 1914 was the transference of the control of the railways from the Public Works Department to a special Railway Board that was set up in 1905, but which yielded disappointing results, and did not expedite business and increase efficiency to the extent that had been expected.

After the outbreak of the war the railways were almost immediately brought under drastic regulation, and were controlled with reference to war aims rather than for the benefit of the country. The construction of new lines, extension and completion of old ones, the building of branches and feeders, and even the repair of rails and renewal of rolling-stock, were indefinitely deferred.[3] At the same time the demands on the railways were extraordinarily heavy, owing to war demands, both internal and external, for munitions and for ordinary articles af commerce. The pressure on the railways was increased by the shortage of shipping, which drastically limited coastal trade and necessitated, in particular, the rail transport of Bengal and Bihar coal to Bombay and other parts of India. The result was, on the one hand, that the capacity of the railways was seriously over-taxed and, on the other, that high net profits were obtained, at the price of capital depreciation, as a result of competition for rail-freightage, increased charges,[4] and extraordinarily low expenditure on capital and replacement account.

After Peace had been concluded in 1918 criticism of the railways, aggravated by the non-co-operation movement and the feeling that Indian interests had not been placed in the forefront by the Government in formulating its economic policy, became pronounced. Indian critics took the line that the railways ought to

[1] This tiresome, inelastic system, which has undoubtedly hindered efficiency and initiative, originated under the " old guarantee " system, when it was necessary to try to check the extravagance encouraged by that system. It has since become an unnecessary anachronism.

[2] V. *Report on the Administration and Working of Indian Railways*, 1903, Cd. 1713; *Report of the Mackay Committee*, 1908, Cd. 4111; and Lord Inchcape's Informal Report of 1912.

[3] Some of the existing lines were actually dismantled and the materials sent to Mesopotamia.

[4] In 1917 a surcharge was imposed on all goods and passenger rates, in order to raise revenue and prevent unnecessary traffic. This was increased in 1921. *V.* below, p. 142.

be completely nationalized, and managed not with a view to profits (which accrued partly to persons resident outside India), but in accordance with the needs of Indian trade and the comfort of the travelling public. The matter was brought to a head in 1919, when the East Indian Railway Company's contract came to an end. The contract was temporarily extended on the existing terms until 1924, pending which it was decided to hold a full inquiry into the administration and working of the Indian railways. An Indian Railway Committee was accordingly appointed in 1920, consisting of Sir William Acworth (Chairman) and nine other members.

The Committee was unanimous as regards the unsatisfactory nature of the existing state of affairs.[1] The members agreed that the existing system of management through companies domiciled in Great Britain ought to cease as soon as the various contracts terminated, but they were almost equally divided as to how the railways ought to be managed in the future, and how capital could best be raised for railway purposes. Sir William Acworth, with the support of four other members, formed the technical majority, and recommended direct State management of State-owned railways, but the five other members preferred management by companies which should be domiciled in India.

From the evidence taken it was clear that the Indian railway system was entirely inadequate, and that congestion of traffic had become a normal feature. Even before the war Government had failed to provide adequate funds for capital expenditure and renewals, and during the war-period naturally this condition of affairs was intensified.[2] The causes of the failure were attributed to the paralysing financial system and to the anomalous status of the Railway Board. The latter was said to be overloaded with routine, trammelled by unnecessary restrictions, and possessed of inadequate power over general policy, whilst it was not adequately represented on the Governor's Council, as the member in charge was also responsible for two other departments, and had not the time or knowledge to attend fully to railway business. In addition the public had no accessible means of redress for grievances, great delays were experienced, and complaints were made that undue preference was given to certain (particularly European) traders.[3] The neglect of the comfort and welfare of the third-class passengers was glaring.[4]

[1] V. *Report of the East Indian Railway Committee*, Cmd. 1512 of 1921.

[2] Between 1914 and 1926 only about 4,000 odd miles were opened. In 1927 the route mileage open was 39,048, as compared with 34,652 in 1913–14. *V.* p. 141, below.

[3] So far as I can discover these accusations were never substantiated, but the Acworth Committee did not investigate specific cases in detail.

[4] Many descriptions have been written of the scandalous conditions of third-class travel in India. For instance, Mr. Gandhi (*Life and Writings*, p. 166 *et seq.*)

The Committee recommended that a new department should be set up responsible for all types of transport and communications,[1] that the railway Budget should be separated from the general Budget, that the Railway Board should be enlarged and reconstructed,[2] that Central and Local Advisory Councils should be set up to represent the interests of traders and the general public, and that a Rates Tribunal should be instituted to control charges and facilities.

In addition, a number of minor recommendations were put forward with regard to improvements for the benefit of third-class passengers, the reduction of delays in settling claims, the prevention of the giving of undue preference to particular traders, the prevention of bribery, and other abuses.

The Indian Legislature decided that the separation of the railway from the general Budget was not at the moment practical politics, but that the railway programme should be drawn up on a five-year, instead of on a one-year, basis. The recommendation with regard to the reconstruction of the Railway Board was adopted, and was put into force in 1922. A Central Advisory Council and Local Advisory Committee representing public interests were also set up, and in March 1924 a Rates Tribunal was appointed with the initial duty of revising all railway charges. In 1926 a Rates Advisory Committee was established, to safeguard the interests of the public and consider complaints.[3]

With regard to nationalization no definite policy has even yet been adopted, but on the termination of the contracts with the East Indian Railway Company (in December 1924) and with the Great Indian Peninsula (in June 1925) direct State management was instituted in both cases. In 1926 the Delhi-Umballa-Kalka Railway (210 miles) was also brought under direct State management.

Opinion, whether British or Indian, is almost unanimous in condemning the present "mixed" system of management as complicated, cumbrous, inelastic, conservative, extravagant, and bureaucratic, *i.e.* combining all the disadvantages of nationalization with those of private management. But the criticisms of the

describes the journey (involving two nights in the train) from Bombay to Madras. During the greater part of the time there were thirty-five persons in a compartment with sitting accommodation for twenty-two. The compartment was never swept or cleaned, and there was no water in the tank of the W.C., the latter also remaining uncleaned throughout the journey. The only refreshments procurable he described as no less than "filthy." Moreover, the lower railway officials levy a number of unauthorized charges from the unfortunate third-class passengers.

[1] This recommendation has not been acted upon.

[2] This has been done, and the Railway Board now consists of a Chief Commissioner, a Financial Commissioner, one member responsible for technical subjects, and another responsible for general administration, personnel, and traffic. V. *Moral and Material Progress of India*, 1927–28, p. 168.

[3] *Ibid.*, 1926–27, p. 167.

existing system are in reality based mainly on particular faults of administration in the past. It is true that the extension of the railway system might with advantage have been more rapid, that there has been a lack of financial flexibility, and that initiative has been discouraged,[1] but there seems reason to hope that the recent reforms will go far to meet the situation, and that if financial stringency is less onerous in the future rapid progress may well be made without any revolutionary change in the system. This, however, is not the opinion that has found expression in the discussions in the Legislative Assembly on the subject, nor in the various Reports that have been made from time to time on railway administration.

To hand over the railways to companies having a rupee capital and domiciled in India seems to be most in accordance with what might be expected to meet with the approval of Indian public opinion, but appears to be ruled out of court for the time being by the extra expense that would be involved, as the London money market would be closed to such companies. On the other hand, companies domiciled in England, as at present, are naturally disliked by Indian publicists, and, indeed, they can hardly be expected to develop the necessary initiative under the strict Government supervision to which they have been subjected, nor can they be expected to adopt a policy specifically designed to forward industrialization and the internal development of the country. One of the main criticisms levelled against such companies at present is that they favour foreign trade and foreign merchants as opposed to internal trade and the interests of indigenous concerns. Here we have the paradox of drastic criticism of Government action, combined with a continuous cry for the extension of that action.

This extreme faith in the Government appears not only rather optimistic, but even slightly humorous, considering all that has been alleged about the economic policy and administration of the Government, but there is considerable strength in the contention that Indian ideas would have more influence on the policy of a Government Department on the spot than on a private board of directors sitting in London.[2]

The Government of India, on the other hand, has opposed nationalization as a general principle.

[1] For instance, the Mackay Committee (1912) recommended that the companies should be permitted to raise additional share capital on their own initiative, and the South Indian Railway at one time proposed to raise money without a Government guarantee, but the Government did not seem to like sharing profits with other people, and they have never acted on the recommendation of the Indian Committee, while they refused the application of the South Indian Railway. (*Asiatic Review*, April 1923.)

[2] W. M. Acworth, *Historical Sketch of State Railway Ownership*, 1920, p. 26.

Objections to permanent State management in India have usually been based not so much on theoretical arguments as on criticisms of the results of nationalization in a number of countries where the experiment has actually been tried.[1] In Europe, before the war, State railways paid well only in Prussia.[2] The Belgian and Swiss railways just made ends meet, the Russian railways worked at a loss, and the French State lines were a byword for mismanagement. Since the war, Mussolini has transferred the Italian railways from State to private management. In every case, according to Sir William Acworth, working expenses have tended to be excessive and management to be inelastic and not in accordance with the wishes of the commercial community.

On the other hand, the Indian lines, managed by private companies, under strict Government control, have suffered from the same defects as the lines managed directly by the State, without obtaining the advantages of nationalization. Moreover, the arguments against private management are stronger in countries where control is exercised by boards of directors located abroad.[3] In addition, it is possible that post-war experience, for instance, in Canada, will show that the defects of State railways in the past can be overcome by better methods of administration. In India administrative economies could certainly be introduced if all the railways were under direct Government control, whilst the policy of " discriminating protection " (by means of special facilities and freight concessions) could more easily be extended to the sphere of transport.

It is clear that the State must own and have ultimate control over the system as a whole, and that the main problem is to devise some form of administration that will leave actual management in the hands of experts, but at the same time be in touch with public—particularly commercial—opinion.

The financial position of the railways was fully examined and reported upon in 1923 by the Inchcape Retrenchment Committee which emphasized the advantage to the Central Finances, as well as to the railways, of instituting a regular contribution from the railways instead of amounts fluctuating widely from year to year. This question, together with the proposal to separate the railway from the general Budget, was discussed in the Legislative Assembly in 1924. At first considerable opposition was encountered by these proposals, owing to the fear that separation would diminish the financial power of the Assembly, and entail extra

[1] W. M. Acworth, *Historical Sketch of State Railway Ownership* (1920), and the discussion following the reading of Sir R. W. Gillan's paper on " The Present and Future Management of Indian Railways," *Asiatic Review*, April 1923.

[2] The South African railways paid well, but circumstances were peculiarly favourable.

[3] *V.* W. M. Acworth, *op. cit.*, p. 26.

taxation.[1] The Swarajists attempted to make acceptance dependent upon the giving of pledges on political matters intrinsically irrelevant to the particular issue, such as more rapid Indianization of the railway personnel, and the adoption of a policy of nationalization. Eventually, however, a compromise was reached in the so-called " Convention " of 1924.[2]

In the estimates for 1925–26 the railway Budget was for the first time prepared separately from the general Budget.

The results of the separation of the railway from the general Budget in 1925, of the " Convention " of 1924, and of the appointment of a Financial Commissioner (since 1923), have been to reduce working costs,[3] improve administration, and to stabilize the financial position of the railways.[4]

A number of minor reforms have also been introduced recently. A policy of decentralization of administration by reorganization on a divisional basis has been adopted on many lines, and has helped to reduce expenditure and increase efficiency.[5] The

[1] It was feared that the standardization of the railway contribution to the Central Finances would mean in practice a diminution of that contribution.

[2] This Convention determined the amount of the annual contribution of the railway to the Central Exchequer. The Exchequer is entitled to receive from the railways a sum equal to 1 per cent. of the capital at charge in the penultimate year plus one-fifth of the surplus profits in that year. This is the " fixed contribution " from the railways. In addition if, after payment of the fixed contribution, the amount available for transfer to the railway reserves exceeds Rs. 3 crores, one-third of that excess is to be paid to the Exchequer.

[3] *E.g.* by staff reduction, more economical use of fuel, reduction of stocks, prevention of losses by theft and damage to goods in transit, and by the adoption of better methods of utilizing equipment and introducing modern scientific appliances. The wholesale provision of automatic couplers during 1924–25 may be noted as an example of the improvements introduced (*Railway Budget*, 1925–26, p. 4). The proportion of working expenses to receipts was reduced from 76 per cent. in 1921–22 to 62·04 per cent. in 1926–27. This is still considered unnecessarily high, and the proportion is higher on State than on privately managed lines. The lowest fares and rates are charged on the Bengal and North-Western Railway, which is the only Indian line constructed entirely by private enterprise (*Asiatic Review*, April 1923, p. 252). An economy has also been effected by the revision of the former unsatisfactory three-year coal contracts by the Railway Board. *V.* chap. x, p. 250.

[4] The net financial results of the railways under Government control are shown for each year since 1914 in Table VIII, B, p. 525. From this, it can be seen that directly after the outbreak of war the net railway revenue fell to only Rs. 3·2 crores, but that subsequently, owing to trade activity, combined with very low expenditure on upkeep, replacement, etc., it rose rapidly, until it reached the high figure of Rs. 15·8 crores in 1918–19. After the conclusion of the war it was still difficult to import the materials necessary for upkeep and replacement, working expenses began to increase rapidly (owing to the rise in prices), and in 1920–21 came the great commercial slump which reduced aggregate earnings. Hence in 1921–22 the country was faced with a railway deficit of no less than Rs. 9·1 crores, just at a time of extreme financial stringency. Luckily the situation soon began to improve. Replacement and reconstruction increased the efficiency of the railways, trade began to revive, and a fair profit has been earned in each subsequent year.

[5] *Moral and Material Progress of India*, 1927–28, p. 169. Until this recent change administration was carried out, for each line, on a departmental basis. Under the new divisional system responsibility for the whole of the railway work within each section of a railway is placed in a special officer, called the " Divisional Superintendent," who is directly responsible to the Agent.

recommendations of the Lee Commission for more rapid Indianization of the staff have been accepted, and in future 75 per cent. of the candidates for superior departments will be recruited in India.[1] Measures have already been taken to improve the accommodation for third-class passengers. The policy has been adopted of purchasing railway stores in India, whenever possible, and tenders for contracts are now called for simultaneously in India and in London.[2] The former policy of leaving the construction of branch and feeder lines to private companies has been replaced by direct State construction, whilst Provincial Governments can now facilitate private construction by guaranteeing the interest.[3]

Since the conclusion of the war the repair of existing lines and construction of new ones has been accelerated,[4] so that in 1927 there were 39,048 miles open to traffic. Of this 71·7 per cent. was owned by the State, and 40·3 per cent. was under direct State management.[5]

Progress has been made in opening up South India, where communications have long been recognized as peculiarly unsatisfactory. The Moplah Rebellion in Malabar brought home to the Government the urgent political, as well as economic, need for improvement. Extensive conversion of metre to broad-gauge lines is proposed, particularly in the neighbourhoods of Cochin to the West and Trichinopoly to the East. Cochin is at present connected with the main broad-gauge railway system only by the metre-gauge Cochin State Railway, and this line terminates at Ernakulam, two miles from Cochin on the opposite side of the harbour. The latter port is directly connected by inland waterways with the coastal district of Travancore. If it were also connected by rail with the extreme south the export of planters' produce (tea, coffee, and rubber) and of the " commercial crops " (ground-nuts, paddy, and cotton) would be greatly facilitated.

An important new line has recently been completed from Dindigul to Pollachi, which opens up a large, densely populated fertile area (producing cotton, sugar, tea, coffee, and cardamoms), and which is also important as a pilgrim route and cattle market.[6]

The main line southwards from Madras towards Ceylon connecting with the important towns of the Tanjore Delta (Madura

[1] *Report of the Commission on the Superior Civil Services in India*, Cmd. 2128 of 1924, and the Statistical Abstract. *V.* also Table VIII, A. p. 524. Since 1925–26 the proportion of the permanent gazetted appointments held by Indians has risen from 32 per cent. to over 70 per cent. in 1927–28 (v. *Railway Budget*, 1928–29).

[2] *D.O.T. Report on the Conditions and Prospects of British Trade in India*, 1924–25, p. 101.

[3] *Railway Budget*, 1925–26, pp. 9, 25.

[4] Nearly all the lines dismantled during the war have now been repaired.

[5] In 1928 fifty new projects, to cover 2,600 miles, had been sanctioned, and forty projects, to cover 2,000 miles, were under examination (v. *Railway Budget*, 1928–29).

[6] *Times*, August 27, 1928.

and Tuticorin) is at present only single line metre gauge, on which express trains travel slowly but dangerously, and, in consequence of excessive overhang, are sometimes blown over by the wind !

Equally important are the schemes for improving the transport facilities of the Jherria Coalfields, where the lack of adequate railway facilities is one of the fundamental difficulties confronting the coal and iron and steel industries.[1] Electrification schemes have been prepared for the suburban services of Calcutta, Bombay, and Madras, and considerable progress has already been made in Bombay, where the electrified service started working in 1925.[2]

In particular, there is great need for branch and feeder lines, to open up Burma[3] and the interior of Central and Southern India, and for standardizing the gauges. The existence of narrow as well as broad gauges not only entails " breaking bulk " on passing from one gauge to another, but transport is actually slower on a narrow gauge. There are two large but separate systems of metre-gauge railways in India, in the north and in the extreme south respectively. These are in no way connected with each other. It is true that the broad-gauge systems are largely interconnected—it is possible to go on broad-gauge lines from Peshawar to Calicut—but the feeder lines from the interior are still in many cases of metre gauge. The present programme of construction provides for the annual addition of about 1,000 miles of rails, the majority of the projects being short feeder lines designed primarily to open up rural areas and promote the marketing of agricultural produce.[4]

Although a surcharge was added to the maximum rates chargeable for all goods and passengers in 1917, raised in 1921, and replaced by a permanent all-round enhancement of maximum rates in 1922, the actual charges remain extraordinarily low in comparison with those of other countries.[5] In 1925–26 the charge for third-class passengers averaged out at only $3\frac{1}{2}$ pies per mile[6] (less than $\frac{1}{3}$d.) as compared with $9\frac{1}{2}$ pies ($1\frac{1}{10}$d.) a mile for second-class, and 20·8 pies (almost 2d.) for first-class

[1] *V.* chap. x, § 2.

[2] *D.O.T. Report on the Conditions and Prospects of British Trade in India*, 1924–25, p. 123. V. *Times*, January 6, 1928, and *Moral and Material Progress of India*, 1926–27, p. 169.

[3] Burma is not yet connected by rail with the rest of India.

[4] *Moral and Material Progress of India*, 1926–27, p. 164.

[5] *Annual Report on the Administration of Railways in India.* The principles underlying the fixing of freight and passenger rates in India are similar to those adopted in England. All goods are distributed between six classes, for each of which the Railway Board fixed maximum and minimum rates, the idea being that goods of low value in proportion to weight should pay at a lower rate than goods of high value in proportion to weight, but the actual charges vary from line to line. (*V.* S. C. Ghose, *Indian Railways and Indian Trade*, 1911, pp. 1, 2, and *A Monograph on Indian Railway Rates*, 1918.)

[6] As compared with $1\frac{3}{4}$d. per mile in England ; 1 pie is equivalent to one-twelfth of an anna, 1 anna = $1\frac{1}{2}$d.

passengers.[1] It was proved by experience that any further increase in first- and second-class fares brought about such a reduction in the traffic as to cause a decrease in the total revenue from such traffic.[2] Similarly, it was estimated that any further increase in third-class fares would cause a diminution in traffic which might decrease the gross income from third-class passengers. As passengers provide nearly 30 per cent. of the gross earnings of the railways, any changes in the revenue derived from fares are of great importance. In April 1926 the experiment was tried of reducing passenger rates again slightly, with the hope of encouraging travel and hence of increasing the total revenue earned,[3] and although at first the results were disappointing, the general financial position was so satisfactory in 1928 that a further, and considerable, reduction in both fares and rates was announced.[4]

The charges for goods carried in India are probably the lowest in the world.[5] Nevertheless, in view of the bulky nature and comparatively low value of most of the commodities carried, if rates were even lower, the quantities transported might rise more than proportionately and result in increased total earnings for the railways. American railways have been quoted as a model in this respect. Such a policy might be particularly efficacious in stimulating the carriage of coal, which at present cannot be economically transported from Bengal to Western India.

Finally, it may be noted that trade unionism is stronger in the railways than in any other sphere in India, but that although a number of strikes have occurred, on the whole relations between the employers and workers have not been bad, and the workers are comparatively well paid.[6]

§ 3. THE ECONOMIC RESULTS OF THE CONSTRUCTION OF RAILWAYS

The construction of railways in India has undoubtedly been the main factor in extending and revolutionizing trade[7] (by enabling specialized production for a market), in transforming the famine problem, and in making it possible to establish

[1] *Railway Administrative Report*, 1925–26, vol. ii, p. 13.
[2] *Railway Budget*, 1925–26, p. 28.
[3] *Moral and Material Progress of India*, 1925–26, p. 327.
[4] *Railway Budget*, 1928–29.
[5] *Railway Administrative Report*, 1922–23, p. 27, which gives comparative figures.
[6] On the question of the strikes of railway workers in 1928 v. *Moral and Material Progress of India*, 1927–28, pp. 26, 179. It is claimed that a policy "of quick response to and thorough investigation of all reasonable complaints from labour" has been adopted.
[7] *V.* chap. xiii, p. 331. The opening of the Suez Canal (in 1869) must be linked with the building of railways in this connection.

object of reorganizing society upon a higher plane prevails in the West, and necessarily includes the desire for progress in the economic sphere. It is usually assumed as axiomatic both that economic progress (*i.e.* increased productivity in relation to costs) is desirable, and that it can best be promoted by specialization, division of labour, the extension of exchange, and the co-ordination of economic control over an ever-widening area.[1] Not so in India, where the ideal of social conservatism, including the ideal of a stable, non-progressive economy (based on local self-sufficiency, and the cultivation of peasant arts and artistic handicrafts) still appeals to many.

To those who hold the static ideal, the introduction of railways cannot commend itself, because the most obvious effect of the railways has been to tend to break up the existing social organization. The railways have already greatly affected the lives of the masses of the people, although the process is as yet in its infancy. They have brought about increased contact between individuals, classes, areas, and ideas, and have increased mobility, especially in connection with the pilgrimages, which they have made possible for many millions for the first time. Agriculture and industry tend to be commercialized. All these changes have brought with them greater opportunities (*e.g.* for amassing wealth, or raising the standard of life), but have been accompanied by greater discontent, the loss of security (by the handicraftsman), the spread of disease (arising out of increased mobility),[2] and the growth of great centres of commercial and industrial life. In the latter the wage-labourers have been herded together under conditions more disgraceful and dehumanizing than are, perhaps, to be found in any other quarter of the globe. The change in material surroundings has been accompanied by the break-down of local, customary morality, which has, however, given rise to a new philanthropic effort and to a more intense intellectual life in the great cities.

For all these changes the railways are largely responsible. It can but be hoped that the present unsatisfactory transitional stage may prove to be only a prelude to a higher stage of social organization and of moral development.

It is difficult to determine how far the railways have been responsible for the destruction of the indigenous industries. It

[1] Such co-ordination does not necessarily mean merely co-ordination by individuals, but includes co-ordination by associated or co-operative effort.

[2] The construction of railways aggravated malaria in certain districts, although there is a difference of opinion as to how this was effected. It is popularly said that the trouble was caused by the pits dug for embankment purposes becoming filled with stagnant water, which fostered the breeding of mosquitoes. A more probable explanation is that the coolies employed diffused types of malaria to which the local population was less immune than to those previously prevalent in the district. The pilgrimages have certainly tended to disseminate disease, in spite of the strict preventive measures adopted.

plantation and large-scale factory industries on an economic basis.[1] Railways have tended to diminish village isolation, and there is now not only a national but a world price for most articles of general consumption, whereas previously prices fluctuated enormously from district to district.[2] Hence railways have been the chief cause of the general economic transition at present in progress.

Nevertheless a continuous stream of criticism has been directed against the construction of railways, and the railway policy of the Government. By some it has been urged that improved transport is an extravagance unsuited to Indian needs, beyond Indian means, which has entailed a financial burden on the public revenues which has only been met by oppressive taxation of the " starving " millions. By others, on the contrary, it has been urged that construction has been unduly delayed, and the advantages of improved transport minimized by a timid financial policy and administrative inefficiency and conservatism.

Those who condemn the introduction of railways, under any circumstances, into India argue that the indirect results on economic development in general and the direct financial results have both been disastrous. Far from railways having helped the Indian producer, they assert that the industrial workers have been ruined by the competition of cheap machine-made goods of foreign origin, brought to their doors by the railways, that the export of food-stuffs and of raw materials urgently needed within the country has been promoted, and that consequently India's economic balance has been upset and her independence undermined. The railways were charged with being the cause of the rise in the general level of prices which became marked early in the twentieth century, and with having helped to produce an army of unnecessary middlemen, who arose in connection with the increased export trade.[3] Further, it has been said that capital which could have been utilized for really productive purposes—such as irrigation works—has been diverted artificially to railway construction, and that the country has suffered a heavy direct financial loss, which will not be made up by even a long series of annual profits on the working of the system.

These arguments have been reinforced by broader ones based upon a static, as opposed to a dynamic, social ideal. The desire for the development of new contacts and institutions with the

[1] For instance, it was the railways that created a demand for Indian coal, and at the same time made Indian coal available in distant parts of the country. The railways also helped to make the emancipation of the slaves (decreed in 1843) a reality, by providing an alternative occupation for those who claimed their freedom.

[2] *V.* W. E. Weld, *India's Demand for Transportation* (pp. 87, 88), for a list of price variations before and after the introduction of railways.

[3] P. P. Pillai, *Economic Conditions in India*, p. 24.

is probable that they have hastened and aggravated an inevitable change. The decay of peasant arts is a problem met with in every country that has been touched by the industrial revolution. It is not necessarily an incurable problem, and there is no doubt that railways have brought economic compensations. Moreover, the beginning of the invasion of the Indian markets by cheap machine-made goods preceded by many decades the introduction of railways. Probably the indigenous industries suffered most during the first three-quarters of the nineteenth century, that is, before the railway net had " opened-up " India. It is true that the process continued even after the building of the railways, but it should not be forgotten that it was largely due to them that alternative opportunities of employment arose. The plantation industries, the coal industry, and the cotton and jute mill industries developed *pari passu* with the construction of the railways.

It can hardly be denied that the railways have been to a great extent responsible for most of the changes in production and trade that have taken place since the middle of the nineteenth century. It can, therefore, be concluded that they have been an integral part of economic development, and that even if incidental evils have been involved, energy should be directed towards remedying such defects, rather than towards blaming the railways.

In defence of the expenditure on railways it is argued that the opening-up of the country was a necessary preliminary to all other forms of economic development, and that, in particular, it is a mistake to suppose that the capital would have met with a greater return had it been utilized for irrigation, as the profitable extension of irrigation works is necessarily rigidly limited.[1]

Finally, there is the question of the direct financial results of the railways. The contention of the critics is that, in making out the railway balance-sheet, the Government of India neglects to take into consideration the repayment of deficits which accrued annually up to 1899–1900. It is claimed that not only should allowance be made for the total deficit, but also for the payment of compound interest on the annual deficits.[2]

It is perfectly true that in reckoning annual net profits no allowance is made on account of past deficits and the payment of compound interest thereon. There is nothing extraordinary or deceptive about this, as the net annual profit does not claim to show what has been the net financial result of railway transactions in India. The Acworth Committee, however, considered

[1] *V.* chap. vii, p. 163.

[2] Mr. Tiwari has made an estimate of the total loss borne by the revenue of India on account of the old Guaranteed Railway Companies at 4 per cent. per annum compound interest (*The Indian Railways*, Appendix 3, A, p. 18). By 1919–20 the total figure amounted to no less than Rs. 3,46,06,22,128 !

the latter question.[1] They calculated that between 1858 and 1918–19 the total deficits incurred had amounted to £51,527,307 (Rs. 77,29 lakhs), whilst the total profits amounted to only £44,742,276 (Rs. 67,11 lakhs), leaving a net loss of £6,785,031 (Rs. 10,10 lakhs).[2] The assumption was that net profits would continue to be earned, as a rule, and that before long total receipts would overtake total deficits, and the State would have to its credit an ever-increasing net annual revenue.

It is quite true that this calculation does ignore entirely the payment of compound interest on the earlier deficits. But why should Government deficits on account of railways be singled out to be debited with compound interest? Have not Indian publicists inveighed for years against the greed and extortion of the Indian moneylenders who charge compound interest on loans? The argument is a peevish one. It is obvious that if the situation were reversed—had the railways earned a net revenue from 1858 to 1900, but normally made a net deficit since that date, and had every prospect of continuing to make an annual deficit—the outlook would be very serious and that the calculation of compound interest on the revenue earned in the nineteenth century would be but cold comfort.

On the other hand, the railway critics ignore the fact that the present and past annual expenditure on account of railways includes not only interest on capital but also provision for the payment of annuities in redemption of the purchase by the State of lines formerly owned by private companies. When the payment of these annuities ceases the net annual earnings of the State will be immediately enormously increased. Whenever the State has undertaken to purchase lines originally owned by guaranteed companies, it has made provision for the payment of the purchase money by means of annuities. It is true that the annuities will not fall in for many years—the annuity for the purchase of the East Indian Railway (the most profitable of all the railways) expires in 1980—but nevertheless the Government has on this account alone no less than "a magnificent asset" in its railway property.

Our conclusion, therefore, is that although up to the beginning of the century there was a heavy financial loss to the State, there has normally been since then a net annual profit, and that there is every reason to believe that before many years have passed total net earnings will have far surpassed total net deficits, whilst before the end of the present century the net earnings of the railways will be handsomely increased by the termination of annuity payments for the lines purchased from the guaranteed companies.

[1] *Report of the East Indian Railway Committee*, Cmd. 1512 (1921).
[2] *Ibid.*, Appendix No. 3.

Assuming Western economic ideals, there is no doubt that, apart altogether from direct financial profits, the railways have already proved themselves an invaluable economic asset. They can certainly be credited with the lion's share in the promotion of India's economic progress since 1853.

In reply to the accusation that railway construction has not been promoted as rapidly as it should have been, and that the advantages of improved transport have been minimized by a timid financial policy and by administrative inefficiency and conservatism, it can be said that the Government has admitted defects of that type in the past, but that the recent financial and administrative reforms have already done much to remedy them. In particular, now that the railway Budget is separate and independent, extension can be planned upon principles determined solely by relevant considerations, independently of Imperial finance, whilst at the same time the Imperial Exchequer can now reckon on a stable income from the railways.

§ 4. SHIPPING AND PORT FACILITIES.[1]

Extensive (and expensive) port and harbour construction has been necessary in India in order to overcome the natural difficulties of coastal and overseas communications, and to cope with India's enormously increased foreign trade. This, together with the fact that India's railway system converges upon a few large ports and commercial centres, has tended to concentrate the bulk of India's foreign trade on a relatively small number of ports. In fact, over 90 per cent. of the total foreign trade of India (including that of the Indian States) passes through the five premier ports ; *i.e.* Calcutta, Bombay, Karachi, Rangoon, and Madras.[2] These ports are administered, under Government supervision, by specially constituted bodies called Port Trusts.[3] In 1928 Chittagong was declared to be a " major port," and is to be administered in a similar manner.[4]

The west coast has three main natural ports: Bombay, Karachi, and Mormugao.[5] These have been greatly extended and improved by harbour works, and are still the only western ports not closed to traffic during the monsoon.[6] Surat—situated 14 miles from the river-mouth—used to be the chief of the

[1] *V.* Fig. I, Frontispiece, and Table IX, p. 525.

[2] This excludes the trade of ports in French and Portuguese territory, but these have only a very small overseas trade.

[3] The members of the Port Trusts are partly nominated, partly elected. Nominated members are in a majority except at Calcutta. In all cases the majority of the members are Europeans. The Port Trusts have power to levy dues and taxes, and to carry out port and harbour improvements.

[4] *Indian Trade Journal*, April 5, 1928, p. 13.

[5] *I.e.* New Goa.

[6] *I.e.* from the beginning of June to September.

East India Company's factories, but by the nineteenth century had quite lost its importance.

Mormugao suffers from restricted inland communications, and its trade has dwindled to insignificance. Cochin is partially barred by silt. The only other western ports of any magnitude are Mangalore (the north-west terminus of the South Indian Railway), Tellicherry, Calicut, and Alleppey, all of which are available for small vessels only. The other minor ports are engaged in little except coastal trade.

On the east artificial works are necessary on account of the surf and in order to prevent the formation of sand-banks. Madras was converted from an open roadstead into a safe anchorage in all weathers by the construction of sea-walls. Calcutta and Chittagong are handicapped by the sand-bars which tend to form at the river-mouths, and which necessitate continual dredging. The other main eastern ports are Tuticorin, Dhanushkodi, Negapatam, Pondicherry (French), Masulipatam, Cocanada, and Vizagapatam. The chief ports of Burma are Rangoon, Moulmein, Bassein, and Tavoy—all situated on estuaries some distance from the sea.

Bombay, which became of first-class importance as an industrial and commercial centre only after the construction of the Great Indian Peninsula and Bombay, Baroda and Central Indian Railways linked it up with the cotton-fields of the Deccan and with the wheat and cotton-fields of the Punjab and of the United Provinces, received an enormous stimulus during the cotton boom caused by the cutting off of American supplies to Lancashire during the American Civil War, and has competed with Calcutta for first place amongst the ports since the eighties.[1] A new scheme of port development was initiated just before the outbreak of the war, but was then held up for several years.[2] By 1919, however, these port extensions and improvements—costing some Rs. 10 crores—were practically completed. They included the construction of two new docks, the building of a new Port Trust Railway Depôt to facilitate the distribution of goods traffic, the building of a deep-water pier for the discharge of bulk oil with a pipe connection to the oil installation at Sewri, a new pier (the Ballard pier) for passengers, a new custom-house, and the reclamation from the sea of a considerable area north of the docks. To-day the harbour (which is on the sheltered side of the island) is 10 miles long from north to south, by 4 to 6 miles wide, and has three wet and two dry docks. Bombay is the principal outlet for the staple products of Western India, in particular of the raw

[1] Calcutta has the largest trade in merchandise, but if specie is included Bombay heads the list. *V.* V. Anstey, *Trade of the Indian Ocean*, 1929.

[2] C. W. E. Cotton, *Handbook of Commercial Information*, p. 55.

cotton of the Deccan, the Punjab, and parts of Central India, and of the products of the great cotton mill industry of the Bombay Presidency. In addition, large quantities of oilseeds, wool and woollens, hides and skins, manganese ore and food-grains are exported. Owing mainly to its excellent broad-gauge railway connections with the Punjab, it attracts products that geographically might be expected to be exported from Karachi. It is the nearest port of call for the traffic of the Suez Canal, and hence receives the bulk of India's imports of manufactured European goods. It is also the most convenient port for vessels from the Cape. The principal imports are manufactured cotton goods, machinery and mill-work, railway plant, iron and steel goods, hardware, sugar, kerosene oil and liquid fuel, dyes, coal, miscellaneous manufactures, and treasure. As the military base for Mesopotamia and East Africa, the relative importance of the port increased during the war, and there is every prospect that this temporary advantage will be permanently retained.

Calcutta, on the other hand, received a relative set-back during the war and was severely hit by the scarcity of tonnage and trade restrictions. Normally, however, it is the outlet for the most fertile districts of the whole of India, that is, for the produce of the Ganges basis. Hence it is the principal port exporting raw and manufactured jute and Assam tea. It also serves the coal and iron areas of Bihar and Bengal, and exports food-stuffs such as rice, wheat, and oilseeds, and hides and skins, lac, opium, and manganese. Like Bombay it imports large quantities of cotton manufactures, iron and steel goods, railway plant, sugar and miscellaneous manufactures. In addition it is the principal port receiving Burmese rice. It suffers from the disadvantages of being 80 miles up the river from the sea, and of failing to attract cargo ships at reasonable rates, as it is somewhat off the main ocean routes and its exports of bulk merchandise greatly exceed its imports. Like Bombay, Calcutta has excellent port facilities, and the extensions projected in 1913 are now well on the way to completion.[1]

Karachi dates its prosperity from the American Civil War, the opening of the Suez Canal and the consequent rise of the great wheat export, and the establishment of direct railway communication with the Punjab in 1878. Its expansion, however, has been held up partly because of the superior attractions of Bombay,[2] partly because it has only narrow-gauge connections with the United Provinces, partly by the limited water-supply which has

[1] C. W. E. Cotton, *Handbook of Commercial Information*, p. 75.

[2] In addition to being the greatest commercial centre in Western India, and the chief port of call on the Suez route, Bombay also has the advantage of being the centre of the cotton mill industry.

made port extension difficult, and partly by the fact that it is not an industrial centre. Strict Government control of the port and of the North-Western Railway (a State owned and worked line) during the war has also served to lessen the popularity of the port with traders. Nevertheless, it is India's great wheat port—the climate being particularly good for storage purposes—and has important exports of raw cotton and oilseeds. Its imports differ little in type from those of Bombay. Port extensions have, since 1921, been taken vigorously in hand.[1]

Rangoon, which is 24 miles from the sea and is served by deep-water wharves, has increased its trade enormously of recent years. About 86 per cent. of the total sea-borne trade of Burma passes through Rangoon. The staple exports include rice, timber, mineral oils, ores and metals, and hides and skins; whilst it imports cotton piece-goods, machinery and iron and steel goods, and the usual miscellaneous manufactures.[2]

Madras is of declining importance, chiefly because—unlike the other four great ports—it serves no great hinterland producing specialities for the world market. In fact, its imports in some years exceed its exports of merchandise. It exports a large number of miscellaneous articles, including oilseeds, skins and hides, tanning stuffs, raw and manufactured cotton, grain, coffee, tea, etc., and imports manufactures of all sorts (especially cotton goods), metals and ores, sugar, spices, and mineral oil.

Chittagong is important as the outlet (since the completion of the Assam-Bengal Railway in 1895) for the rice, jute, and tea of East Bengal and parts of Assam.

Tuticorin is the second port after Madras in the Presidency of Madras, and carries on much of the trade with Ceylon. Some of this latter trade has recently been diverted by the opening of the Dhanushkodi Route (via Adam's Strait) to Ceylon.

Cochin is, even now, the most important port between Bombay and Colombo, but is much hindered by the bar across the harbour mouth and by lack of adequate railway connections with the interior.[3] Here, again, harbour and railway improvements should open up the hinterland and lead to a rapid and extensive increase in foreign trade in the near future.

The other ports mentioned are of minor importance, but Vizagapatam has great potentialities for future development.

[1] It is interesting to note that in 1926 more than one-half of Karachi's exports were shipped in foreign vessels (*Times*, May 24, 1927). Apparently British shippers neglect Karachi's potentialities.

[2] A scheme is now on foot for improving Rangoon's supply of drinking water, v. *Times*, December 27, 1927.

[3] Some progress has already been made with the scheme for cutting a passage through the harbour bar at Cochin, and the scheme is now to be carried a stage further (*Moral and Material Progress of India*, 1925–26, p. 337).

At present it suffers from lack of an adequate harbour, and most foreign merchandise comes to it in native craft after transhipment at Calcutta or Madras. It is, even now, the chief port dealing with the coolie traffic to Burma. Projects both for harbour improvements and for new railway connections with Central India have been sanctioned and, when completed, should attract the produce of the interior which now goes towards the West.[1]

Before the advent of the iron or steel steamship, India had a considerable mercantile marine and a flourishing shipbuilding industry. During the nineteenth century, however, the steel steamship became the principal means of ocean transport, especially after the opening of the Suez Canal in 1869. Hence India's foreign trade became more and more concentrated in the hands of British shippers.[2] Native wooden sailing craft are still constructed and engage in coastal trade. It has been estimated that 12 per cent. of the coastal trade and only 2 per cent. of the foreign trade are now conducted in Indian bottoms.[3]

At the end of the nineteenth century and between 1900 and 1914 there was a tendency for the number of vessels trading with India to decline, but for their size and the total tonnage engaged to increase. The percentage of the total trade conducted in British vessels tended to decrease owing to increasing competition from German and Austrian vessels. French, Italian, and Norwegian ships also shared in the trade.[4]

During the war shipping was naturally greatly disturbed, and at times curtailed. An officer was appointed in India to act as an agent of the Shipping Controller in England, and to economise freightage to the greatest possible extent. The result was a decline in the number and tonnage of all ships engaged in the Indian trade, except native craft. The latter increased rapidly for the time being. Meanwhile the nationality of the non-Indian ships employed altered considerably. As might be expected, German and Austrian shipping temporarily ceased to engage in the trade, whilst Japanese and American [5] shipping had a great opportunity for rapid advancement. British and French shipping declined; Japanese shipping more than doubled; American shipping obtained a strong foothold; Dutch, Italian, Norwegian,

[1] The Government has recently sanctioned the construction of a new railway line from Raipur (on the Bengal-Nagpur Railway) to Parvatipur, which will eventually be extended eastwards to Vizagapatam (*Indian Year Book*, 1927, p. 364).

[2] In 1900 no less than 96 per cent. of the total tonnage engaged in Indian foreign trade was steam tonnage.

[3] V. *Report of the Indian Mercantile Marine Committee*, 1923–24, p. 19. There is now a movement directed towards reserving India's coastal trade to Indian shipping (v. *Times*, September 14, 1928, and October 10, 1928).

[4] *Moral and Material Progress of India*, 1901–2 and 1913–14. *V.* Table IX, p. 525.

[5] American shipping before 1914 did not take part in the trade at all.

Greek, and Swedish shipping increased ; and Chinese and Spanish shipping took part for the first time. Since the war non-Indian shipping has again revived, and by 1923–24 surpassed the pre-war tonnage, and the tonnage of native craft employed in foreign trade has now returned to about the pre-war level. Spanish, Russian, and Austrian ships have disappeared completely from the trade, but German vessels have regained their pre-war position. American and Italian shipping have increased by leaps and bounds, so that in 1926–27 British shipping was followed by Japanese, Italian, German, Dutch, and American.

Freight rates increased rapidly after 1914 to a peak in 1920, after which they dropped, at first violently, subsequently gradually, until nowadays, although still substantially above the pre-war level on the whole, they tend in some cases towards that level. India is a great collecting centre for merchandise in demand in England and Europe, and hence the cargo-load is heavy, particularly on the homeward journey.[1]

§ 5. SUMMARY AND CONCLUSIONS

In the foregoing pages we have traced the development of inland transport, and have considered the chief problems of railway administration and finance. In addition a short account has been given of India's shipping and port facilities. In this latter connection it has been pointed out that India's foreign trade is adequately served by steamship companies, but that Indians themselves are hardly represented in the actual shipping trade, and that only small wooden craft are constructed in India. We can conclude that the outstanding transport factor directly affecting Indian economic development has been the construction of railways. It is the railway system that, more than anything else, has stimulated foreign trade, specialization of production, and the beginning of the "economic transition" in India. Although railways helped to destroy the indigenous industries, they were essential to the establishment of the large-scale modern industries. Above all, the railways have tended to break up the traditional social organization, and thus to prepare India to take her place as an integral part of the present-day interdependent, world-wide system of industry and trade. The war promoted these tendencies in a number of ways, but also stimulated nationalism and the desire for economic independence.

It thus appears that the railways have been one of the primary

[1] A number of vessels go in ballast through the Suez Canal and from other areas to India, and pick up cargoes in India for Europe (*v.* V. Anstey, *Trade of the Indian Ocean*, chap. ii).

factors tending to overcome the "arrested economic development" of India, and perhaps the principal stimulus towards economic unification. The inland transport system evolved, though capable of improvement, can deal not inadequately with existing traffic, and recent administrative and financial reforms give rise to the hope that it may be capable of expansion and modification in accordance with future demands.

CHAPTER VII

AGRICULTURAL AND ALLIED PROBLEMS AND POLICY

§ 1. THE AGRICULTURAL PROBLEM IN INDIA, p. 155.

The continued prevalence of primitive methods of cultivation—The main difficulties preventing the more rapid adoption of improvements —The dependence on Governmental initiative.

§ 2. THE POLICY OF THE GOVERNMENT IN THE AGRICULTURAL AND ALLIED SPHERES, p. 160.

(i) *The promotion of irrigation.*
(ii) *The promotion of scientific agriculture.*
(iii) *Agricultural co-operation.*
(iv) *Forest development.*
(v) *Fisheries and their exploitation.*

§ 3. CONCLUSIONS, p. 177.

The merits and shortcomings of the policy of the Government—The Royal Commission on Agriculture in India (1928)*—Possible remedies.*

§ 1. THE AGRICULTURAL PROBLEM IN INDIA

In India, as we have seen, the agricultural population has for many centuries carried on cultivation according to traditional methods, which are intimately bound up with the stereotyped social organization. Most of the land is unenclosed, and the Government has been able to do little to check the evils of sub-division and fragmentation.[1] There is little or no room for increased agricultural production along traditional lines, but it has proved extraordinarily difficult to introduce improved methods from the West to the typical small-holding cultivator. Although commercial crops are being gradually introduced, so that nowadays most cultivators sell at least part of their produce, the bulk of the crops of the country is still raised for subsistence.

Apart from clearing the jungle, levelling the land for rice cultivation, and irrigation works, very few permanent improvements have been made in the land in India, in contrast with European countries, where the greater part of the value of land is due to such improvements. Primitive implements are still

[1] *V.* chap. v, § 2.

in general use, such as the ordinary wooden " country " plough [1] and the hand sickle. Threshing is still carried out either by hand, by beating the grain on a piece of wood, or by oxen, which trample the grain underfoot. Broadcast sowing is generally practised, and as a rule seed-selection is not carried on, and there is even a tendency to keep the worst types for seed purposes. As a rule, the soil for dry crops is not properly prepared before sowing, and weeding is very insufficient and inefficient. The indiscriminate breeding of cattle, the spread of cattle disease through lack of isolation, and the practice of fallowing are evils which still persist.

Little or no attempt is made to save labour,[2] and as the demand for agricultural labour is very unevenly distributed throughout the year, the labour supply has to be sufficient to cope with the work at the busy seasons, but otherwise has to be maintained in complete or partial idleness. Moreover, it is alleged that the agricultural labourer is extremely inefficient. Mr. Keatinge points out [3] that a woman in America picks on an average 100 lbs. of cotton per day, in Egypt 60 lbs., but in India only 30 to 40 lbs. The product per head of Indian cultivators in Trinidad, Jamaica, British Guiana, and Fiji, however, is very much greater than in India. Moreover, it was found that a woman in Dharwar (in 1908) who picked 30 lbs. per day at a wage of 5 annas per day, subsequently picked, under a different form of contract, more than 150 lbs. per day, earning thereby nearly Rs. 2 per diem ! [4] The general result of such investigations as have been made is that the methods of organization and remuneration of labour, which give no spur to increased effort, are chiefly responsible for the low output per head, but are aggravated by the enervating climate and the prevalence of debilitating diseases.

Few attempts [5] have been made to provide by-employments during slack seasons, and as the existing rural industries are nearly all carried on by separate castes and not as by-industries by the cultivators, they do not help to stabilize the demand for labour. In a few regions (such as the Godaveri District) there is a migratory supply of labourers who move from place to place to transplant and harvest rice, but this is quite exceptional, and is due to special local circumstances.[6]

[1] In some areas, particularly in the Madras Presidency, an improved type of plough has been evolved.

[2] In India there is one person employed in cultivation per 2·6 acres of land, in Great Britain one per 17·3 acres, and in Germany one per 5·4 acres.

[3] *Rural Economics of the Bombay Deccan*, p. 77.

[4] *Ibid.*

[5] The chief of these are the organization of hand-spinning by Mr. Gandhi's followers, and various local industries (*e.g.* lace) organized by missionaries.

[6] In the Godaveri district irrigation is controlled in such a way that the supply of water comes at different times in different districts, so that transplantation and harvesting are spread out over a much longer period than elsewhere.

The agricultural problem of India is many-sided. First and foremost come all the problems due to the concentration of an excessive population upon the soil, which results in sub-division, indebtedness, and underemployment. It has indeed been alleged that there has been actual exhaustion of the soil. The allegation is probably accurate with regard to certain areas, such as the Bombay Deccan, but it is the considered opinion of the recent Royal Commission on Agriculture in India that on the whole a balance has been established, and that deterioration is not taking place.[1]

Secondly, there are the problems arising out of a whole series of interconnected social institutions, such as caste, the Joint Hindu Family, and the purdah system, which tend to perpetuate the existing lack of the " economic motive," and in many ways prevent the best use from being made of the land and the adoption of scientific methods of cultivation. Thirdly, there is the difficulty of providing the cultivator with the capital necessary for the adoption of improved methods. These fundamental problems have all either been considered already, or will be discussed later, in other connections.[2] Next there come a whole series of more specifically " agricultural " problems. These include the difficulties experienced by a country largely dependent upon the monsoon, and hence subject to extreme seasonal fluctuations and uncertainty, the technical difficulties connected with the application of Western science to the particular circumstances of India, the difficulty of spreading scientific knowledge (when it has been gained) amongst millions of illiterate cultivators who are deservedly renowned for their conservatism and love of tradition, and the difficulties due to the fact that in India the attempt is being made to introduce scientific methods into a country whose social conditions, land systems, and agricultural organization are as yet in many respects unsuited to make good use of them. In the present chapter we will consider these latter problems, and the means that have been adopted to overcome them.

The nature of the monsoon is probably the most important cause of prosperity or distress in India. Although the worst effects of the failure of the rains are now guarded against, the agricultural population is still subject to occasional, but periodic, unemployment, termed " famines " (as well as, at *all* times, to underemployment). Here a partial solution is irrigation—for

[1] *Abridged Report*, p. 9. On the other hand in certain hilly areas there has been deterioration owing to erosion of the surface soil by flood-waters. This has been checked by afforestation in the United Provinces and by terracing and the construction of embankments in Bombay. These remedies might well be extended to the affected areas in Western Bengal, Chota Nagpur, and the submontane districts of Northern India in general.

[2] *V.* chaps. iii, p. 52 ; v, p. 101 ; and viii, p. 186.

which India has always been an Oliver Twist—but although the benefits of the works constructed has been immense, there is, as will presently be seen, a strict limit to their extension.[1]

During the nineteenth century much energy and money were wasted in trying to introduce exotic plants and new implements and methods of cultivation from the West, which were not suited to Indian conditions.[2] Here the need is for research and field experimentation, which are now being conducted by the Imperial and Provincial Departments of Agriculture.

Propaganda is obviously much more difficult in India than in any European country, if only on account of the poverty, illiteracy, superstition, and prejudice of the peasantry. The Indian ryot cultivates by rule of thumb; the reasons for his traditional crops and methods are unknown and unsought, and the fact that they are usually sound does not make it any easier to induce him to experiment. Indeed, in most cases, he dares not experiment. He knows that the traditional method will yield him a bare subsistence. If he tries something new it may succeed or it may fail, and if it fails he is ruined.

The Departments of Agriculture and Co-operation attempt to cope with this difficulty, and in addition special facilities for agricultural education have been introduced.

The policy and functions of the Government in these respects will be described below,[3] together with the work of the Forest and Fishery Departments, which also affect the masses intimately.

At this point we will examine shortly the problem due to the difficulty of introducing scientific cultivation into a country which has not yet undergone certain changes in organization which elsewhere have occurred first.

In many countries in the West agricultural improvements have been gradually introduced over a comparatively long period, in two main phases. There was the phase sometimes characterized as the " Agricultural Revolution " which was completed in England by about 1815, but which did not begin in countries such as France and Germany until the nineteenth century, and which continued until at least the middle of the nineteenth century in most of the countries affected. The main changes

[1] *V.* p. 163 below.

[2] For instance, the repeated attempts to introduce American long-stapled cottons into the Deccan failed because, although the deep-rooted, short-stapled indigenous variety grows particularly well, without irrigation, on the black cotton soil, American types (which are shallow-rooted) cannot obtain the requisite moisture, whilst deep ploughing and irrigation, which would suit the plant, deteriorate the black cotton soil. Similar mistakes have been made with regard to manures, implements, and machinery. For instance, ploughs brought out by the Madras Government proved too heavy for the cattle, spare parts could not be obtained, nor could repairs be made.

[3] P. 160 *et seq.*

which took place during this phase were the emancipation of the serfs, a revolution in the systems of land tenure (including the consolidation of holdings and, in England, enclosures), and the adoption of improved methods of arable-farming, such as the abolition of fallows, the adoption of improved rotation of crops, the increase in the cultivation of roots and grasses, the recognition of the value of drainage, manures, etc., the adoption of improvements in the breeding and care of cattle, and the introduction of improved agricultural implements and machinery. All these changes resulted in the general adoption of commercial farming. Then came the phase of scientific agriculture, which began on the Continent after 1870, when the cheap products of the virgin soils of the new world began to flood the markets of the old. At this time most of the principal continental countries consciously adopted an agricultural policy which treated agriculture as an industry that has "special claims on, and obligations to, the nation."[1] Scientific research and experimentation were vigorously prosecuted and were usually associated with a policy of agricultural protection.[2]

In India the attempt is being made to compress the two phases into a single one. Efforts have so far been concentrated on lines of policy more characteristic of the second phase than of the first, whereas subsistence farming, scattered holdings, and the old systems of land tenure still prevail. Possibly this may help to account for the great difficulty experienced in accelerating agricultural improvement in India.

In any case, the whole agricultural problem is intensified by the fact that the initiative has to be taken almost entirely by the Government, owing to the lack of large-scale agriculturists possessing sufficient capital, energy, and interest to take the lead. Actually, the whole movement towards improved agriculture has come from the Government. Certain leaders of Indian opinion have pressed for industrialization at any cost and have paid no attention to agricultural interests, and indeed there has been a definite clash of interests between town and country, in which the latter (being less articulate) has tended to come off worst.[3]

[1] *Report of the Agricultural Tribunal*, 1924, Cmd. 2145, p. 9.

[2] The policy in many cases included the adoption of protective tariffs, the spread of agricultural co-operation, the promotion of agricultural training and education, and the multiplication of peasant holdings, as well as the prosecution and encouragement of research. *V. Report of the Agricultural Tribunal*, 1924, Cmd. 2145.

[3] *V.* E. L. Price, *Indian Legislative Economics*, 1921, for a succinct account of the inconsistencies of Indian economists on this matter. *V.* H. L. Calvert, *Wealth and Welfare of the Punjab*, p. iv.

§ 2. THE POLICY OF THE GOVERNMENT IN THE AGRICULTURAL AND ALLIED SPHERES

(i) The promotion of irrigation

We have already noticed that irrigation has been practised in India more universally and on a larger scale than in any other part of the world.[1]

Three main types of irrigation works can be distinguished: (i) Wells; (ii) Storage tanks or reservoirs; and (iii) River channels or canal projects.

The construction and maintenance of wells have been mainly the result of private enterprise. Government has, however, encouraged the sinking of wells by granting *takavi* loans on easy terms (5 to 6½ per cent.) for such purposes; by liberal assessment for land revenue of land watered by wells, and by securing the tenant against an increase of rent or of land revenue on account of such improvements. The cost of sinking a well varies from a few rupees for a *katchcha* or temporary well, Rs. 300 to Rs. 600 for a normal brick-lined well, to some Rs. 1,000 for a deep, permanent well. Water is raised from the wells either by manual labour,[2] bullock water-lifts,[3] the Persian wheel,[4] or by means of oil-engines. Well irrigation is extensively used in the United Provinces, Punjab, Madras, and Bombay, and for garden crops all over the country. Tube wells have recently been adopted by private individuals in some areas, and promise to afford an improved method of irrigation.[5]

Storage tanks or reservoirs have been constructed both by private and Government enterprise in areas where the water-supply depends on the rainfall, and is therefore intermittent. Dams are built across the upper reaches of watercourses and thus impound monsoon water, which can be released during the dry season. This method was adopted in many areas before the British era, and some of the existing tanks are of extremely ancient origin. Tank irrigation is prevalent in Madras, Mysore, and Hyderabad, and is known to some extent all over the country, except in the Punjab and in Sind. Temporary *bunds*, rebuilt each season, are also utilized for the storage of rainfall.

[1] *V.* chap. ii, p. 15, and Table X, p. 526.

[2] The so-called "Piccotah" is an appliance constructed so that the water-drawers, by walking up a plank, lift a bucket by their descending weight, on the see-saw principle (*v.* Dr. Slater, *Some Madras Villages*).

[3] Bullocks are used for wells that are more than 15 feet deep. They walk down a slope pulling up the bucket with a rope.

[4] The Persian wheel is common in the Punjab. It is an endless chain of water-pots which passes over a vertical wheel. The power is supplied by bullocks which walk round and round in a circular track.

[5] *Abridged Report of the Royal Commission on Agriculture in India*, 1928, p. 38.

Irrigation canals, which can be introduced where there is a perennial supply of river water, as in the Northern Plains where the rivers are fed by the melting of the Himalayan snow, may be either "inundation" or "perennial." The former are constructed in such a way as simply to draw off the river water when it rises above a certain level, and are ancient devices of Northern India. "Perennial" is the term used to characterize works by which head weirs are constructed across rivers as starting-places for irrigation canals, so as to control the whole of the flow of the river. The Grand Anicut on the Cauvery is a work of this type, attributed to the second century A.D. The head weirs of the Kistna, Godaveri, Punjab, and Sind systems are among the engineering marvels of the world.

Governmental as well as private irrigation works existed in India for many centuries before the introduction of British rule, and under the Muhammadan rulers a number of irrigation canals of the inundation type were constructed in Northern India. Nevertheless, the lack of capital and engineering skill, insecurity of tenure and consequent unwillingness to sink capital in "fixed" improvements, and ever-recurring invasions and internal political dissensions, seriously checked the extension of irrigation. During the eighteenth century the canals constructed under Muhammadan rule fell into decay. The East India Company repaired the Ganges and Jumma Canals and the Grand Anicut on the Cauvery early in the nineteenth century. This latter suggested the Godaveri and Kistna works undertaken in 1846 and 1857, which irrigated between them 1½ million acres. A new impetus to Government construction came after 1866 when—in connection with the famine policy of the time—a big scheme for Government irrigation works financed by loans was launched.[1] After this date much larger works were projected, whilst in the nineties and at the beginning of the twentieth century canal colonization was carried out in the Punjab. Immense new areas, previously desert, were turned by the latter into flourishing and fertile wheat- and cotton-producing districts.

The chief works completed since 1900 have been the Punjab and Sind Canal Colony works,[2] the Triple Canals Project (constructed between 1905 and 1917), and the Sarda Canal (United Provinces),[3] whilst at present four projects of first-rate importance are under construction: the Sutlej Valley project; the Lloyd (Sukkur) Barrage and Canal Scheme, on which work started in 1923 and which is the largest single irrigation scheme ever

[1] For a short history of irrigation see the *Triennial Report on Irrigation in India*, 1918–1921.

[2] Some of these canals were completed before 1900.

[3] V. *Times*, December 11, 1928, "Immense Canal System: Achievement in India."

planned [1]; the Nira Valley Project [2]; and the Mettur-Cauvery Scheme in Madras.[3]

Up to 1921 canals were divided into three classes: productive, protective, and minor. Loans could only be raised for the former, which included those estimated to be capable of yielding a fair return on capital expenditure within a decade. "Protective" and "minor" canals were financed from current revenue.[4] The former were designed to prevent local famines and increase the value of the crops, whilst "minor" works were those taken over by Government from private enterprise.

Since 1921 the distinction between the three classes has been abolished and any work of public utility, whether or not directly "productive," can be financed from loans. All works are now classed as either "productive" or "unproductive" according to the financial results, without reference to the source of the funds, the former being those which produce sufficient revenue within ten years to cover their working expenses and the interest charges on their capital cost.[5]

As a result of the reforms, irrigation has become a "reserved" Provincial subject. "Only works estimated to cost over Rs. 50 lakhs now come before the Government of India for submission to the Secretary of State." [6] An advisory Central Irrigation Board has recently been constituted, and the Royal Commission on Agriculture in India recommends the formation of a Central Bureau of Information for Irrigation.[7]

The Government has been severely criticized for not spending more on the promotion of irrigation,[8] especially in comparison with what has been spent on the railways. Some critics have ignored Provincial expenditure upon irrigation, and have drawn a fallacious comparison between the expenditure of the Central Government alone upon irrigation and expenditure upon railways.[9] Moreover, it should not be forgotten that there is a natural limit beyond which—without far-reaching changes in knowledge and skill—irrigation cannot profitably be carried. The conditions essential for successful irrigation—*e.g.* a plentiful

[1] This will irrigate more than five million acres, of which two million acres are at present irrigated, rather unsatisfactorily, by inundation canals.

[2] Part of this scheme has recently been completed (*Times*, October 29, 1928, "Deccan Irrigation Schemes").

[3] V. *Triennial Review of Irrigation in India*, 1921–24, chap. iv, and the Annual Reports on Irrigation in India.

[4] For instance, from the Famine Relief and Insurance Fund, or from local sources.

[5] *Moral and Material Progress of India*, 1924–25, pp. 198, 199.

[6] *Ibid.* [7] *Abridged Report*, p. 40.

[8] *E.g.* by Mr. R. C. Dutt, *India in the Victorian Age*.

[9] This point was apparently overlooked by Mr. Dutt. Moreover, since there is now a net income from railways, their construction increases rather than diminishes the capacity of the State to carry out other public works.

and reliable supply of water, and a demand large and continuous enough to ensure the regular payment of rates for water[1]—are not universally present, and naturally in most cases the works most likely to be profitable have already been constructed. There is also a physical limit to irrigation even in the most suitable areas. During the nineteenth century the construction of irrigation works led in certain cases to a rise in the level of the subsoil water and to the consequent water-logging of the soil, the increase of malaria, and an increase in the "usar" or "reh" covered tracts.[2] Although the need for the adequate drainage of irrigated land is now better understood, the trouble has not yet by any means been entirely eradicated.[3] The limitations imposed by the possible exhaustion of the river water must not be forgotten. Where a river runs through several provinces, violent controversies have taken place with regard to the relative claims of the several districts to the water-supply.

Government irrigation works have yielded an average profit of 7 to 8 per cent.[4] In 1921 "productive" works earned on an average 9 per cent., or, if the definitely financially unsuccessful works were excluded, 11 per cent. The "protective" works, on the other hand, yielded less than 1 per cent., and the "minor" works 4 to 6 per cent.[5] Attempts to combine navigation with irrigation have usually been failures, and never a great success.

In 1926–27 almost 28 million acres were irrigated by Government works,[6] of which 21 million acres were irrigated by "canals." Private works were probably of about equal importance with Government works,[7] so that between 1894–95 and 1926–27 the total irrigated area about doubled. It has been estimated that when the works at present under construction (including the great Sukkur Barrage Scheme) have been completed the area irrigated by Government works will have risen to almost 50 million acres. At present some 12·4 of the total

[1] In some Bengal districts, for instance, the rains fail so seldom that cultivators are unwilling to pay regular water rates and it therefore does not pay to construct irrigation works.

[2] V. *Imperial Gazetteer*, vol. iii, p. 77, and the *Moral and Material Progress of India*, 1859–60.

[3] *V.* M. L. Darling, *The Punjab Peasant in Prosperity and Debt*, p. 25, and A. Howard, *Crop Production in India*.

[4] *Triennial Review of Irrigation in India*, 1918–21, p. 11. As the Government could borrow at 3 to 3½ per cent., this meant a net financial gain of 3 to 5 per cent.

[5] *Triennial Review of Irrigation in India*, 1918–21, p. 11.

[6] *V.* Table X, A, p. 526. Of these some eight to nine million acres have been added since the beginning of this century.

[7] The statistics of private irrigation works are unreliable and incomplete. Whilst Government irrigation works have increased very rapidly at particular periods, private irrigation works appear to have been steadily extended year by year. Such extensions are often made without notification and may be entirely unrecorded, so that the area under private irrigation has probably been under estimated.

cropped area is, and in the near future over 22 per cent. will be, under Government irrigation.[1]

The Government does the main constructive work, whilst the cultivator maintains and sometimes also constructs the field channels or watercourses. The extension of local control of field distributories, through the agency of village panchayats, is recommended by the Royal Commission on Agriculture.[2]

The Government charges in various ways, which differ from district to district, for the use of the water thus provided. In Sind the charge for water is included in the land revenue assessment.[3] In parts of Bombay and Madras there is a separate land revenue assessment for irrigated and non-irrigated land respectively, and the assessment for irrigated land includes the charge for water. In Bengal, where the monsoon fails but rarely, a low annual charge for water is made irrespective of whether or not the water is used or needed. As a rule, except in the areas mentioned, a separate charge is made for the water, and the rate varies according to the acreage and nature of the crop.[4] As irrigated land produces much heavier crops than unirrigated, and as in many cases more than one crop is produced annually from the irrigated areas, the proportion of crops produced on irrigated land is considerably greater than the proportion of the total area under irrigation. Moreover, " the whole area gains from the rise of the subsoil water-level, due to the canal irrigation and from the additional moisture of the air," [5] so that probably about twice as much land is benefited as is actually supplied with water from the irrigation works. " The irrigation works have made for security of life, they have increased the yields and the value of the land and the revenue derived from it. They lessened the cost of famine relief, and have helped to civilize whole regions. In addition they now yield a handsome profit to the Government." [6]

(ii) The promotion of scientific agriculture

The introduction of agricultural research and experimentation under expert guidance formed one branch of the new construc-

[1] In 1923–24 the total length of canals at work was 67,000 miles; the value of the crops supplied with water from Government works was Rs. 147·3 crores; the gross revenue was Rs. 10·65 crores, working expenses Rs. 3·77 crores, capital outlay Rs. 89·34 crores, and net return on capital 7·70 per cent. (*Moral and Material Progress of India*, 1924–25, p. 199).

[2] *Abridged Report*, pp. 37, 38.

[3] It accounts for nine-tenths of the total land revenue assessment in this province.

[4] For instance, in the Punjab the rates charged vary from Rs. 2 to Rs. 4 per acre for millets and pulses, up to from Rs. 7 8a. 0p. to Rs. 12 for sugar-cane, with intermediate charges for cotton, wheat, and rice, etc.

[5] L. C. A. Knowles, *Development of the Overseas Empire*, p. 370.

[6] *Ibid.*, pp. 367, 368.

tive economic policy adopted by the Government of India, during Lord Curzon's Viceroyalty (1899–1905).

Before this time tentative, but rather unsuccessful, efforts had been made to establish Departments of Agriculture in the various Provinces. These failed partly because of the inadequacy of information and statistics, partly because there was no expert scientific staff, and partly because attention was mainly concentrated on the introduction of exotic plants. Some progress was made in the collection of facts and figures and the establishment of an administrative scheme which could subsequently be utilized as a basis for further development. In 1898 the Secretary of State for India sent Dr. Voelcker to tour in India, and as a result of his recommendations one or two experts were appointed.

The real forward step was taken in 1904, when Lord Curzon's policy of co-ordination and scientific efficiency resulted in the establishment of the Imperial Institute of Agriculture at Pusa. A donation of £20,000 (with a later addition of £10,000) from Mr. Henry Phipps of Chicago was utilized to start the Institution, but from 1905 onwards the Imperial Government have made an annual grant (at first of Rs. 20 lakhs) towards agricultural improvement at Pusa and in the Provinces.

Research, experimental farming, and an agricultural college for post-graduate students were instituted, and a staff of scientific experts appointed. The staff at Pusa now includes a Director, who is also Agricultural Adviser to the Government, an agricultural chemist, bacteriologist, economic botanist, economic entomologist, pathological entomologist, mycologist, and agriculturist in charge of the farm.

The Imperial Department of Agriculture has two cattle-breeding farms, one at Pusa and the other at Karnal (in the Punjab).[1] In addition there is an Indian Veterinary Service, working at some 600 veterinary hospitals and dispensaries scattered throughout the country, and an Imperial Institute of Veterinary Research at Muktesar.

The Provincial Agricultural Departments were reconstructed and enlarged in 1915. In 1925–26 there were no less than 182 agricultural stations (in addition to Pusa) varying in size from 2 to 2,251 acres, which were under the immediate supervision of Government agricultural officers. They conducted research, demonstrations, propaganda, and the distribution and sale of seeds and implements. By 1915 the Provincial Agricultural Departments had obtained the services of twenty-nine expert agriculturists, nine agricultural chemists, eight economic botanists, three agricultural engineers, one entomologist, one

[1] Figure II, p. 12.

mycologist, and a number of special officers, such as the Government sugar-cane expert, the sugar engineer, the fibre expert, the Imperial cotton specialist, and the officer for plantation industries in Southern India.

At first the Provincial Directors of Agriculture were appointed from the I.C.S., but latterly have been chosen from the ranks of the Scientific Agricultural staff. Each Province has now its own Director of Agriculture and Deputy Directors in charge of circles and of experimental, demonstration, and seed farms. There are also a number of Provincial agricultural colleges and agricultural schools, the latter having both English and vernacular courses.[1]

Certain Indian (Native) States, including Mysore, Travancore, and Baroda, have Agricultural Departments organized similarly to those in British Provinces.

Since the reforms agriculture has been a transferred subject and therefore the Provincial Agricultural Departments are under Provincial control, but the Agricultural Adviser to the Government, the conferences of Ministers and Directors of Agriculture, the meetings of the Board of Agriculture,[2] and the Central Institute at Pusa (which still remains under the Imperial Government) continue to a certain extent to co-ordinate the scientific work of the Agricultural Departments throughout India. Nevertheless, it has been said that one result of the reforms has been a deplorable loss of touch between Pusa and the Provincial Departments, and between the various Provincial Departments themselves.[3]

The nature of the work carried on by the Imperial Institute and Provincial Departments can be classified under three main headings: research, propaganda, and education.[4]

Research is carried on with the object of introducing new crops and (still more important) of improving indigenous types and producing new and better varieties of these types. On the whole, much better results have been obtained from attempts at improving indigenous plants than from attempts at introducing exotics. By "single-plant selection" and production pure to type of the best indigenous varieties, the whole level of production can be raised. Moreover, the selected varieties can be and have been enormously improved by cross-breeding and hybridization. Experiments of this nature have been conducted (at Pusa and in

[1] *Annual Review of Agricultural Operations in India*, Appendix V; *List of Agricultural Colleges and Schools in British India*, 1926–27.

[2] The Board of Agriculture acts as a link with the Indian States. V. *Abridged Report of the Royal Commission on Agriculture in India*, p. 8.

[3] *Asiatic Review*, October 1928, "The Royal Agricultural Commission," by Sir Alfred Chatterton.

[4] *V.* Annual Reports of the Provincial Departments of Agriculture, and the *Annual Review of Agricultural Operations in India.*

the Provinces) with wheat,[1] rice, sugar,[2] cotton,[3] jute, various other fibres, tobacco, oilseeds, tea, coffee, rubber, fodder, fruit, grasses, jowar, bajra, ragi, potatoes, pulses, and, in fact, almost every important crop. Cultural methods are investigated in similar ways.

Research is also carried on in many branches of science allied to agriculture. Soils are surveyed and analysed, manurial tests are instituted, experiments into animal nutrition, plant diseases, and insect pests, etc., are carried out.

The Destruction of Insects and Pests Act, 1914, protects Indian cultivators from the introduction of infection from abroad, but little has yet been done to eliminate the dangers of infection from other parts of the country, or to destroy indigenous pests, although the Cotton Transport Act of 1923 empowers the Provincial Governments to prohibit the movement of cotton from one district to another.[4]

Attention is paid to the breeding of livestock by the Agricultural Departments, and to the prevention and cure of cattle diseases by the Veterinary Departments, which work in close connection with the Agricultural Departments.

The policy not only of breeding superior types of bulls and supplying them to the cultivators, but also of assisting the latter to buy pure-bred bulls from whatever source on easy terms has now been adopted by all the Provincial Departments of Agriculture, and in some cases a premium is granted on purchase in the form of an annual sum sufficient to maintain the bull in good condition, *i.e.* Rs. 30 to Rs. 80, according to breed.[5] The castration of bulls unsuitable for breeding purposes is also undertaken.[6]

Experiments are also carried out in agricultural engineering,

[1] The most famous improved varieties are Pusa 4, Pusa 12, and Punjab 11. The two former are now to be found in every wheat tract in India, and the seed is in demand in Australia, South Africa, Kenya, Egypt, Iraq, Algeria, and Japan. *V.* Table XI, A, p. 527.

[2] Ninety per cent. of India's sugar is grown in Northern India and is very poor in quality and yield. In peninsular India better methods are adopted, but the area under sugar is strictly limited by the need for irrigation and capital, as sugar is an expensive crop to grow. Valuable research is carried on at the Cane Breeding Station at Coimbatore, and the Indian Sugar Producers' Association finances a supplementary scheme. A Sugar Bureau provides information and tests improved varieties.

[3] The average yield of cleaned cotton per acre in India is only 104 lbs., compared with 200 lbs. in U.S.A. and 450 lbs. in Egypt. More than 3·7 million acres in British India are now under improved varieties, which are estimated to produce an additional profit of over Rs. 2 crores per annum. The Indian Central Cotton Committee (established in 1921) co-operates with the Agricultural Departments, and finances a Central Cotton Research Institute at Indore and a Technological Laboratory at Matanga (near Bombay).

[4] V. *Moral and Material Progress of India*, 1926–27, p. 131, and the *Annual Review of Agricultural Operations in India*, 1926–27, p. 15.

[5] *Central Provinces Report*, 1921–22, pp. 18, 19.

[6] For instance, in 1926–27 no less than 282,826 bulls were thus castrated (*Moral and Material Progress of India*, 1926–27, p. 136).

such as well-boring, and in the selection and invention of improved agricultural implements and machines.

When successful results have been obtained from these researches, the attempt is made to introduce the various improvements to the cultivators. Tests are carried out on a field-scale at a number of experimental farms dotted all over the country. If these are successful demonstrations are made to the cultivators, either at special "demonstration farms" or by peripatetic officials on the cultivators' own land,[1] and energetic propaganda is carried out by means of lectures, pamphlets, advertisements, and, above all, through the Co-operative movement, as well as through schools and colleges. In ryotwari districts demonstrations on the cultivators' own fields are said to be preferable to demonstration farms. In zamindari districts, for instance in the United Provinces, the formation of exemplary "home farms" has been attempted. Seed distribution is carried out on a large scale through special seed-farms (governmental or private) and through co-operative societies.[2] Manures and improved implements and machinery are made available in the same way.[3]

The establishment of agricultural colleges was early recognized as an important part of the work of the Provincial Departments, and six have now been established—at Poona,[4] Coimbatore, Nagpur, Cawnpore, Lyallpur, and Mandalay—as well as the post-graduate colleges at Pusa and Bangalore.[5] Attempts have also been made to found agricultural "middle schools," but have met with only limited success, partly on account of the heavy expenses involved (reckoned at Rs. 200 per annum per student). They are intended for the sons of actual cultivators and for primary school-teachers, and it is hoped that some of the former will act as demonstrators in the villages. In some districts farm labourers are trained for propaganda work. Primary schools with a definitely agricultural bias have been suggested, and have been actually founded in some cases, but do not appear to elicit popular confidence and support.[6]

In the Punjab preference in filling Government posts requiring a knowledge of agriculture is given to graduates from agricultural colleges, in order to prevent the tendency for the best brains

[1] Some success has been achieved by demonstration trains in Bengal and the Punjab, which contain exhibits organized by the Railway, Public Health, Veterinary, Agricultural, Industrial and Co-operative Departments (*Abridged Report of the Royal Commission on Agriculture in India*, 1928, p. 17).

[2] There are no private seed merchants as in Europe.

[3] The iron turn-wrist plough and motor tractors are gradually coming into use in some areas.

[4] The pioneer work of Dr. Harold Mann at the Agricultural College, Poona, has set an example to the rest of India.

[5] A college established at Sabour was closed in 1923.

[6] *Abridged Report of the Royal Commission on Agriculture in India*, p. 66.

amongst the agricultural classes from being diverted to other professions, and special courses have been instituted to qualify teachers to undertake the teaching of agriculture in vernacular middle schools. A similar scheme is under consideration in the Central Provinces, and Madras has agricultural schools for juveniles, adult labourers, and elementary school-teachers.

The Provincial Agricultural Departments work independently of each other, and attempt not only to suit their policies to local conditions, but to specialize and experiment along particular lines.[1]

In the Bombay Presidency, for instance, a far-reaching attempt is being made to arouse interest in agricultural improvements by organizing local societies on a partly voluntary, partly official basis, with a Government subsidy.[2] The Royal Commission on Agriculture holds that this is the most systematic attempt that has yet been made to co-ordinate propaganda work and considers it a model that should be studied elsewhere.[3] The main difficulty is to secure a supply of trained demonstrators.

In Madras and the United Provinces great stress is laid on publicity, and other interesting lines of development include the return to the ancient policy of storage against famine—the store to be held in the form of fodder, instead of food-grains, on account of the expense of transporting sufficiently large quantities of cattle-fodder in times of scarcity—and the attempt in Lyallpur (Punjab) to introduce a wheat elevator. The latter experiment has not, however, proved very successful.

It is difficult to evaluate the work of the Agricultural Departments that has just been described, but the annual "Review of Agricultural Operations in India" contains a table showing the area in each province under the chief "improved" crops, and gives information with regard to the approximate additional value per acre accruing from the introduction of some of them. From these figures it appears that nearly 9 million acres, *i.e.* nearly 4 per cent. of the cultivated area, are now under improved varieties in British India, and that the additional value per annum to the cultivator due to the introduction of improved varieties of rice, wheat, sugar-cane, jute, and cotton alone is roughly Rs. 11,33 lakhs (£8·7 millions).[4]

[1] *V.* Annual Reports of the Agricultural Departments in each major province.

[2] *Report of the Bombay Agricultural Department*, 1921–22, pp. 5, 6.

[3] *Abridged Report*, pp. 18, 19.

[4] *V.* Table XI, A, p. 527. In this table an estimate is given of the possible additional value per annum which might be realized were improved varieties of the five main commercial crops extended to 75 per cent. of the total area under each of the crops. This makes no allowance for physical differences which might prevent such a wholesale improvement in yield, nor does it allow for any decrease in price resulting from increased production. (These prices are world prices, so that the effects of increased production must be considered in relation to world production, not to

It can undoubtedly be said that a veritable agricultural revolution could be effected by simply putting into practice the knowledge that has been gained with regard to improved varieties of crops, implements, cultural methods, and the breeding and care of domestic animals.

The use of improved implements, methods, and manures, and better breeds of cattle is as promising as the introduction of improved varieties of crops, but has spread but slowly.

For instance, about 7 per cent. of the total area, and over 21 per cent. of the cultivated area, are annually left fallow, despite the urgent need for fodder crops, which could easily be grown thereon, and the cost of production could be enormously decreased were improved methods of sowing seed, ridge cultivation, and shallow hoeings adopted.[1]

The land is starved through insufficient manuring, aggravated by the use of dung-cakes for fuel. The only manure in general use is ordinary farmyard manure. It has been calculated that even if the whole of the latter were utilized for cultivation, it would hardly suffice for 50 per cent. of the cultivated area.[2] The fuel problem in India is thus closely connected with the problem of maintaining the fertility of the soil, and agricultural production would be universally increased if the practice of burning dung-cakes could be stopped, if trees were systematically planted on all available land, and if the cheap transport and distribution of fuel throughout India were undertaken.[3] Experiments have been undertaken which prove that some of the main deficiencies of the soils—lime, potash, and nitrogen—could easily be supplied from existing sources. Bone-meal (particularly useful for rice crops),[4] basic slag, and cotton-seed cake are all available. More use might be made of the town sweepings (the so-called " poudrette ") and of night soil. Again, leguminous plants and green crops of various kinds (for instance, sann-hemp) [5] might be grown much more extensively as catch crops and dug into the ground. Artificial manures are, at present, out of the question except on irrigated areas cultivated with valuable crops such as sugar-cane, tea, tobacco, and market-garden products, as it is uneconomic to use them unless sufficient moisture for a profitable crop is

Indian production only.) On the other hand, it omits a number of valuable and extensively grown crops, and hence may be taken as illustrating the scale of the improvements which might be expected simply from the utilization of existing improved varieties.

[1] It is asserted that ridge cultivation has been known to increase yields by 55 to 60 per cent., and shallow hoeings by 25 per cent. (*Bombay Report*, 1921–22, p. 3).

[2] A. Lupton, *Happy India*, p. 32.

[3] F. L. Brayne, *Village Uplift in India*, pp. 22, 65.

[4] *Bombay Report*, 1921–22, pp. 2, 3.

[5] In connection with rice and sugar-cane cultivation.

absolutely assured. Otherwise, should the rains fail, the expenditure on artificial manures will be entirely wasted, and in some cases too much manure in proportion to the rainfall actually worsens the crops obtained. The use of ashes for oilseed cultivation has been known to increase the yield per acre by 50 per cent. in certain districts, and in the Bombay Presidency the use of sulphate of ammonia produced in India is spreading gradually.

By no means the best use is made of India's large number of oxen and buffaloes. The bullock takes part in almost every agricultural operation. It helps to thresh the grain, draw the ploughs, raise water from the wells, and irrigate the crops. Surely it is of the greatest importance to maintain at the highest level of efficiency such a "general utility" animal, and in particular, in view of the deficiency of the normal Indian diet in fats and proteins, to try to produce a breed of cattle with a high milk-yield. But what do we find? The Indian ox is a small, half-starved-looking beast, which has to pick up what food it can, as best it can.[1] Only a small minority of the cows yield milk for human consumption. The fodder crops of India are notoriously deficient, and the cattle are allowed to roam promiscuously over the fields in search of food, so that it is impossible to control their breeding[2] or to prevent the spread of cattle diseases. The following table shows the number of "stock units" in England, India, and Germany. Not only is the number of cattle units in India very great absolutely, but in proportion to population it is extraordinarily high. In spite of this, the value of pastoral products is notoriously low.

Stock Units[3]

	Cattle.	Sheep.	Stock Units.	Population.	Cattle Units per Head of population.
England (1922)[4] . .	4·9 m.	10 m.	6·1 m.	26 m.	0·3
British India (1919–20)	145·0 m.[5]	46 m.[6]	152·2 m.	247 m.	0·6
Germany (1912) . .	20·0 m.	5 m.	20·6 m.	80 m.	0·2

The various Imperial and Provincial Government cattle-breeding stations and dairy farms have shown what very great

[1] Stall-feeding is little practised, and the common grazing lands and all grass-lands near the villages are usually hopelessly overstocked. V. *Abridged Report of the Royal Commission on Agriculture*, p. 21.

[2] It is even a Tamil proverb that "the calf of a good cow dies," as death by gradual starvation is not included under the heading of the taking of life!

[3] On the basis adopted by the Agricultural Tribunal of seven sheep to one cattle unit: *Agricultural Tribunal*, p. 28. V. *Moral and Material Progress of India*, 1924–25, p. 193. At the second census of livestock taken in 1924–25 it was estimated that there were 151 million cattle in India.

[4] Pigs are included in the Tribunal's Report for England and Germany, but have been entirely omitted here.

[5] This includes oxen and buffaloes.

[6] For India sheep and goats are included.

improvements can be effected after only a few years. For instance, the three cattle farms in the Bombay Presidency at Charodi (North Gujarat), Bamulsapur (Dharwar), and Surat have directed their attention to improving two well-known breeds, and are said to have produced what is nothing less than a " revelation " with regard to milk production.[1]

The average yield of those Indian cows which are milked is not more than 6 lbs. of milk per day, as compared with 20 lbs. produced by certain English breeds.[2] Now the yield of the Montgomery cows at Pusa has been increased in ten years from an average of 5½ to one of 9 lbs. per day. It is therefore obvious that there is no inherent reason why Indian pastoral production should not be enormously increased. The Royal Commission on Agriculture in India suggests that there is a serious danger of the progressive deterioration of Indian cattle, as the worse the conditions for rearing efficient cattle, the greater the number of cattle are kept. This increases the pressure on the fodder supply, and results in weakening the stock, which increases the demand for greater numbers, thus completing the vicious circle. The Commission concludes that the number of working bullocks could be greatly reduced, without reducing the standard of cultivation, if their breed, condition, and diet could be improved. It states that no considerable addition to the total area of grazing land is possible, but that what is necessary is to increase the production of fodder on the existing grazing lands.[3] At present the slaughter of a cow, however useless or diseased, is prohibited, by religion, to at least one-half of the population of India.

(iii) Agricultural co-operation

The work aiming at the spread of scientific cultivation in India which has just been described is carried on by the Imperial and Provincial Agricultural Departments and Institutions, in close connection both with the Irrigation and Co-operative Departments, as the work of these three departments is inextricably intertwined. The Co-operative movement as a whole will be fully described in the following chapter. Here a few words only will be said about its specifically " agricultural " aspect.

Two of the most important causes of agricultural stagnation in India have been the indebtedness of the ryots (the bulk of the loans being incurred for non-productive purposes) and their lack of capital. This prevents both the introduction of improvements and the adequate utilization of prevailing methods of cultivation.

[1] *Bombay Report*, 1921–22, p. 5.

[2] *Indian Journal of Agriculture*, vol. xix, Part II. For an estimate of the yield in Madras, *v.* Pamphlet No. 189 (issued by the Publicity Bureau).

[3] *Abridged Report*, pp. 21, 22.

The Co-operative movement in India aims fundamentally at rescuing the ryot from indebtedness, and at providing him with the means to improve both the land itself and the methods of cultivation.

It started in 1904 with the passage of the Co-operative Credit Societies' Act, under which credit societies alone could be formed. In 1912 the formation of societies for purposes other than credit was sanctioned. Since then societies have been formed for seed distribution, the purchase of manures and implements, cattle insurance, cotton sales, lift irrigation, the sale of jaggery, rice-milling, and the provision of bulls for breeding purposes. There are also co-operative dairies and cotton ginneries. The movement spreads agricultural information of all descriptions and is one of the best means of extending knowledge of scientific agriculture. It has been said of the movement as a whole that its progress " has been most encouraging, and co-operation now forms the most important factor and agency in agricultural development," [1] but the purely agricultural side of the movement is still extremely backward, as in 1926–27 there were only some 2,262 non-credit agricultural societies with a membership of 181,507, together with 403 cattle-insurance societies.[2] Progress has been satisfactory mainly in the Punjab and Bombay. Irrigation, land improvement, and consolidation of holdings societies offer, perhaps, the most hopeful lines of advance, but are still in the experimental stage. In the Punjab there were no less than 154 consolidation societies in 1923–24, which during the year readjusted 11,352 acres. One or two so-called " zamindari " societies have recently been started in Bengal with the object of training educated young men in farming, and thus creating a new class of large-scale farmers, using scientific methods.

The reduction of the interest due from the cultivator is at present the chief achievement of the movement, and it has been calculated that Rs. 40 to 50 lakhs per annum are saved in interest by the agriculturists owing to the co-operative credit societies.

Thus the direct contribution of the movement to improve agriculture is at present quantitatively negligible, although its indirect effects, through the intellectual stimulus and the closer contact between cultivators and the agricultural departments of the Government that it affords, are important, and its potentialities immense.

(iv) Forest development

The extent, preservation, and utilization of forests are of vital importance to the Indian cultivator as well as to the hill and forest

[1] *Annual Review of Agricultural Operations in India*, 1915–16, p. 89. V. *Moral and Material Progress of India*, 1922–23, p. 212.

[2] *V.* Table XII, p. 528 and chap. viii, p. 197.

tribes. Although, according to the returns of the Forest Department, the total area under forests in British India is large—namely, 229,896 square miles, or 20·8 per cent. of the whole[1]—yet, if Burma and Assam (where forests form a predominant part of the total area) are excluded, over the rest of British India forests form only 7·8 per cent. of the whole.

This is hardly sufficient to provide the timber, fuel, and other forest products required by the enormous population, and there is serious danger of undue destruction and exhaustion. The danger was perceived in the middle of last century, and in 1855 a general policy of forest conservancy was inaugurated by Lord Dalhousie.[2] At this time Dr. Brandeis of the University of Bonn was appointed superintendent of the Pegu forests, and it was he who subsequently undertook the organization of the Indian Forest Department and built up the excellent system of administration and training of forest officers which has influenced forest conservancy throughout the whole world. In 1865 the first Forest Act was passed, giving power for the issue of local rules for forest conservancy. Since then the Forest Department has been gradually extended and a number of Acts have been passed strengthening the hands and enlarging the functions of the department.[3]

At first the English forest officers in charge of the forests were trained either in Germany or in France. Later the training was given in Great Britain. A forest school was opened at Dehra Dun in 1878 for the training of forest rangers, and others were subsequently established in Burma and in Madras, whilst nearly every province has established a local forest school for the training of subordinate officials. In 1906 a Forest Research Institute was founded at Dehra Dun, the old Forest School was given the status of a college, and the course of instruction was extended so as to include a course of training for the superior appointments in the Provincial services.[4]

The principles prescribed for Forest Administration are that conservancy should be carried out with a view to the welfare of the country as a whole, the benefit of individuals in the vicinity, the utmost utilization of the products of the forests, and in order to provide revenue for the State.[5] The main forest products are timber, gums, resins, dyes, tanning materials, and manures.[6]

[1] The returns of the Agricultural Department, which do not coincide with those of the Forest Department, show a still smaller percentage under Forests.

[2] *Imperial Gazetteer*, vol. iii, chap. ii.

[3] For a full account of the history of forest administration in India see E. P. Stebbing, *The Forests of India*, 1925, 2 vols.

[4] *Times Educational Supplement*, November 28, 1925, p. 504.

[5] *Imperial Gazetteer*, vol. iii, chap. ii.

[6] A good account of these products is given in E. A. Smythies' *India's Forest Wealth*; *v.* chap. v, "Minor Forest Produce."

Before conservancy was adopted, the timber supplies in certain areas were ruthlessly exploited at the expense of future supplies,[1] and much permanent damage was done by certain tribes which burnt down stretches of forests in order to practise " extensive " cultivation. The forests are now classified as " Reserved " (101,233 square miles), " Protected " (8,750 square miles), and " Unclassed " (141,527 square miles), according to whether they are under complete Government control, in a transition stage, or still under private ownership and management (subject to certain governmental powers of control). Up till 1921 control of Forest Administration rested with the Provincial Governments, under the general supervision of the Government of India ; in 1921 the subject became a Provincial one.

All capital expenditure on forests has been met from revenue, and although expenditure has greatly increased since 1900, receipts have increased still more rapidly.[2]

Since the transference of " forests " to the Provinces, it appears that a false policy of economy has been followed, even in Bombay, where the subject has been " transferred." [3]

The part played by the forests in the economic condition of the people can hardly be exaggerated. " Among the peasant's greatest needs are firewood to replace manure ; small timber for house and wood for implements, as well as grazing and fodder for his cattle. It has been recognized with increasing clearness that forestry has an important vocation as the handmaid of agriculture." [4] It has been estimated that no less than 12 million animals graze in Government forests at nominal fees.[5] Forests have " a marked effect on climate and on the maintenance of the water-supply. They hold together the fertile surface soil ; they store water and dole it out gradually, thus preventing disastrous floods and the formation of ravines. By checking erosion they prevent good soil from being washed into the rivers and carried away to waste. Forests also directly increase the fertility of the land, being capable of forming rich vegetable mould even from mineral soils. Finally, in India, forests are a valuable asset in the time of famine ; for they yield vast quantities of fodder—though much of it is of poor quality—and provide edible fruits and roots of which the poor readily avail themselves." [6]

Not only did deforestation proceed for many centuries before

[1] *E.g.* immense damage was caused in Malabar by the unrestricted felling of teak.

[2] *V.* Table XVIII. p. 538.

[3] In the other provinces it is a " reserved " subject.

[4] *Moral and Material Progress of India*, 1924–25, p. 203. *V.* J. A. Voelcker, *Improvement of Indian Agriculture*, chap. iv, and R. L. Bhalla, *Survey of Bairampur*, chap. i.

[5] *Moral and Material Progress of India*, 1926–27, p. 118.

[6] *Ibid.*, 1924–25, p. 203.

a Forest Department was established,[1] but even now only a proportion even of the " reserved " forests has been brought under really scientific management. The result is that India at present only realizes an average net income of 2 annas per acre, whereas the best forests under intensive management realize as much as Rs. 15 per acre per annum.[2] It is obvious that forest development is one of the most hopeful directions in which productive expenditure could be undertaken by the Government, although it is doubtful whether for the next twenty years the object should be to increase revenue. The whole of the proceeds of the departments might well be spent on more effective preservation, development, and conservative exploitation. It appears certain that the great difficulties in forest preservation have not yet been overcome, and it is probable that the area of effective forest is still shrinking. In any case it is greatly to be deplored that the Provincial Governments should have adopted a policy which has resulted in reducing both gross revenue and gross expenditure.

(v) Fisheries and their exploitation

The fisheries of India, although potentially rich, have not yet been scientifically exploited. Private enterprise has been deterred mainly by caste prejudice. " Fishing and the fish trade are universally relegated to low-caste men, who alike from their want of education, the isolation caused by their work and caste, and their extreme conservatism, are amongst the most ignorant, suspicious and prejudiced of the population, extremely averse from amending the methods of their forefathers and almost universally without the financial resources requisite to the adoption of new methods." [3] It is, therefore, apparent that the initiative ought to be taken by the Government. Nevertheless, Departments of Fisheries have so far only been established for Madras (since 1905), Bengal, Bihar and Orissa (since 1906), and the Punjab (1912). In Bombay fisheries were placed under the Department of Industries. The Madras fisheries and collateral industries are better organized and more progressive than those of any other province. A number of experts are employed on the staff and " wonderful success " has been reported. " Its most notable industrial successes have been the reform of manufacturing processes in the fish-oil trade, the creation of a fish-guano industry, the establishment of a fish cannery and the development of canned goods other than sardines, which alone had been canned previously in Malabar, and the opening of an oyster farm conducted under

[1] " The dense forests once situated in the Gangetic plain have now very largely disappeared " (v. *Moral and Material Progress of India*, 1924–25, p. 203).

[2] *Ibid.*, p. 205.

[3] *Indian Year Book*, 1920, p. 350.

hygienic conditions." [1] Fish-oil soap, manufactured by the Madras Fisheries Department, has been found most valuable by the Agricultural Department for spraying fruit trees, and the latter department also organizes the sale of fish manure to the ryots.

§ 3. CONCLUSIONS

From the account already given of land legislation (in Chapter V) and of the agricultural policy of the Government (in the present chapter) it can be concluded that the policy adopted (especially with regard to irrigation, scientific research, and co-operation) [2] has been constructive and successful, although there is, naturally, room for the extension of the work that has been begun and need for the provision of more funds to be expended upon agricultural purposes. Nevertheless, although it is true that the extensive adoption of known improvements would suffice to effect a revolution in agricultural production, it is doubtful whether the fundamental difficulties preventing more rapid progress in the past can be removed in the near future, as the necessary reforms would entail a degree of interference with religious and social institutions and customs which would be beyond the competence of any Government that did not possess the wholehearted confidence and support of the governed.[3]

In comparison with the Governments of other countries the Government of India has undertaken far-reaching agricultural functions (such as the provision of pure seed and improved implements and machinery, water-finding and well-boring, the storage of fodder and the supply of bulls for breeding purposes), which are usually left to voluntary agency. There appears to be little truth in the oft-repeated accusation that one of the chief causes of lack of agricultural prosperity is the pressure of taxation and of the land revenue. India is not overtaxed in comparison with other countries,[4] and there is no evidence whatever of any direct connection between the incidence of either taxation or land revenue in particular areas and the introduction of improved agriculture. More important than the reduction of taxation or of the land revenue is the need to extend protection against rack-rents. In fact, the agricultural policy adopted has fallen short of that adopted elsewhere only in the spheres of tariffs and agricultural education.[5]

[1] *Indian Year Book*, 1920, p. 351. [2] *V.* also chap. viii.

[3] The Government of India has given pledges of "non-interference with everything connected with the religions, beliefs, and observances of its subjects" (L. Curtis, *Dyarchy*, p. 37). Moreover, the peculiar position of an alien Government affects its power of raising revenue even for expenditure upon objects of first-class importance, such as agricultural improvements.

[4] *V.* chap. xvi, p. 444.

[5] *Report of the Agricultural Tribunal*, 1924, Cmd. 2145. This gives a classification of the policies adopted in various countries.

The position of India differs fundamentally from that of most countries which have adopted agricultural protection, because she is, on balance, food-exporting. But it does not follow that agricultural interests are not concerned in the tariff controversy. On the contrary, tariff policy affects agricultural prosperity vitally through its effects on the cost of living.[1] The neglect of agricultural interests (that is, of the interests of the great bulk of the consumers) in framing a tariff programme for India has been marked in the past, but must be attributed more to the leaders of Indian opinion than to the Government. The demand has been for the taxation (through import duties) of everything that the agriculturist buys, without granting any countervailing privilege for agricultural produce, whilst the restriction on exports of food-stuffs has been ardently advocated on the plea that India should not be allowed to export whilst her own population was underfed.[2] Recently, however, signs have appeared that this extreme position will not be permanently maintained. In a recent session of the Indian Legislature, " the interests of the predominantly agriculturist provinces were voiced by several members of the small but vocal labour group in the House who lost no opportunity of presenting the case of the poor man, whether he is a cultivator or an employee in industry." [3] Moreover, the Legislative Assembly threw out the clause in the Government's Steel Industry (Protection) Bill (1924) which proposed an extra protective duty of 10 per cent. (25 per cent. in all) on certain agricultural implements, with the object of protecting the Agricultural Implements Co. Ltd. (whose works are at Jamshedpur), on the grounds that it would " unduly penalise the poor cultivator," [4] whilst the recent Agricultural Commission pointed out that the high duties on iron and steel increase the cost of iron goods in India, whether imported or made in India, and hence increase the cost of agricultural implements and machines.[5]

In the sphere of agricultural education India has, no doubt, been held back by the fact that until the last decade of the nineteenth century England herself was very deficient in that respect. Since 1890 great headway has been made both in England and in India, and further developments in India are now restricted mainly by financial considerations. Probably the United States is the country from which India might learn most, as in that country great emphasis is laid on " agricultural economics " and

[1] *Report of the Agricultural Tribunal*, 1924, Cmd. 2145, p. 108.

[2] See E. L. Price, *Indian Legislative Economics*, 1921. This suggestion ignored the likelihood that the production of food-stuffs would be discouraged if the cultivators were prevented from making profits by exporting.

[3] *D.O.T. Report on the Conditions and Prospects of British Trade in India*, 1923–24, p. 95.

[4] *Ibid.*, p. 13.

[5] *Abridged Report*, p. 13.

the " movement for awakening interest in farm life is being carried down even to the rural elementary schools." [1]

At the same time it must be admitted that it is not at all clear that satisfactory methods of improving the education of the agriculturist have yet been discovered in *any* country, for the giving of technical instruction is only one aspect of the subject, the extent and nature of general education being even more fundamental.[2] On the other hand, the giving of a literary education in primary schools in rural districts is said to discourage the best pupils from taking up cultivation.[3] The increase of travelling teachers and of " kamdars " [4] is probably the policy of greatest immediate value, but is one which necessarily entails a considerable increase in expense. The expansion and improvement of agricultural education, therefore, depend primarily on the possibility of raising more revenue for such purposes.

Other directions in which it has been suggested that more might be done are with regard to the development of transport and power in connection with agriculture, and the encouragement of agricultural by-industries.

The former policy is still in an experimental stage, even in the most highly developed countries. Electric power for use on comparatively small farms is developing in Denmark,[5] and the encouragement of and competition between road and railway are becoming of importance in Europe.[6] The latter policy could with difficulty as yet be applied in India owing to the high cost of road construction. Similarly the use of electricity cannot yet be considered as practical politics in most areas. Much has, however, been done in Madras by encouraging the use of oil engines for pumping and miscellaneous work, and it is proposed to utilize hydro-electric power for agricultural purposes in the Punjab.[7]

On the other hand, the development of transport in general has obviously indirectly assisted agriculture very greatly, by encouraging specialization and farming for a market. In most countries farming for a market became the rule during the first phase of the agricultural revolution. In many colonies railways were built with the deliberate intention of opening up hitherto inaccessible (and hence self-sufficient) areas. In this respect the Government of India has been a pioneer.

The encouragement of by-industries to agriculture is also, in almost all countries, still in an experimental stage. Afforestation may help to solve this problem in India. The encouragement of rural industries is under consideration and is full of possibilities,

[1] *Report of the Agricultural Tribunal*, 1924, Cmd. 2145, p. 59.
[2] *Ibid.*, p. 120.
[3] *V.* chap. ix, p. 213.
[4] *I.e.* farm labourers trained for propaganda.
[5] *Report of the Agricultural Tribunal*, 1924, Cmd. 2145, p. 81.
[6] *Ibid.*, p. 80.
[7] *V.* chap. ii, p. 32.

but also bristles with difficulties. Rural industries might be dovetailed into the agricultural year, so as to give employment during the slack seasons. Mr. Keatinge suggests that "the subsidiary industry *par excellence* of the cultivator should be the breeding and rearing of live stock, which provides an occupation and an income at all seasons, and returns to the soil the manure which is necessary to maintain it in high fertility." [1] This, however, would not help to solve the problem of the fluctuations in the demand for labour. The sugar and dairy industries are the most hopeful in this respect.[2] Rural industries might also be established to work up local raw materials such as wood, bamboo, iron, and stone, but it is difficult to obtain the necessary technical skill.[3]

The desire of the Government to discover new ways of promoting agriculture and its willingness to overhaul agricultural policy and administration are shown in the appointment of the Royal Commission on Agriculture which has recently reported.[4] The Commissioners were instructed "to examine and report on the present conditions of agricultural and rural economy in British India, and to make recommendations for the improvement of agriculture, and to promote the welfare and prosperity of the rural population." The terms of reference excluded questions of land ownership and tenacy, assessment of land revenue and irrigation charges, and the existing division of funds between the Government of India and local governments. The work of the Commission was carried out in the most broad-minded, sympathetic, and enthusiastic spirit, and its findings have already helped to focus attention upon the most vital problems and to mould public opinion as to the necessary reforms and their relative importance.

The Report of the Commission emphasizes the dependence of agricultural progress upon the population problem, and the improvement of the general standard of village life, education, and health, and stresses the need for the introduction of more effective co-ordination of the work of various authorities dealing with agriculture. "No lasting improvement in the standard of living of the mass of the population can possibly be attained if every enhancement of the purchasing power of the cultivator is to be followed by a proportionate increase in the population." [5] "We have endeavoured to make plain our conviction that no substantial improvement in agriculture can be effected unless the cultivator has the will to achieve a better standard of living and the capacity,

[1] G. Keatinge, *Agricultural Progress in Western India*, p. 126.

[2] *Ibid.*, p. 87.

[3] For instance, many attempts at reintroducing cotton-spinning by hand in those villages where it had completely died out have so far failed, because the yarn produced is so coarse and uneven that no market can be found for it.

[4] V. *Report of the Royal Commission on Agriculture in India*, 1928, with sixteen volumes of evidence.

[5] *Abridged Report*, p. 59.

in terms of mental equipment and physical health, to take advantage of the opportunities which science, wise laws and good administration may place at his disposal." [1] "The economic wastage due to disease cannot be over-exaggerated. . . . Unprotected wells and tanks; unswept village streets; close pent windows excluding all ventilation—in such conditions does the average villager live—and yet observes a remarkably high standard of personal cleanliness and tidiness." [2]

The main recommendation, which has already been adopted by the Government,[3] with regard to the more effective co-ordination of agricultural work, is that an Imperial Council of Agricultural Research should be established in order to guide and advise all other agricultural bodies.[4] This should be supplemented by a Provincial Research Committee in each major province.

The other recommendations of the Commission include the re-examination and readjustment of railway freights on fodder, fuel and timber, and agricultural implements and machines, measures for protection against insects and pests,[5] legislation designed to promote the consolidation of holdings,[6] legislation and other measures to prevent the spread of contagious cattle diseases,[7] the establishment of women's institutes in the villages,[8] the establishment of regulated markets for the sale of agricultural produce, and the appointment of an expert marketing officer to each of the Provincial Agricultural Departments.[9] With regard to the need for regulated markets the Commissioners state that the Agricultural Departments have so far, except in Berar,[10] done little to help the cultivator to market his produce. In many cases crops are marketed in a poor condition, so that prices rule low, to the detriment even of the best quality of produce. The remedy is to establish regulated markets, or to organize trade associations (such as the East India Cotton Association) or Co-operative Sale Societies.[11]

[1] *Abridged Report*, p. 89. [2] *Ibid.*, p. 56.

[3] V. *Times*, January 29, 1929, "The Indian Assembly."

[4] The primary function of this body will be to deal with the applications for grants on behalf of research institutions.

[5] For instance, legislative protection for Burma against pests, etc., introduced from the rest of India, the grant of gun licences on a more liberal scale, and the fencing of land, if a cheap and efficient method can be discovered (*Abridged Report*, p. 14).

[6] *Main Report*, § 126. [7] *Abridged Report*, p. 28 *et seq.*

[8] "The establishment of a women's institute in a village would supply a centre for educational and co-operative activities as well as for mother and infant welfare work, and might remove the present obstacles to the employment of women teachers in village schools" (*Abridged Report*, p. 61). No less than 250 such institutions have been already established in Bengal by voluntary agency (v. *Times Educational Supplement*, January 26, 1929).

[9] *Main Report*, chap. xi, and *Abridged Report*, p. 43.

[10] In Bombay an Act has been passed for the regulation of cotton markets, but has not yet come into force (*Abridged Report*, p. 43). [11] *Ibid.*, p. 45.

The Commission also points out that although recruitment for the Indian Agricultural Service ceased in 1924 (owing to the transference of control of agriculture to the Provinces under the reforms) no provision has yet been made for the constitution of a new superior Provincial Service. This should obviously be done, and the staff at Pusa should be brought into closer touch than at present with the Provincial Agricultural Departments.[1] India should also maintain and extend her connection with both international and imperial organizations for the promotion of improved agriculture, such as the International Institute of Agriculture in Rome, and the scheme for the creation of chain of empire research stations.[2] A large number of minor recommendations are made with regard to almost every aspect of the subject. It may be noted, however, that the Commissioners were unable to endorse the proposal that agriculture might be helped by the formation of Provincial Development Boards representing local interests, as they held that there is a definite limit to the extent to which Government functions can be delegated.

A conference between the Government of India and all the Provincial Governments was held in Simla in the autumn of 1928, to draw up schemes for carrying out these proposals, at which the Viceroy appraised highly the work of the Commission.[3]

In addition to the adoption of these recommendations it may be suggested that what is most needed is power to extend expenditure upon agricultural objects,[4] and greater financial freedom for the Agricultural Departments, which are at present unduly restricted by inelastic rules and regulations [5] and by the prevalence of the system of drawing up a programme for one year only.[6] The collection and interpretation of agricultural information and statistics along the lines suggested by the Economic Enquiry Committee might also be introduced, and the schemes that have been successfully introduced in certain Provinces (some of which have been mentioned incidentally above) might well be adopted elsewhere. In districts where there are any considerable number of fairly large holdings, as in the United Provinces, measures should be taken to persuade some of the larger holders to develop their farms into model and demonstration " home farms," which would act as centres for the dissemination of scientific knowledge. The tariff system should certainly be more carefully considered in relation to its effects on agriculture, agricultural education should

[1] *Abridged Report*, p. 81.
[2] *Ibid.*, pp. 83, 88, and V. Anstey, *The Trade of the Indian Ocean*, chap. viii.
[3] *Times*, October 2 and 4, 1928. [4] Chap. xiv, p. 401.
[5] For instance with regard to the necessity of showing a profit on all branches of demonstration farming, some of which might well be considered as equivalent to research.
[6] In the Punjab the agricultural programme is drawn up so as to extend over several years.

be developed so as to encourage peripatetic teaching and the training of teachers for rural schools, and everything possible should be done to introduce a greater variety of occupations into rural districts, so that the population should become less dependent upon one or two crops. Proposals connected with the Co-operative movement, which is certainly one of the most hopeful lines of advance, will be considered in the following chapter.

Above all, what is needed is to revivify village life, or—as Mr. Brayne has said [1]—to "jerk the villager out of his old groove." The "Gurgaon scheme," devised by Mr. Brayne and introduced by him, his wife, and a band of enthusiastic workers (official and non-official) into a backward Punjab district, with marvellous success, offers the most hopeful solution that has yet been suggested, and has been favourably considered by the Agricultural Commission.[2] This scheme claims to deal with the whole life and activity of the peasant and his family, and by means of intensive propaganda to demonstrate to him that climate, disease, and pests can be successfully fought, thus leading to a great (and rapid) improvement in agriculture and in the general standard of life. Mr. Brayne launched his campaign in Gurgaon only eight years ago, but the tangible results already achieved include notable improvements in cattle-breeding and methods of cultivation, reafforestation, the destruction of pests, the encouragement of co-operation, the adoption of measures for the prevention of disease (including the digging of no less than 40,000 pits for village refuse, manure, etc.), educational progress (including the enrolling of over a thousand girls in boys' schools), and great reductions in the making of dung-cakes.[3] The central idea is to imbue the villagers with the ideals of the dignity of labour, the dignity of woman,[4] the dignity of cleanliness, and the dignity of service,[5] by means of homely example and precept—"intensive propaganda, aided by laughter and often by song." [6] The object is to train "village guides," [7] teachers, voluntary workers and—above all—the women, in the elementary principles of sanitation, medical aid, co-operation and agricultural improvement, in order that they may act as "centres of infection" for the whole district. A "School of Rural Economy" and a "School of Domestic

[1] *Asiatic Review*, January 1929; *Village Uplift in the Punjab*, p. 116.

[2] V. *Village Uplift in India*, by F. L. Brayne; *Abridged Report of the Royal Commission on Agriculture in India*, pp. 59, 60; and the *Times Educational Supplement*, December 15, 1928, "India: A Dreamland of Rural Bliss."

[3] *Village Uplift in India*, Appendix III, p. 181.

[4] "The centre of the problem . . . is the uplift of the women. . . . Train the woman, and the village will uplift itself" (*Village Uplift in India*, p. 120).

[5] *Ibid.*, p. 33.

[6] *Asiatic Review*, January, 1929, p. 117.

[7] *I.e.* young men are to be trained to fit each of them to act as "guide, philosopher, and friend," to a village or group of villages (v. *Abridged Report of the Royal Commission on Agriculture in India*, pp. 59, 60).

Economy" (for the women) have been established with this purpose, and Mr. Brayne has expressed the hope that "every official who comes in contact with village life will, before long, be compelled to go through a course" at the School of Rural Economy.[1]

Similar measures, adapted to local needs, could undoubtedly be extended to India as a whole, given the necessary enthusiastic leaders and Government aid. The latter is necessary to finance the schools and village guides, whilst some of the most important agricultural reforms might be stimulated by a temporary remission of land revenue where certain conditions are fulfilled.[2] Mr. Brayne has suggested the formation of an "Indian Village Welfare Association" to secure co-operation between official and voluntary workers, and to finance experimental work which otherwise might never have a chance.

In time such measures might lead to a fundamental social reorganization and change in outlook, which could be secured in no other way. The limiting factors are finance and leadership, but surely no movement could be more worthy of both official and voluntary support.[3]

[1] *Asiatic Review*, January 1929, p. 121.

[2] For instance, a small proportion of the land revenue might be remitted for a period of years for fields banked and so divided as to secure proper irrigation and drainage, for tree growing, for improvements in pasture land and fodder reserves, and for co-operative stock-rearing (*Village Uplift in India*, pp. 58, 61, 64, 66).

[3] *V.* chap. xvii, p. 483.

CHAPTER VIII

THE CO-OPERATIVE MOVEMENT

§ 1. THE PROBLEM OF INDEBTEDNESS, p. 185.
The increase of indebtedness; its evil results and permanent nature.

§ 2. THE ORIGIN AND DEVELOPMENT OF THE CO-OPERATIVE MOVEMENT IN INDIA, p. 188.
Nineteenth-century attempts to solve the problems of indebtedness and scarcity of capital—Legislation with regard to loans and mortgages—The Co-operative Societies Acts of 1904 *and* 1912*—Subsequent progress.*

§ 3. CO-OPERATION AT WORK, p. 193.
The various types of Co-operative Societies: (i) *Primary Credit Societies, with unlimited and limited liability;* (ii) *Primary Non-Credit Societies (agricultural, industrial, consumers', educational and health);* (iii) *Central organizations and their functions—The achievements, potentialities, and weaknesses of the movement—The part played by Government in promoting co-operation—Conclusions.*

§ 1. THE PROBLEM OF INDEBTEDNESS [1]

In India, as in nearly every predominantly agricultural country, the problem of indebtedness is and has long been a vital one. In rural areas the village *banias* and *sahukars* (or *sowcars*) have long been in the habit of making advances to the ryots (on their crops), and to the artisans, in order to enable them to continue to produce. In addition, there is the common practice of borrowing for ceremonial purposes. Unfortunately, the introduction of British rule has tended to increase both the demand and facilities for borrowing, so that increasing indebtedness has accompanied improvements in agricultural methods and organization.

British rule, no matter what its defects, brought with it a degree of peace, order, and security never before, or at any rate not for many centuries, known to India. This, together with the removal of a number of positive checks to population and the absence of prudential restraint, has resulted in a rapid increase in population and increased pressure on the land.[2]

[1] The more purely agricultural aspect of the Co-operative movement in India has been considered in chap. vii. The more general development of the movement will here be described.

[2] Chap. iii, § 1.

With the increase in the population, new land—often less fertile or less accessible than that previously cultivated—has been brought into use, and it has become necessary to cultivate the "old" land more intensively, especially where a shrinkage in forest area has injured the older settlements. These changes have necessitated more expenditure upon the land, especially in areas dependent upon irrigation. The gradual infiltration of European methods of cultivation has also increased the demand for capital. Hence the ryot has needed to borrow both in order to make capital improvements and (more often) in order to carry on ordinary cultivation, whilst industrial workers have been hard hit by the competition of imported manufactures.

Before the introduction of British rule the power to borrow was strictly limited by the political, economic, and legal lack of security; and land could hardly be considered to offer security for a loan. Under British rule the selling value of rights over land rose enormously, owing to increased political security, increased security of tenures, increased demand for holdings, and the extension of valuable commercial crops. Moreover, whereas previously it had not been customary for a creditor to seize the land of his debtor, under the new laws and the systematic execution of the decrees of the Courts land could now be mortgaged, and if not redeemed at the appointed time became the property of the creditor. The mahajan eagerly accepted land as security, and if his loan was not repaid he either became absolute owner of the mortgaged land or practical owner of the labour and produce of his debtor, who under British rule could not escape from his bargain. Thus increased security meant more loans and greater indebtedness. "The growth of law and order has led to competition for land instead of for tenants, while the institution of Civil Government tends to act as an engine to deprive the cultivator of his holding, and of the profits of cultivation. The verbal contracts of the past and the easy relations with a hardly more literate money-lender have given way to a formal, though one-sided, account-keeping which tends to reduce the more important party to slavery or indigence." [1] In addition, at famine times Government relief and famine machinery have prevented the wholesale disorganization which used to accompany such visitations, and as the mahajan now has a greater chance of being repaid for his loans, he is naturally more ready to lend.

It can also not be denied that at first under British rule the land revenue was in some districts levied at too high a rate and

[1] *Indian Co-operative Studies:* Essay on "The Problem of Rural Organization in India," by B. A. Collins, p. 23; *v.* S. S. Thorburn, *Musulmans and Money-lenders in the Punjab* (1887), chaps. viii and ix.

collected in too rigid a manner, which served as another reason for resort to the money-lenders.

It has sometimes been argued that the chief cause of increasing indebtedness has been increasing poverty, and this has been adduced to prove how evil have been the effects of British rule. It is true that increasing indebtedness has been one evil result of British rule. But increasing indebtedness has not been solely, or invariably, due to increasing poverty. On the contrary, it has often been the deplorable by-product of a number of changes that are in themselves signs of increased prosperity, such as the increased security and the rise in the value of land mentioned above.[1]

In fact, indebtedness has been not so much the result of poverty as a cause of poverty. The poorest classes in India—at least in the villages—cannot and do not borrow.[2] As compared with other agricultural countries, indebtedness is not more prevalent. "The indebtedness of the cultivating classes is, when considered by itself, not very serious. It is probably much less than in other rural countries, including America: the proportion of cultivated land mortgaged in India is considerably below that for England or France, and the mortgage debt per head is but a fraction of that in the United States."[3]

In India the problem has assumed exceptional importance not because indebtedness has been exceptionally great, nor because it has been due to increasing poverty, but because it has been accompanied by exceptionally disastrous effects. The Indian borrower has paid exorbitant rates, and has stood little chance of ever again extricating himself from debt. He has had no alternative occupation, and as the money-lender is often both the local shopkeeper and the purchaser of the produce of his debtor, the latter has had no chance of earning or saving anything wherewith to begin to repay his debt. The social and educational superiority of the money-lender has also strengthened his position. There has been no chance of a "pogrom" however oppressive the Indian usurer's exactions have been! Often, too, the creditor alone keeps any accounts, and manipulates the repayments so as to perpetuate the debt. Thus in India indebtedness has tended to become a permanent condition.[4] This contrasts with what has occurred in the United States, where although indebtedness has

[1] The main immediate causes of indebtedness have been summed up, as follows, by Mr. Darling: (1) The smallness of the holding and excessive fragmentation; (2) Constantly recurring losses of cattle; (3) Improvidence aggravated by insecurity of crops; (4) Extravagant expenditure on marriages, etc. He points out that borrowing has been made easy by the money-lender and his system, and by the recent expansion of credit due to high prices and the rise in the value of land (*The Punjab Peasant in Prosperity and Debt*).

[2] *Indian Co-operative Studies*, ed. R. B. Ewbank, p. 34.

[3] *Ibid.*, p. 34.

[4] *Indian Co-operative Studies*, p. 35.

been actually greater per head, it has been a temporary stage in the career of the individual debtor, who in the majority of cases ultimately clears himself of debt.

Thus a large part of the capital of the country has become concentrated in the hands of the money-lenders.[1] It has even been suggested that the necessity felt by the money-lender of finding an outlet for his accumulating wealth has caused him to force loans upon his clientele, and that one of the best ways of attacking the problem would be to encourage the money-lender to utilize his capital in other directions.

The absence of leaders accentuates the necessity for " self-help " amongst both the agriculturists and industrialists. It was as a remedy for the problems outlined above that eventually the Co-operative movement began.

§ 2. THE ORIGIN AND DEVELOPMENT OF THE CO-OPERATIVE MOVEMENT IN INDIA

Various attempts were made in the nineteenth century to solve the problems of indebtedness, usurious exaction, and scarcity of capital. These attempts included legislation with regard to tenant rights,[2] land alienation, the settlement of debt, and the curbing of usury; the provision of State loans for productive purposes; and the founding of Post Office Savings Banks.[3]

The Mogul emperors had sometimes made *takavi* (State) loans to agriculturists, and the East India Company followed their example. This benefited a limited number of agriculturists, but the system was inadequate and was unsuitable in relation to the problem as a whole.

During the nineteenth century various attempts were made to improve the system, for instance in 1871, 1876, 1883, and 1884.[4] The Land Improvement Loans Act of 1883 gave facilities for loans to be used for capital expenditure upon land improvement, and the Agriculturists Loans Act of 1884 for loans for the purchase of seed and cattle and miscellaneous agricultural purposes. Both of these Acts have worked well on the whole, but their provisions have not been sufficiently well known. Those most in need of help could still not obtain it, as naturally they had no security to offer, whilst the State obviously could not enter into sufficiently intimate

[1] Mr. Darling calculated that in the Punjab no less than one-fourth of the income-tax-paying class were money-lenders (*op. cit.*, p. 212).

[2] *V.* chap. v, p. 102.

[3] Post Office Savings Banks were first established in the Presidency towns in 1833 and 1835. District Post Office Savings Banks were established in 1870, and the system was extended in the eighties. *V.* Findlay Shirras, *Indian Banking and Finance*, p. 386.

[4] *V.* V. G. Kale, *Indian Economics*, p. 354, and the *Abridged Report of the Royal Commission on Agriculture in India*, p. 47 *et seq.*

contact with individual cultivators to enable it to gauge personal credit. The Deccan Agriculturists' Relief Act of 1879, passed as a result of the recommendations of the Commission appointed in 1870 to inquire into the causes of the Deccan Riots, attempted to deal with the situation in that area, by creating special machinery to inquire into and adjust disputes which arose between the cultivators and the money-lenders.[1] This also was not very successful, as it tended to multiply litigation, and to stimulate, rather than to allay, ill-feeling between the classes. Hence, although this Act empowered the courts to go behind the contract and reduce the interest if it were feared that excessive rates were being charged, and to arrange for the repayment of the capital debt by instalments, the results were disappointing. The Usurious Loans Act of 1918, amended in 1926, attempts to limit the extortion of money-lenders and to enable the mortgagor to insist on his right of redemption, but, like the Deccan Agriculturists' Relief Act, has been to a great extent evaded or ignored.[2]

The Punjab Land Alienation Act of 1901, subsequently copied in Bundelkhand, Bombay and Oudh,[3] aimed at preventing money-lenders from obtaining possession of their debtors' land, by prohibiting land from passing into the hands of the non-agricultural classes. This again was unsatisfactory, in so far as it reduced the security which cultivators could offer and so made it more difficult for them to obtain command of capital.[4] The recent Royal Commission on Agriculture in India recommended that " no usufructuary mortgage of agricultural land should be permitted by law unless provision is made for automatic redemption within a fixed period of years, of which twenty should be the maximum." [5] This recommendation, if accepted, should help to prevent the formation of permanent debts in the future.

In addition, voluntary attempts have been made in various Provinces to provide loans on reasonable terms for productive purposes. For example, no less than forty-five loan banks and companies were formed between 1869 and 1900 in Bengal, whilst the " Nidhis " of Madras and similar associations in the United Provinces also aimed at providing credit on reasonable terms, and were comparable with the English Friendly and Building Societies.[6] Thus, " On a careful examination it will appear that

[1] S. S. Thorburn, *Musulmans and Money-lenders in the Punjab*, p. 70.

[2] *Abridged Report of the Royal Commission on Agriculture in India*, p. 47.

[3] *V.* chap. v, p. 103.

[4] For instance, Mr. Bose has said on this point that the deprivation of security on which the ryot can borrow money is a circumstance which should seriously be taken into account before the ryot's right of sale of his land is restricted in any manner, as has lately been done by the Land Alienation Act (Tract 917, p. 9, *Village Banks in India*, by T. C. Bose (1901)).

[5] *Abridged Report*, p. 47.

[6] Tract 917, p. 9, *Village Banks in India*, by T. C. Bose (1901).

the natives of Bengal, or for the matter of that, of India, are not so apathetic and indolent as asserted in some quarters." [1]

The failure of the State system of *takavi* advances and the increasing urgency of the problem led to the preparation of a scheme for the establishment of agricultural banks by Sir William Wedderburn and Mr. Justice Ranade in the early nineties. This was accepted by the Government of India, but rejected by the Secretary of State. A few years later the matter was taken up in Madras, where Sir F. Nicholson was appointed to conduct a special inquiry.

Sir F. Nicholson's report recommended the establishment of credit societies, and emphasized the fact that it was not only credit that was needed, but also the inculcation of habits of thrift and self-help. The best way to do this, Sir F. Nicholson urged, was to " find Raiffeisen ! "

Soon after this Mr. Dupernex was placed on special duty in the United Provinces to inquire into the matter there, and in 1900 published his book entitled " People's Banks in Northern India," wherein he advocated the establishment of co-operative credit societies with the financial aid and under the aegis of Government. As a result of these two inquiries a few co-operative credit societies were started in the Punjab, the United Provinces, and Bengal, on the personal initiative of certain district officials.

It was Lord Curzon who provided the driving force for legislative action. He appointed a committee under Sir Edward Law, which investigated the whole matter during 1901–3. The report of this committee made definite recommendations and served as the basis of the Co-operative Credit Societies Act of 1904.[2]

The theory underlying this Act, and indeed the whole Co-operative movement, is that " an isolated and powerless individual can, by association with others, and by moral development and mutual support, obtain in his own degree the material advances available to wealthy or powerful persons, and thereby develop himself to the fullest extent of his natural abilities." [3] Hence the Act of 1904 provided for the founding of co-operative credit societies [4] on the basis of the personal knowledge and credit of those who lived in intimate contact with each other. Each society was to consist solely of persons living in one particular village or locality and to be limited to quite small numbers, in order that the members really should know each other's position

[1] Sir F. Nicholson's *Report on the Possibility of Introducing Land Banks into India*, 1895–98.

[2] The Act was accompanied by an explanatory memorandum by Sir Daniel Ibbetson which expounded the principles and motives underlying the Act.

[3] *Report on Co-operation in India*, 1915, p. 1.

[4] The Act did not provide for the establishment of societies for any purpose other than credit.

and character. In rural areas the liability of members was to be unlimited, while in urban areas liability might be either limited or unlimited. The expenses of administration were to be minimized and the ideal of " self-help " maintained by appointing the officials from amongst the members, on a voluntary and gratuitous basis. Any idea of exclusiveness or profit sharing was to be prevented by allocating any surplus made by a society to reserve, on an indivisible basis. In fact, the whole scheme was based on the principles, and the societies were to be formed on the model, of the credit societies of Germany. The rural societies, according to the regulations, had to conform to the practice of the Raiffeisen societies, and, like them, were based on unlimited liability ; the urban societies followed rather the Schulze-Delitzsch model, and had limited liability. A special Government official, called the " Registrar of Co-operative Credit Societies," was appointed in each province to organize and control the development of the movement, but the principle was adopted that the societies should, as soon as possible, be placed on an entirely independent footing. Hence the fundamental objects of the Act were to provide facilities for the provision of reasonably cheap credit for productive purposes, on personal credit, in order to encourage the investment of capital in the land (and, to a lesser extent, in industry) and at the same time to inculcate thrift and foresight by means of mutual co-operation, without undermining the independence of the co-operators.

Registrars were consequently appointed in each of the Provinces, and the formation of a few model societies was immediately undertaken. The number of co-operative credit societies rose from 41 in 1905 to 8,177, with a share capital of Rs. 50,58,037, and a membership of 403,318, in 1911.[1] Nevertheless the limitations of the system soon became obvious, and it was seen that co-operative societies ought to have power to undertake other functions besides that of credit, and that there was need for a freer supply of capital on a broader basis, and for more extensive co-ordination through the organization of District Unions and Central Banks.

The Act of 1912 therefore authorized the formation of societies for purposes other than credit ; it provided for the formation of District Unions of Primary Societies and of Central Banks (on a basis of limited liability) ; and it replaced the meaningless classification into " urban " and " rural " societies by a classification according to whether liability was limited or unlimited, irrespective of the location of the society, the latter being no longer necessarily " urban." The Schulze-Delitzsch type has commercial shares as well as deposits, and the profits are partly

[1] *Report on Co-operation in India*, 1915.

distributed as dividends. In rural areas the Raiffeisen type still predominates, though India generally shows a disposition to modify the type by introducing limited liability.

This enlargement of functions infused energy into the movement, and a number of new societies sprang up for such purposes as the sale of produce (both agricultural and industrial, including the sale of cotton, grain, ground-nuts, turmeric, betel-nut, pepper, vegetables, and of jaggery) ; actual production (including dairies, ginneries, rice mills, etc.) ; cattle insurance, the purchase of seeds, manures and implements ; maintenance of bulls (for breeding purposes), and the furtherance of irrigation projects. Co-operation began to gain a firm footing in certain industrial areas, as well as amongst cultivators, and District Unions of Primary Societies and Central Banks began to be established.

The movement weathered the banking crisis of 1913 remarkably well, and although there was a set-back after the outbreak of the war, a recovery soon supervened.

In 1914 the Government of India passed a resolution remarking on the progress made, and recommending a change in policy as regards the purpose for which loans might be granted to members. Up to this time loans were restricted to " productive purposes " and could not be given to enable members to pay off old debts, but it was now considered to be more satisfactory if members dealt solely with co-operative societies for credit purposes, whether the loans were needed for agricultural purposes or " domestic occasions." From this time onwards the policy was adopted of enabling members to pay off all other creditors and consolidate their debts.

Subsequently a committee was appointed under the chairmanship of Sir Edward Maclagan to review the progress of the movement. Its report in 1915 resulted in reorganization and the overhauling of the whole administration of co-operation. The attempt was made to eliminate all societies which did not live up to the ideals of co-operation, and in particular to insist upon the punctual repayment of loans by members. A severe set-back followed the scarcity of 1918–19, but again proved only temporary, while since then, although the " whole political atmosphere of India was antagonistic to the purpose and ideals underlying co-operation," [1] the movement has on the whole continued to make satisfactory progress. Since the reforms co-operation has been a transferred subject,[2] and although for a time this may have acted as a disadvantage, owing to Provincial financial stringency, the position is now easier in that respect, whilst there are the

[1] *Moral and Material Progress of India*, 1923–24, p. 205.

[2] All-India Conferences are still held from time to time (v. *Moral and Material Progress of India*, 1926–27, p. 116).

advantages of greater flexibility in accordance with conditions in each Province, and of the fact that advanced Provinces are no longer held back by backward areas. So far only one province, namely Bombay, has taken advantage of its new powers under the reforms, by passing an Act which supersedes the general Act of 1912.[1] There is no doubt that the movement is one of the most hopeful means of improving the position of the cultivators. "The position of the small holder, bound hand and foot to the money-lender and condemned to a system of farming which would only be profitable on a large scale, would be desperate but for one thing, the development of the co-operative system."[2] There are now (1926–27) no less than 89,081 co-operative societies (of all types) in India, with a working capital of over Rs. 67 crores and a membership of 3·6 millions. A healthy sign is that capital is increasing faster than membership. In British India the movement is strongest in the Provinces of Bombay, the Punjab, Madras, Burma, and Bengal. It has a strong footing in certain Indian States, such as Travancore (where the number of societies per population is higher than in any other Province or State), Bhopal, Mysore, and Cochin.[3]

§ 3. CO-OPERATION AT WORK[4]

The various types of co-operative societies which have grown up since the Act of 1912 permitted the formation of societies for purposes other than the provision of credit may be classified as follows:

(1) Primary Credit Societies, based sometimes on unlimited, sometimes on limited liability.

(2) Primary Non-Credit Societies (agricultural, industrial, consumers', educational, and health).

(3) Central Organizations, for both general and credit purposes.

The whole object of the movement is to get groups of humble and unimportant individuals to join together on an equalitarian basis, in order to assist each other morally and materially, and hence the strength of the movement depends on the soundness and energy of each of the primary societies. Of the latter, the rural credit societies still form the mainstay.[5]

[1] *India of To-day* (Bulletin of the Indian Information Centre, 14 Drayton House, Endsleigh Gardens, W.C. 1), February 1928.

[2] M. L. Darling, *The Punjab Peasant in Prosperity and Debt*, p. 282.

[3] *India of To-day*, February 1928.

[4] *V.* Table XII, p. 528.

[5] In 1926–27 there were 76,678 rural credit societies in India (including Indian States) out of a total of 78,940 primary societies.

The intimate mutual knowledge of Indian villagers makes unlimited liability both possible and desirable in rural areas. In a village the reputation of a member of a co-operative society depends on personal factors rather than on impersonal realizable assets, so that it is possible to grant loans on personal credit alone. Moreover, the existence of unlimited liability is very valuable in maintaining true co-operative principles, as it stimulates the members to keep each other up to the mark. Public opinion forces each member to keep his contract and repay his loan more or less within the allotted time. On the contrary, in urban areas no such intimate mutual knowledge exists, and it is impossible to get members to stand surety for each other. A recalcitrant member can easily disappear without meeting his obligations, but there is not the same need for purely personal credit, for, as wage-earners or receivers of salaries, the members have a more certain income which they can pledge.

A rural credit society is started by not less than ten members, all or most of whom are usually poor and do not possess, as individuals, what would ordinarily be considered as "credit." "It is clear that the creditors' real security consists not in the material assets of the members, but in the ability and desire of the members to put the borrowed money to productive uses and to repay the loan out of the profits made thereby. . . . The security, in fact, lies in the use of each loan for genuine productive purposes, the honesty and thrift of the members, the watchfulness they exercise over each other, the moral influence which they bring to bear upon dishonest or unthrifty co-members, and the feeling of solidarity which is usually awakened by association for a common purpose." [1]

The members of the managing committee are first selected, and then one of them—perhaps the village schoolmaster or the village accountant, or at any rate one of the literate members of the committee—is chosen to be secretary. It is essential that the committee and secretary should have a knowledge of, and belief in, co-operative principles and methods, otherwise either the work will all be left to the officials and the society will cease to be democratically controlled, or co-operative ideals will not be maintained. One of the problems is how to steer between the Scylla of over-rapid growth of membership, and the Charybdis of caste or other forms of exclusiveness.

It may be here noted that the membership of co-operative societies is extremely varied, although in many cases the members of any one society are often predominantly drawn from the same caste, or group of castes. Indian Christians and members of the depressed classes are enrolled as well as caste Indians. Women

[1] *Report on Co-operation in India*, 1915, pp. 9, 10.

are admitted as well as men, although the number admitted is not considerable except in certain districts.[1]

A vigilant watch has to be kept to ensure that the money is actually spent on the object for which it is borrowed, and every effort is made to build up a strong reserve for the society and to encourage members to save and invest in the society.[2]

The chief objects for which loans have been granted include the ordinary expenses of cultivation (after any period of exceptional stress), capital expenditure on land, purchase of cattle, redemption of mortgage, payment of old debts, payment of land revenue, holding over of grain for a fair market, the purchase of fodder, implements, etc., ceremonial expenses, litigation, and the education of children.[3] When the loan is granted the period within which it must be repaid is fixed on a " reasonable " basis,[4] but the intention is that repayment within the given period should be strictly enforced. In practice the principle of strict enforcement of repayment of loans has not been maintained, and the greatest weakness of the whole movement lies in the heavy outstanding overdues. The Report of 1915 pointed out that systematic " fictitious repayments " had been adopted by some societies. This meant that when repayment was due the loan was cancelled, but an equivalent loan was immediately issued, without further inquiry, to the borrower.[5] The Report severely condemned this system as " undermining the whole movement."

The principle underlying the fixing of the rate of interest charged on loans is that " it is sound policy for a society to start by lending to members at rates which are still substantial, though very much lower than those at which, with their precarious credit, they could borrow from the local money-lender." [6] The local money-lender was in the habit of charging anything from 36 to 60 per cent. per annum to ryots of the class of which co-operative societies are usually composed,[7] although in some localities he charged much less (say 8 to 9 per cent.) to customers whose credit was good.[8] Hence co-operative societies have charged as a rule

[1] In the Punjab there are a considerable number of women members, one of whom is even treasurer to a society in Amritsar (*Punjab Report on Co-operative Societies*, 1922–23, p. 17). Her " inability to attend meetings " owing to the rules of purdah is, however, noted, and must surely prove a drawback! Amongst the Bhils of Bombay there are a number of women members both of societies and of the managing committee (*Bombay Report*, 1922–23, p. 9).

[2] *Report on Co-operation in India*, 1915, p. 10. [3] *Ibid.*, p. 38.

[4] The principle is that agricultural finance should be based on an agricultural cycle, which may under certain circumstances be a matter not of one, but of from two to five years (v. *Ibid.*, p. 12).

[5] *Ibid.*, p. 47. [6] *Ibid.*, p. 13.

[7] Money-lenders charged much more than this for some of their loans, their rates rising to over 200 per cent. per annum.

[8] For an account of the rates charged in the Punjab see M. L. Darling, *The Punjab Peasant in Prosperity and Debt*, pp. 217–18.

between 6 per cent. and 25 per cent. for their loans,[1] and one of the most beneficial results of the movement has been a reduction in the rates charged by local money-lenders.[2]

The rural credit societies obtain their capital from external and internal sources. The former consist of deposits from members, and non-members,[3] and of loans from central financial agencies (*i.e.* central and apex banks, etc.). The internal sources consist of share capital (of which most of the societies have little or none) and reserves formed from the surplus assets accumulated from annual profits.

The objects and functions of Credit Societies formed in urban areas are similar to those of rural credit societies, but their financial arrangements are different. Each member's liability is limited to the amount of his financial interest (*i.e.* shares and deposits) in the society, and the societies have shares as well as deposits, and distribute part of their surplus (if they have one) as dividends on these shares. Officials are paid, as a rule, and loans are granted for short periods only, usually for not more than one year, and for an amount not greater than six months' earnings. This type of society has flourished chiefly in Bombay. The mill is the usual unit of organization, and the society has usually been started "from above," *i.e.* by the factory owners and social workers. If a satisfactory beginning is made, management is gradually transferred to the workers. The capital of such societies has consisted so far largely of deposits by factory owners and other philanthropic persons, in addition to which there are shares of small denomination, so as to be within the reach of the workers.

The main object of these societies is to rescue the factory workers from the money-lender, into whose clutches most of them fall immediately on taking up residence in a city. As it is customary for wages not to be paid until after several weeks' service, the worker is obliged to borrow in order to pay rent and purchase food and other necessities. He often obtains food, etc., from the money-lender on credit. The money-lenders' charges to industrial workers are usually absolutely extortionate—averaging about one anna per rupee per month, *i.e.* 75 per cent. per annum, and rising to perhaps 200 or 300 per cent. per annum in some cases—as his business is exceedingly risky.

[1] The most usual rates charged in 1925 and 1926 in the various provinces were as follows: $9\frac{3}{4}$ to $10\frac{15}{16}$ per cent. in Madras; $12\frac{1}{2}$ per cent. in the Punjab; $7\frac{13}{16}$ to $12\frac{1}{2}$ per cent. in Bombay; 6 to $18\frac{3}{4}$ per cent. in Bengal; $12\frac{1}{2}$ to 25 per cent. in Bihar and Orissa; $8\frac{1}{2}$ to 15 per cent. in the Central Provinces and Berar; and 6 to $18\frac{3}{4}$ per cent. in Ajmer-Merwana. *V.* the relevant provincial reports on co-operation. (The "usual rates" in Assam are not stated.)

[2] In addition to charging an excessive rate of interest, money-lenders defraud their customers in a number of ways. For a list of malpractices see M. L. Darling, *op. cit.*, p. 222.

[3] There are very few of these.

After the primary credit societies come the primary non-credit societies, of which the various types of agricultural societies, which have already been described, are the most important, but are not yet widespread.[1] Of these perhaps the most hopeful are the Sales Societies, and if such societies were widely formed for the sale of dairy produce, poultry, eggs, fruit and vegetables, they would benefit greatly not only the producers, but also consumers in urban districts, as such articles are particularly needed if the prevailing Indian diet is to be improved. They might also establish organized markets, and help to improve the quality and reliability of Indian agricultural produce.

Societies of industrial producers (for purposes other than credit) are mainly still in an experimental stage. In most provinces the attempts to found such societies have been disappointing, but in the Punjab, and Bihar and Orissa, some success has been achieved. In the latter province there are a number of flourishing traders', weavers' and spinners', carpenters', blacksmiths', tailors', fishermen's, oil-pressers', and soda-water manufacturers' societies, and there is even a society for dealing in the sale of petrol and motor accessories.[2]

The failure of the weavers' societies in most provinces is particularly disappointing, as there is reason to think that improved organization amongst hand-loom workers might enable their products to compete successfully in both price and quality with factory products.[3] Apparently, however, the long-continued depression amongst hand-loom weavers in many districts has brought about a feeling of hopelessness and despair, and it has so far proved difficult to dispel the belief that ultimately hand-loom weaving will be obliged to give way to power-loom weaving.

Industrial consumers' societies, comparable in aim and methods with the very successful consumers' societies typical of the British Co-operative movement, have also failed to gain a firm footing and have met with little success, with the exception of the famous *Triplicane Urban Co-operative Society*, Madras.[4] A great many of the societies which were started have actually failed and given up business. In the Bombay Presidency, for instance, success is reported in one or two isolated instances only. The successful exceptions include the co-operative stores of a Madrassee Hostel and of the Sydenham College of Commerce. On the other hand, promising beginnings have been made with Housing Societies, especially in Bombay and the Punjab.

[1] Chap. vii, p. 172. [2] *Bihar and Orissa Report for* 1922–23, p. 17.
[3] P. P. Pillai, *Economic Conditions in India*, pp. 145, 146.
[4] For an account of the *Triplicane Urban Co-operative Society* see the *Proceedings of the Indian Economic Association*, 1920, p. 148.

Finally, amongst primary societies, we come to the Educational and Health Societies, both of which are quite new departures. The educational work consists chiefly of the provisions of night schools for adult members of co-operative societies and of the founding of *co-operative* societies amongst school children. The latter attempt to teach the principles of co-operation and to encourage thrift. In addition, a few *Compulsory School Societies* have been recently started with the object of getting parents to bind themselves to keep their children at school several years longer than is customary.[1]

Co-operative health societies have been formed in order to spread a knowledge of the causes of various diseases, and to get the members (for instance, of the *Anti-Malarial Societies*) to undertake simple measures for their prevention. Bengal appears to be the pioneer province in this direction.[2]

In order to co-ordinate the work of the primary societies, various central organizations have been formed.

In the first place each province has its own central organ—for instance, the *Co-operative Institute* in Bombay, the *Punjab Co-operative Union*, and the *Bengal Co-operative Organization Society*—to which it is hoped that eventually all co-operative societies will affiliate, and which undertake publications and the organization of propaganda and of conferences of co-operators.

The activity of this central organ varies considerably from province to province. Sometimes periodic co-operative conferences are held, and in Bombay and the Punjab training classes and examinations for the members of the Managing Committees of Co-operative Societies are organized. On the other hand, in provinces such as Bengal and the United Provinces, the central organ appears to be more or less moribund.

Finally, we come to the Central Banks and other central financing agencies, which began to be formed after 1912. The actual form of organization varies from Province to Province, but in all there is a system whereby funds are provided for primary societies by a number of (district) central financing institutions, each of which is an independent society registered under the Co-operative Societies Act with limited liability. In some provinces—for instance, in Bombay, Madras, Bihar, the Central Provinces and Burma—there is some form of apex organization, uniting centrally the various central banks. In Burma there is a complete system of unions of primary societies, which all depend ultimately upon the Central Bank at Mandalay; in Madras and

[1] *Punjab Report for* 1922–23, p. 40. One of the great problems of education in India is that the children only attend for one or two years. They thus stop schooling as early, maybe, as ten, and in consequence very soon forget anything that they have learnt.

[2] *Bengal Report*, 1921–22, p. 18.

Bombay there are several large banks at headquarters which in some cases lend directly to primary societies, and in others act as true apex banks; whilst in Bihar and the Central Provinces all the central banks are federated under apex banks, each of which is called the "Provincial Bank." [1] In certain provinces municipalities and local boards now conduct all their banking transactions with co-operative banks, and in the Bombay Presidency it is hoped that before long the co-operative banks will take over the duties now performed by Government sub-treasuries.[2]

In certain respects the movement has achieved much. It has instilled a new spirit of hope, thrift, and mutual help into the minds of its members, and ardent and regular honorary workers for co-operative principles have been recruited from amongst all classes of society. Not only have the members of credit societies been saved from a very heavy burden of exorbitant interest charges and in some cases entirely freed from debt, but owing to the reduction of the rates charged by money-lenders in localities served by co-operative credit societies, non-members have also been enabled to obtain loans at greatly reduced rates. Thus, in the Punjab it was reckoned that "annually some 30 lakhs of outside debt may be expected to be wiped out and 6,000 to 12,000 members freed from debt." [3] Again, it was reported in Sind that "in several villages the members of co-operative societies have altogether stopped their dealings with the village *bania* on account of the facilities afforded by the co-operative societies, and the chronic evil of finance by the village usurer in Sind has thus received a severe blow." [4] Sind, indeed, has excellent results to show. "The soundness of the movement in Sind, the great pains taken to teach the value of thrift and solidarity, and the general integrity shown by members of managing committees encourage the hope of further rapid but safe progress." [5] In Bihar and Orissa the movement is said to have "vast possibilities." It has been calculated that in that province there was in 1922–23 an annual saving accruing to members on account of lower interest charges of no less than Rs. 9·8 lakhs, that in addition many mortgaged holdings had been redeemed, land purchased by members, and the rates charged for loans by mahajans considerably reduced.[6] Other good results of the movement include the encouragement to saving in the form of Savings Bank deposits, and to the use of cheques as a medium of circulation. "It is

[1] *Report on Co-operation in India*, 1915, p. 19.
[2] *India To-day* (Bulletin of the Indian Information Centre), February 1928.
[3] *Punjab Report*, 1922–23, p. 2.
[4] *Sind Report*, 1922–23, p. 12. [5] *Ibid.*, pp. 16, 17.
[6] *Bihar and Orissa Report*, 1922–23, p. 4. An interesting account is given in this report of the complete reformation of a whole criminal tribe by co-operation (p. 10 *et seq.*).

obvious that the co-operative movement in three years has done not a little to introduce the people of the Presidency to deposit banking, and to the meaning and use of credit, and thereby to add to the circulating money of the country." [1] Again, it was reported of the Bombay urban banks that they "are responsible for the satisfactory growth in the use of cheques and hundis." [2] Some of the primary co-operative credit societies themselves now carry on cheque transactions.

Finally, the movement has helped directly to encourage the making of permanent improvements in agricultural land and in the land system. For instance, in Bombay there are four societies for the fencing of land in order to protect it against the ravages of wild pigs,[3] and in the Punjab the consolidation of holdings has been stimulated.

Nevertheless, it is true that expansion has been slow, and that it is likely to remain slow for many years to come. Indeed, it can be said that the achievements of co-operation so far, though qualitatively great, have been quantitatively very small in relation to the potentialities. Out of a total population of 318·9 millions, only 3·6 millions belong to co-operative societies. It was calculated in the Bombay Presidency that, in spite of the recent rapid increase in societies' capital and membership, "there are still nine out of every ten cultivators outside the co-operative movement and the working capital ought to be increased by another crore to meet existing needs fully." [4] In some districts it actually happens that the societies or district banks have command of more capital than they can use, whilst at the same time not nearly the whole of the capital employed in agriculture in the district is obtained from co-operative sources. This means that the cultivators are still paying more than is necessary for their loans. For instance, it was calculated that in certain Bombay districts the members of co-operative societies were only obtaining about two-fifths of the money that they needed for agricultural purposes from co-operative sources.[5] Similarly it was calculated that co-operative societies only handled about 3 per cent. of the marketing of agricultural produce in the Presidency that they might have been expected to handle,[6] and only 7 to 8 per cent. of the cotton marketed. This means that, even in areas where the movement is strongest, it has not anything like realized its potentialities. This leads us to the conclusion that there is not so much a lack of capital as need for the cultivators to learn the best use of capital. For instance, in the Bombay Presidency

[1] *Bombay Report*, 1922–23, p. 5. [2] *Ibid.* [3] *Ibid.*, p. 16.
[4] *Ibid.*, p. 4. [5] *Ibid.*, p. 7.
[6] *Ibid.*, p. 16. It was calculated that they should have handled one-quarter or one-third of the total.

loans from co-operative societies are too frequently spent on the purchase of more land, and on marriages and dowries.[1] Similarly it was said in the Punjab Report for 1923, that it " soon became clear that what was wanted was not so much capital as lessons in the wise use of it," [2] and in that province accordingly the policy has been pursued of " treating this department as one of adult education, of which the primary object was to instil into the people the need for organizing themselves on economic lines if they were ever to escape from the burden of poverty and debt." [3] In many cases the members tend to buy more land, rather than to make permanent improvements in the land that they already possess. This means that they are unable to make the best use of their enlarged holdings, or to cultivate them intensively, and hence are no better off than they were before. But, although the movement is not as a whole held back by lack of capital, financial considerations hinder progress in many directions. Again and again one reads that the need for retrenchment has necessitated the cutting down of the Registrar's staff, which means that the policy of " adult education," in the sense in which that term has been used above, has been seriously hampered.

Reference has already been made to the heavy overdues of repayment of loans, which are said in Bombay to be " the worst feature of the agricultural co-operative movement." [4] Such overdues accrue even in exceptionally favoured areas and during good years. For instance, reference is made to the " sinister accumulation of overdues in a district like Surat in Gujarat, when the season was favourable and the crops good." [5] Their existence is therefore evidence not of inability to repay, but of a lack of the co-operative spirit or of a failure to understand the principles of co-operation. Both factors seem to be at work. The development of the co-operative spirit is retarded in some instances by deliberate opposition.[6] A certain number of cases of embezzlement by the officials of primary societies have occurred, and these have undoubtedly been increased by the

[1] *Bombay Report*, 1922–23, p. 7.
[2] *Punjab Report*, 1922–23, p. 3.
[3] *Ibid.*, p. 8.
[4] *Bombay Report*, 1922–23, p. 4.
[5] *Ibid.*
[6] There is, however, little opposition to the movement from Indian leaders apart from those influenced by the political " non-co-operation " movement. In most cases the general public has been cordial, and little difficulty has been experienced in obtaining the support of the leading personalities. The chief direct economic opposition has been given by the landlords in certain districts, *e.g.* in Bihar and Orissa. Some are reported as " actively hostile." Some have brought false cases, many have withheld proper rent receipts, while others have harassed *batai* (*i.e.* metayer) tenants by refusing to divide the crops. They manage to evade the law (*Bihar and Orissa Report*, 1922–23, p. 23). Unfortunately, however, the support given to the co-operative movement often is lacking in enthusiasm and drive. Thus the " opposition " encountered may be said to be negative rather than positive.

political " non-co-operation " movement. In Bombay it was reported [1] that the " tendency to embezzlement, fraud and similar offences, so noticeable since the spread of the propaganda of unrest and lawlessness, has not yet shown signs of lessening. . . . It is the recurrence of instances of dishonesty in societies, whose main aim is, and should be, the building up of character, which is distressing and tends to create despondency for the future of the nation. The despondency is not lessened when one sees that in the majority of cases the offenders belong to the educated class, and to a community which holds the first rank . . . and prides itself on its power and purity." [2]

Again, there is the difficulty experienced in some districts of preventing the money-lenders from obtaining control of the co-operative credit societies, and utilizing them for their own interest. In some districts inquiry reveals that the village mahajan has managed to obtain the position of secretary of the co-operative credit society. Further, there is often a tendency for caste exclusiveness to enter into the society, which closes its ranks to all but members of the favoured castes, and thus increases the dependence and degradation of the depressed classes. Elsewhere, although all castes are admitted, the lower castes have given vent to their inferiority complex by delaying repayments of loans. The Bombay Report speaks of the influence of the " heated and hostile feelings in the district between Brahmins and non-Brahmins " which has " added greatly to unpunctuality in repayment, as the cultivators seem to have persuaded themselves in some mysterious way that this is primarily a Brahmin movement and that by delaying repayments they injure not their own class, as in fact they do, but the Brahmin Honorary Organizers." [3] In some districts the enforcement of repayment has become impossible, because of the almost unanimous attempt at evasion. " Under such circumstances even unlimited liability is of no avail. It is obviously almost useless when a whole village is recalcitrant and contumacious. . . . It is no easier to enforce execution of awards and liabilities by the sale of a whole village's lands, than it was, in Burke's phrase, to indict a whole people." [4]

Another great difficulty is that credit societies are of no use in the poorest districts, where the cultivators are most in need of aid. It is worse than useless to give loans to cultivators who are permanently incapable—owing to fragmentation, climatic or other difficulties—of making their holdings pay. Thus it is chiefly in the most prosperous areas that credit societies are successful.[5]

[1] *Bombay Report*, 1922–23, pp. 38–39.
[2] The reference is, of course, to the Brahmans.
[3] *Bombay Report*, 1922–23, p. 10. [4] *Ibid.*, p. 40. [5] *Ibid.*, p. 7.

Great as these difficulties are, however, they become almost insignificant in comparison with the overwhelming and ubiquitous difficulty of spreading the gospel of co-operation in the face of the illiteracy and lack of education of the cultivators as a whole. Here the Government can do more by indirect than by direct methods, as paternal help leads to a filial acquiescence rather than to the desired independence and self-help.

Experience of co-operation in various countries shows that dependence on the State for financial support is fatal to the spirit of co-operation.[1] The desire to get as much as possible for nothing becomes substituted for the ideas of self-help, thrift, and mutual aid, arising out of proved integrity and reliability. Apart from anything else financial aid would attract to the movement many members entirely lacking in co-operative ideals, who would swamp the true co-operators. Thus quantity would be obtained at the expense of quality.

In the past the outstanding characteristics of the relations between Government and the co-operative movement in India have been an exceptionally high degree of moral support, combined with an exceptionally small amount of financial aid.

The Government has initiated the whole movement, organized the formation of societies, and supervised their work through the registrars, who stand in a paternal relation towards the primary societies. The registrars (and their assistants) receive inquiries about and applications for the formation of societies, and register (and approve) by-laws. They collect statistics, control the audit of accounts and valuation of assets, and perform functions in connection with the work of propaganda. They thus define the terms upon which a society can be formed, have power to keep themselves informed as to the working of the societies, and at their discretion can wind up societies, when necessary.

On the other hand, " financial tutelage " has been rejected in favour of the principle of financial independence. Apart from certain quite minor financial concessions,[2] the granting of initial

[1] *V.* the writings of Mr. H. Wolff. The failure of the State-aid system in Egypt is an instance in point.

[2] The minor financial concessions may be classified under three heads, as follows:

(i) *Judicial Concessions.* Co-operative societies are given a prior claim to enforce the recovery of certain dues; their shares and the interest thereon are exempted from attachment in case of the debt of a member, certified copies of accounts are admitted as evidence, and they have the exclusive right to the use of the term " Co-operative."

(ii) *Fiscal Concessions.* Co-operative societies are exempted from the payment of fees in connection with the Registration and Stamp Acts and from Income Tax.

(iii) *Departmental Concessions.* Co-operative societies are entitled to the use of remittance transfer receipts at par, for the sake of remittances between societies, and they are entitled to special facilities for the withdrawal of funds from the Post Office Savings Bank (*Report on Co-operation in India*, 1915, p. 103 *et seq.*).

advances to encourage the establishment of new societies, certain Government guarantees, and the maintenance of registrars of co-operative societies (and of their staffs), Government has given no financial aid whatever.

The initial advances which are made from time to time to encourage the establishment of new societies have all to be repaid. The interest on the debentures of the Central Bombay Co-operative Bank has been guaranteed, but not that of the ordinary central banks.[1] and in two provinces temporary loans were at one time made in order to meet special difficulties due to the outbreak of war. The Provincial Governments have power to make advances under certain conditions, but these have all to be repaid.[2]

It may be noted that although the co-operative banks are actually in no way financially backed by the Government, the idea has gained ground in many districts that Government does guarantee them. This is said to have acted as an attraction to new members. Apart from this misconception loss of independence has been carefully and specifically guarded against. In the first place, new societies are weaned from dependence upon official help as soon as possible, and in all provinces a large body of honorary, non-official organizers assist the officials in the work of organization. Secondly, unsatisfactory societies which do not maintain co-operative principles are closed down. Thirdly, great care is exercised when new societies are started to obtain the right type of persons on the managing committees, and any tendency towards caste exclusiveness, or utilization of co-operation for the benefit of the more prosperous villagers only, is checked as far as possible.

The Government has, therefore, chosen the moderate path between doing too little, which would have meant that co-operation would never have made a real start in India, and doing too much, which would undoubtedly have endangered the maintenance of the principles of co-operation. The conclusion is that the progress of the co-operative movement is inevitably and inextricably bound up with general progress, and particularly with the progress of primary education.[3] Rapid expansion must be preceded by a great improvement in the education of the masses, together with the enthusiastic propaganda work of non-official co-operators.

[1] *The Report on Co-operation in India*, 1915, called attention to the "misapprehension" that the Central Co-operative Banks were under Government guarantee (p. 27).

[2] *Ibid*, pp. 123–27. It may be mentioned in passing that some of the co-operative banks have succeeded in establishing relations with the Presidency and other joint-stock banks, but on a definitely business footing.

[3] V. *Report for Agra and Oudh*, 1922–23, p. 3: "Co-operation is not yet a living force in this province. . . . Unless the movement, at its present stage in this country, is regarded as an essentially educational movement, its condition is sure to lead to disappointment."

Finally, it may be noted that one of the best results of the movement is that it has engendered close relations between the Co-operative Department on the one hand, and the Educational, Agricultural, Industrial, Fisheries, Veterinary and Health Departments (Imperial and Provincial) on the other hand. One or two recent attempts to promote this type of co-ordination may here be noted.

An effort has recently been made to strengthen co-operative banks and promote mutual co-operation between the movement and local authorities, by empowering co-operative banks approved by Government to act as the bankers of " local boards." [1] The object was to kill two birds with one stone ; *i.e.* to benefit the co-operative movement and at the same time ensure that money raised by local authorities should be " held at the disposal of local credit." [2]

This Act appears to have met with some success and led to the making of grants for co-operative propaganda by local boards. The same Act also provided that Assistant Registrars of Co-operative Societies and Deputy Collectors of Agriculture should be included on the list of Government officials " entitled and obliged " to attend meetings of Local Boards and of their Standing Committees. In Madras it is reported that considerable sums have thus been placed at the disposal of co-operative banks.

This Local Boards Act itself promotes co-operation between various departments, and there is undoubtedly a strong tendency towards linking up the work of the registrars and other officials of the co-operative movement with that of the officials of other departments, for instance with the Public Health Department in Bihar and Orissa, where lectures are arranged and leaflets issued jointly,[3] and with the Educational Department in the Punjab, where adult schools and compulsory schools societies are jointly promoted.[4]

New *takavi* rules were issued in 1922, which aim at preventing competition between the co-operative movement and the *takavi* system. The net effect of the rules is to prevent the grant of *takavi* loans for current agricultural purposes in any districts in which there is a co-operative society.[5] It has recently been suggested that one way of making credit more readily available for capital agricultural improvements would be to start Land Mortgage Banks under the aegis of the co-operative movement.

[1] Local Boards Act, 1923. (V. *Bombay Report*, 1922–23, p. 37.)
[2] *Ibid.* [3] *Bihar and Orissa Report*, 1922–23, p. 16.
[4] *Punjab Report for* 1922–23, p. 4 : " The two Departments are engaged in working out a plan of campaign."
[5] *Bombay Report*, 1922–23, p. 37.

It is now possible to summarize our conclusions as to the recent progress, present outlook, and potentialities of the co-operative movement in India.

It appears that the last few years have been a period of consolidation rather than of expansion for the movement. This is partly due to the financial difficulties of the Government, which have entailed a policy of strict retrenchment, and still more to the economic depression in general, and to the so-called " transitional conditions of agricultural economics." [1] In India the old subsistence, rural economy is beginning to break up, and the introduction of a money economy, farming for a market and of more competitive farming has brought with it the concomitant problems of land speculation, higher rents, and the increase of the landless class, while intensifying the difficulties created by former defects. These problems must be attacked and scientific methods must be spread before co-operation can make rapid progress. Government has already done much to stimulate the movement—quite as much if not more than could reasonably have been expected—and further progress depends not so much on official efforts as on non-official support, general economic progress, and the spread and improvement of general education.

[1] *Bombay Report*, 1922–23, p. 5.

CHAPTER IX

THE TREND OF INDUSTRY AND INDUSTRIAL POLICY

§ 1. INDUSTRIAL DEVELOPMENTS AND POLICY UP TO 1914, p. 207.

The decline of the indigenous and rise of modern, large-scale industries—Industrial prosperity, 1900 to 1914—The pre-war industrial policy of the Government.

§ 2. INDUSTRIAL DEVELOPMENTS AND POLICY SINCE 1914, p. 215.

The effects of the war on industry—The Report of the Industrial Commission, and the Government's new policy of industrial stimulation—The post-war industrial boom, crisis, depression, and reorganization.

§ 3. THE WORK OF THE PROVINCIAL DEPARTMENTS OF INDUSTRIES, p. 221.

The objects, organization, functions, achievements, and difficulties of the Provincial Departments of Industries.

§ 4. THE INDUSTRIAL OUTLOOK, p. 226.

The potentialities of the indigenous industries and of various industries concerned with the preparation of food-stuffs and raw materials for the market—The lack of any marked tendency towards an "industrial revolution"—The prerequisites of industrialization: i.e. *men, money, materials, markets, and motive power—The need for co-ordination of control, decentralized administration, and increased expenditure upon industrial stimulation.*

§ 1. INDUSTRIAL DEVELOPMENTS AND POLICY UP TO 1914

THE outstanding industrial events of the nineteenth century were the decline of the indigenous industries, and the subsequent rise of one or two large-scale, modern industries. It was not until the end of the century that the latter began to compensate for the decline of the former. In India there was a much more definite hiatus than in the West between the decay of the handicrafts and the establishment of factories, during which certain types of demand were largely met by imports. Former hand-workers had to fall back upon the land, whilst the new industries, when at last they arose, had to obtain the bulk of their labour from the agricultural classes.

The most important groups of indigenous industries affected were the textiles (especially cotton spinning and weaving), the

mineral and metallurgical industries, and the dyeing and tanning industries.

India ceased to export manufactured cotton goods to Europe early in the nineteenth century. Henceforward Lancashire goods competed more and more in the Far Eastern and Indian markets, and by the end of the nineteenth century the hand-spinning of cotton in India had practically ceased, whilst hand-weaving was depressed. Since then, owing mainly to the work of the Provincial Departments of Industries (which in some areas have succeeded in introducing improved hand looms),[1] the output of the cotton hand-loom industry has hardly, if at all, diminished, and in certain areas has actually increased, as hand-weavers now specialize (and have obtained a practical monopoly) in the cheapest, coarsest cloths, and in cloths of fine quality and varied design (which are therefore pre-eminently suitable for small-scale production). The hand-spinning and weaving of silk, which has suffered from similar competition, is to-day more depressed than cotton hand-loom weaving.[2]

The rise and development of India's two outstanding textile mill industries—cotton and jute—will be described below.[3] Here the point to notice is that they did not become of importance until the improvement of transport and development of power resources made it possible (late in the nineteenth century) to import and work the necessary machinery and plant. Even now the extreme concentration of India's coal and oil resources (which themselves were not exploited until the second half of the nineteenth century), and the limited use of hydro-electricity, act as a drag on the expansion of large-scale industries.[4]

The decline of the indigenous metal and mineral industries has already been described,[5] and we have seen that (apart from the Barakar Iron Works) large-scale metal production and manufacture did not begin until the twentieth century.[6] Nothing like full advantage has yet been taken of India's great mineral resources, and it is only quite recently that modern, large-scale chemical works have been started.[7]

Small-scale dyeing, calico-printing and tanning works, utilizing indigo, lac, safflower and other indigenous dyes, used to be scattered throughout the country. Tanning is still extensively practised,[8] though on a larger scale than formerly, but by the end

[1] *V.* § 3, below. [2] *V.* chap. ii, p. 19. [3] *V.* chap. xi, §§ 1, 2.
[4] Chap. ii, § 3. [5] *Ibid.* and chap. v, p. 105 *et seq.*
[6] India's mineral resources were surveyed in 1908 (Sir Thomas Holland's *Report on the Mineral Resources of India*), and soon after the commercial production of a number of minerals (including steel, lead, ferro-manganese, copper, and silver) began.
[7] Chap. x, § 5.
[8] The chief tanning materials used are myrobalan, cutch, gambier, acacia pods and bark, Indian sumach, cassia and mangroves (*Imperial Gazetteer*, vol. iii, p. 190).

of the nineteenth century imported mineral (aniline and alizarine) dyes had largely supplanted the indigenous products,[1] whilst block-printed and hand-painted calicoes had been superseded by machine-printed and coloured imported goods.

Not only are the imported dyes cheaper, but they suit the taste of the people better. A redipping of cloth frequently takes the place of new clothes in India, for the sake of variety, as fashions in material and style of clothing do not change. Mineral dyes are easy to apply, and some fade easily and can be applied time after time without injury to the cloth.[2] Works using modern methods have now sprung up in all the chief textile centres.

Besides the cotton and jute mill industries, engineering works and tea and coffee plantations were established on a large scale during the nineteenth century.[3] Engineering developed first in connection with railway construction, but its further expansion has depended upon that of the steel industry.[4] The tea and coffee industries were founded in the eighteen-thirties, but did not become of importance until after the middle of the century.[5]

Indian capital and industrial leadership have been and are still scarce, and the small amount of Indian capital available for investment has found an easier and more certain outlet in commerce than in industry. Indian technicians and managers have been scarce owing partly to the disdain for manual labour, partly to the inadequate provision for scientific and technical training. Hence, in spite of the demand for economic independence, involving industrialization, from the articulate classes,[6] the initiative (except in the cotton mill industry) has lain mainly with Europeans, who have also provided the bulk of the capital. Capital is dear, much of the interest and profits earned is payable in England, whilst only those industries have been promoted which appear most desirable in English eyes.

To summarize, one can say that the indigenous industries tended to decline throughout the nineteenth century, and that it was not until the very end of the century that the rise of large-scale, modern industries tended to redress the balance between industry and agriculture, whilst since about 1900 the former progressive decline of the indigenous industries has been checked.

Industry prospered exceedingly between 1900 and 1914, owing

[1] *V.* chap. xi, p. 288.

[2] *Imperial Gazetteer*, vol. iii, p. 185. Some mineral dyes are as fast or faster than vegetable dyes.

[3] Rubber planting started at the beginning of the twentieth century.

[4] *V.* chap. x, § 3.

[5] *V.* chap. xi, § 4.

[6] This demand was weakened by being divided into two sections, the one favouring industrialization along Western lines (although many feared that the use of European capital and leadership might make India into the East End of Europe), and the other advocating self-sufficiency through the revival of the indigenous crafts.

partly to the increased purchasing power of the people (due to good harvests and the growth of trade), partly to the expansion of the new large-scale industries mentioned above, and partly to the more progressive policy of the Government, which latter must now be described.

After the assumption of direct rule by the Crown in 1858, the doctrinaire laissez-faire policy of the Home Government was extended to India, and even when it became apparent that certain exceptions must be made (for instance, as regards famine relief [1] and public works), the policy was retained in the industrial sphere. It was thought inevitable that India should remain predominantly agricultural, whilst the Government wished to avoid both the active encouragement of industries that (like the cotton mill industry) competed with powerful English interests, and increased State expenditure. Hence, even at the end of the nineteenth century, all that the Government did to assist industry was to provide a certain amount of technical and industrial education, and to attempt to collect and disseminate commercial and industrial information.[2]

At the very end of the century attempts were made to introduce a more progressive policy. In Madras Mr. (now Sir) Alfred Chatterton succeeded in securing the endorsement of the Provincial Government for a bold policy of improving technical education, surveying industrial possibilities, assisting private enterprise, and actually starting pioneer industries with State resources. A small Government grant for experimentation in the manufacture of aluminium was obtained in 1898, and Mr. Chatterton was subsequently appointed on special duty to organize and develop technical trades and industries, reorganize technical training, and establish manual engineering training classes.[3] Special attention was paid to the improvement of hand-loom

[1] It is interesting to note that as early as 1880 the Famine Commission of that year recommended the introduction of a variety of occupations as a palliative for famine, but no practical steps were taken.

[2] *V.* p. 213, below. The efforts to collect and disseminate information included the establishment of a Commercial Museum at Calcutta, an inquiry by the "reporter on economic products" into the industrial resources of India, the founding of the *Indian Art Journal*, and co-operation in an exhibition held in London in 1886. A series of provincial inquiries into selected industries was also undertaken, and Provincial "Industrial Surveys" were made between 1890 and 1914 in Bengal, the United Provinces, the Punjab, and the Central Provinces. The Geological Survey also began to inquire into the economic uses of various minerals. The Calcutta Commercial Museum is still one of the only two such museums in India. The second was instituted in Madras in 1921, and a proposal has recently been made to establish a more ambitious museum in Bombay, in connection with the Sydenham College of Commerce. The Provincial Industrial Surveys proved to be too vague and inconclusive to be of much practical value. (*Industrial Commission*, §§ 105, 111.)

[3] A full account of the Madras Department of Industries is given in Appendix J of the *Report of the Industrial Commission*.

weaving, well-boring, the introduction of oil-engines and centrifugal pumps for lift irrigation, and to chrome-tanning, as well as to the establishment of the aluminium industry. The scheme was encouraged by Lord Curzon, who succeeded in creating a special central "Commerce and Industry Department" in 1905, and hoped to develop under its guidance a co-ordinated policy of industrial stimulation in the Provinces. The policy was at this time sanctioned by the Secretary of State, with the proviso that pioneer industries established under Government auspices should be handed over to private enterprise as soon as their commercial success was secured. In Madras a separate Provincial Department of Industries was instituted in 1906, with Mr. Chatterton as "Director of Industrial and Technical Inquiries," in anticipation of the consent of the Secretary of State. The policy of the new department was fully discussed at an Industrial Conference held at Ootacamund in 1908, attended by representatives of the leading industries of the province, and was eagerly welcomed by the Indian public. On the other hand, its operations, especially with regard to chrome leather, had already begun to create alarm in European business circles, where they were viewed as "a serious menace to private enterprise and an unwarrantable intervention on the part of the State in matters beyond the sphere of Government." [1]

In reply to proposals put forward by the Madras Government for the expansion of their work, Lord Morley (Secretary of State for India) took the view of the European traders, and negatived the establishment of a separate Department of Industries.[2] He also discouraged the idea that pioneer industries should be established or commercial production undertaken by the Madras Government, and merely sanctioned educational work and the dissemination of information. As a result the separate department was abolished, Mr. Chatterton was placed under the control of the Education Department, the chrome tannery was sold, and the experimental hand-loom factories were abandoned. Only the pumping and boring operations were continued. Mr. Chatterton subsequently took service with the State of Mysore.

Meanwhile similar developments in other provinces—notably in the United Provinces—were also seriously affected by Lord Morley's despatch. The situation somewhat improved after 1912 when Lord Crewe (then Secretary of State) replied to a demand from the Madras Government for a reconsideration of the 1910 decision, that the Government of Madras "appear to have placed too limited a construction upon the orders given in my

[1] *Report of the Industrial Commission*, § 107.

[2] Despatch No. 50, "Revenue," dated July 29, 1910. Mr. Pillai quotes this despatch and that of Lord Crewe, *Economic Conditions in India*, pp. 311, 312.

predecessor's despatch of 29th July 1910,"[1] but even then "the Government of India seemed to be in doubt as to how far they would be justified in sanctioning proposals for demonstration plants, financial assistance and other forms of direct aid to industries."[2]

What actually happened, after 1910, was that the appointment of Provincial Directors of Industries, but not of special departments, was sanctioned, whilst the work of the directors was limited chiefly to collecting and disseminating information, carrying on research and experimental work, supervising industrial training and advising Government with regard to technical matters.[3]

Lord Morley's decision aroused great dissatisfaction throughout India, and an agitation in favour of a more progressive policy was organized. This was successful in the Madras Presidency in 1914, when the Department of Industries was established in its present form, whilst there were directors (but not separate departments) by 1914 in the Central Provinces, Bengal, and the United Provinces. Madras specialized in leather and dyeing; Bengal paid special attention to silk; the revival of cottage industries—especially weaving, tanning, and shoemaking—was emphasized in the Central Provinces; and weaving, the sugar and engineering industries were encouraged in the United Provinces. Since then directors have been appointed and departments organized in all the major provinces.

Industrial development was also stimulated by Lord Curzon and his successors by alterations in the Rules for the purchase of Government stores,[4] improvements in the law with regard to inventions, patents and designs,[5] the grant of assistance to one or two particular industries, such as the tea, and iron and steel industries,[6] encouraging the establishment of co-operative societies

[1] *Report of the Industrial Commission*, § 108; Despatch No. 24, "Revenue," dated March 12, 1912.

[2] *Ibid.*, § 109. [3] *Ibid.*, § 108.

[4] The original Rules issued in 1870 and 1875 prohibited the purchase of certain classes of stores in India, or by any method except through indents on the Stores Department of the India Office. (*V.* Appendix to "History of the Rules," *Report of the Stores Purchase Committee*, 1919–20, vol. i.) In 1883 the Government laid it down, in order to promote the development of Indian industries, that, whenever goods of a suitable quality, and a not "unduly burdensome" price, could be obtained in India, they should be purchased there. At the end of the nineteenth century, railway materials and iron and steel goods were added to the list of goods which might be thus purchased in India. In 1904, 1909, and again during the Great War, new Rules were issued extending the purchase of stores in India, and rupee tenders are now called for.

[5] The Patents and Designs Act of 1911 protected both the inventors and the public along the lines of the English Patents Act of 1909. In 1920 a new section was added enabling reciprocal protection of patents between India and the United Kingdom, or between India and the Dominions.

[6] The Tea Cess Act of 1903 imposed a small duty on the sale or export of tea, the proceeds being handed to the Indian Tea Association (founded in 1899) for

with industrial functions (after 1912),[1] and by extending the facilities for industrial and technical instruction.

After the Educational Conference at Simla in 1901 (at which Lord Curzon presided), valiant attempts were made to grapple with the defects of the existing educational system, which (it was recognized) suffered in particular from being predominantly literary, rather than scientific or practical.[2] Thus in 1903 a system of State technical scholarships, tenable abroad,[3] was instituted, and the number of institutions giving education of this type was increased.[4] Progress remained disappointing, as it was difficult to gain the confidence of employers, financial considerations restricted the employment of qualified teachers and inspectors, the cost of training was too great for artisans, whilst students of a better class expected responsible posts with high pay directly they completed their courses.[5] It was therefore difficult to attract the class of student suitable to rise eventually to the top of the tree.

As the conditions and problems of technical and industrial training have not fundamentally altered since Lord Curzon's time, it will be convenient to complete at once this review of the development of this type of education.

The demand for improvements in the educational system was stimulated when political reform was under discussion in and after 1917 (as it was realized that illiteracy was one of the chief obstacles to India's progress towards complete nationhood),[6] but State education received a set-back during the non-co-operation movement after the war. When the attempts at establishing private,

research purposes. Similar cesses have subsequently been introduced for other products (*v.* chap. xiii, p. 349). A Government report on the prospects of the iron and steel industry was issued in 1899, and the Mines Act of 1901 resulted from the interest thus aroused in mining in general (*v.* chap. xii). Government did all in its power to facilitate Mr. Jamshetji Tata's schemes for founding steel works, and undertook to purchase 20,000 tons of steel rails per annum for at least ten years.

[1] *V.* chap. viii, p. 191.

[2] *V.* chap. xvii, p. 480. India's present system of education was established in 1854, and reorganized in 1883. After the latter date some high schools provided courses of a commercial or technical nature, intended for students who were not going to the university, but intelligent boys feared to take up subjects that did not count towards matriculation. A certain number of special institutions had also been founded giving technical, commercial, and agricultural training.

[3] *Report of the Morison Committee on State Technical Scholarships*, No. 6867, 1913.

[4] For instance the Indian Institute of Science was founded at Bangalore in 1911, by the Tata family, with Government assistance, and in 1913 the Sydenham College of Commerce and Economics was established in Bombay, with a curriculum based upon that of the London School of Economics.

[5] *Seventh Quinquennial Report on the Progress of Education in India*, 1912–17, p. 154.

[6] *Eighth Quinquennial Report on the Progress of Education in India*, 1918–22, p. 1.

and emptying Government, schools and institutions failed conspicuously, progress was again resumed and, in addition to the scientific and commercial colleges affiliated to the universities [1] (which have increased in number and scope), there are now several first-class institutions giving advanced technical training (such as the Indian Institute of Science, the Cawnpore Technical Institute, and the Victoria Jubilee Technical Institute, Bombay), a large number of both State-aided and voluntary institutions for training mechanical and railway engineers,[2] and a still larger number of technical and industrial schools. In addition excellent courses in the industrial arts are provided at the " Schools of Art " in various large centres, whilst both jails and reformatory schools provide a useful training in crafts which can be carried on as cottage industries.[3]

One of the most interesting and promising experiments is that undertaken by the Tata Iron and Steel Company at the Jamshedpur Technical Institute. Here students receive a three-year high-grade theoretical and practical training, after which they can obtain employment at not less than Rs. 200 a month at the Tata Works.[4] The Buckingham and Carnatic Mills, in Madras, employ apprentices and provide excellent continuation classes, and it is suggested that the Provincial Governments might provide, or assist to provide similar classes in connection with suitable mills and factories.[5] Engineers are badly needed not only in industrial production, but also for inspection and other governmental work.

Finally, it may be pointed out that, during the pre-war period, the increase of interest in industry led to the enactment of a whole code of social legislation.[6]

To summarize, we can say that although the constructive work of the Government was still extremely limited, the way had been prepared for the more drastic measures that were adopted when the events of the Great War demonstrated the urgent necessity for a more progressive policy.

[1] Commercial education in preparation for degrees is now provided in the Bombay, Lucknow, Allahabad, Madras, and Mysore Universities, and in the Punjab a commercial diploma has been established.

[2] *Report of the Industrial Commission*, Appendix N, and the *Indian Year Book*, 1928, p. 376.

[3] *Moral and Material Progress of India*, 1926–27, p. 332.

[4] *Report of the Bihar and Orissa Department of Industries*, 1923–24, p. 7. The prospects of these students may be compared with those of many Indian graduates who, after taking first an Indian and then an English degree, find difficulty in obtaining a monotonous and subordinate clerical job at Rs. 150 *per mensum*.

[5] *Report of the Committee on Technical and Industrial Education, Madras*, 1917–18, p. 19.

[6] *V.* chap. xii.

§ 2. INDUSTRIAL DEVELOPMENTS AND POLICY SINCE 1914

The outbreak of the war caused considerable industrial disturbance, but little economic distress in India.

The Bombay Presidency, owing to its geographical situation, was more strongly affected by the war than any other province, as it was the basis of the military operations in Mesopotamia, and took part in equipping the troops for various other scenes of war. The effect on Bombay's industries was almost entirely advantageous. The cotton mills, gins, and presses were exceptionally prosperous, as were also the paper, flax, and oil mills. The main difficulty encountered was in getting machinery and other equipment for the factories, and in obtaining imported industrial requisites, such as dyes and chemicals. In Bengal the main effect of the war was to increase industrial activity in general and, in particular, to stimulate the jute industry and coal-mining. In Madras the tanning of leather, soap, fish-tinning and shipbuilding industries were all stimulated. In all three provinces some difficulty was experienced in obtaining formerly imported industrial necessities. Much the same might be said of the other provinces, most of which—for instance, the United Provinces and the Punjab—were more helped by the stimulation of indigenous industrial production than they were injured by the restriction of former imports,[1] though all over India hand-loom weavers were much embarrassed by the cutting off of supplies of German dyes. India was in the lucky position of incurring a great industrial stimulus owing to the growing war demand for her products, while at the same time she was sufficiently far removed from the seat of war and sufficiently self-sufficing, as regards the primary necessities of life, not to undergo a corresponding increase in the level of prices.[2]

The demand for Indian manufactured goods increased enormously, partly because certain former imports were completely eliminated from the Indian market,[3] and partly on account of the new war demand from Indian troops, Mesopotamia

[1] *Moral and Material Progress of India*, 1916–17.

[2] On the whole it can be said that India was not seriously injured by the war until after the boom and crash of 1920–21. *V.* chap. xiii, p. 333 *et seq.*

[3] Before the war Germany and Austria had begun to send considerable quantities of hardware (brass, copper, iron and steel, and zinc goods) glassware, lampware, aniline dyes, cheap cotton goods (*e.g.* hosiery and lace), woollen shawls, haberdashery, paper, electrical goods, machinery, and a large assortment of "cheap and meretricious articles for the bazaar trade." Many of these articles competed directly with the manufactures of India. V. *Report on the Conditions and Prospects of British Trade in India at the Close of the War*, 1919, p. 10.

and other Eastern war centres, and from England and the Allies.[1]

Unfortunately certain difficulties soon arose, which prevented India from taking full advantage of her opportunity. First, there was the minor disadvantage of the uncertainty as to the likely duration of India's "industrial monopoly." Secondly, the lack of plant and equipment for a large increase in production gave Japan, which was already based on large-scale organization to a much greater extent than India, the opportunity of leaping into the breach and anticipating Indian manufacturers in supplying the Indian market. The plant and machinery required for the expanding industries could not be produced at short notice at any price in India, and the great resulting shortage called attention to India's dangerous dependence on imports for the fundamental necessities of industrial life, including fuel, and skilled technical and supervisory labour. Internal as well as external transport facilities were expensive, and in some cases entirely inadequate.[2]

Hence there was urgent need for a new constructive economic policy, in the forefront of which should be industrial stimulation, and in particular the establishment of industries to produce machinery and other necessities of industrial production in general.

In 1915 the Government of India drew the attention of the India Office to the urgency of the question in a strongly worded despatch,[3] which resulted in the appointment of the Indian Industrial Commission in 1916. The Commission was instructed to examine and report upon the possibilities of further industrial development in India, and to submit recommendations for a permanent policy of industrial stimulation. Tariff policy,[4] and certain aspects of technical and industrial education which had recently been reported upon by two Special Committees,[5] were deliberately excluded from the terms of reference.

Pending the Report of the Industrial Commission an emergency policy had to be adopted. The Government of India issued the Defence of India Rules, which gave power to the executive to control supplies of every kind and to organize the resources of

[1] India sent manufactured jute goods, wolfram, mica, saltpetre, timber, and various provisions and raw materials to the Allies in Europe. By 1918 India had supplied equipment and stores to the various theatres of war to the value of £80,000,000.

[2] *Munitions Handbook*, 1919, pp. 13, 14.

[3] Despatch, November 26, 1915. *V.* P. P. Pillai, *Economic Conditions in India*, p. 312.

[4] The question of tariff policy was excluded on account of its far-reaching and highly controversial nature.

[5] *I.e.* the Atkinson-Dawson Committee of 1912 and the Morison Committee of 1913.

India. Hence arose the Indian Munitions Board, established primarily to control the purchase and manufacture of Government stores and munitions of war.[1]

Eventually the Munitions Board took rank with the chief Central Departments of the Government of India, having no less than twenty branches, each under a controller. In addition there were provincial organizations in ten areas, each in charge of a provincial controller.[2] Systematic relations were established between the controllers of munitions in British India and the controllers that were appointed in a number of Indian States.

The Board became responsible for the supply of all articles required by the armies in, or based upon, India, by all Government departments, and by the State railways.

It exercised its powers by the direct manufacture or purchase of requirements for the military, civil and railway departments,[3] by diverting orders from abroad to India through the priority and indent system,[4] by assisting firms to import machinery, find export markets and obtain skilled labour in new industries, by the collection and dissemination of information, and by

[1] *Munitions Handbook*, 1919, p. 8. The Imperial Government agreed to defray more than two-thirds of the cost of the Board. The control of food and fodder supplies was not placed under the Munitions Board, but a special "Central Transport and Foodstuffs Board" was created. The Munitions Board was instructed not to interfere with the functions of any existing agencies.

[2] Where there was a Provincial Director of Industries, he was usually also appointed Controller of Munitions.

[3] Factories were established under the direct control of the Board for the manufacture of a number of special goods needed for urgent military purposes, such as army clothing, leather goods—including army boots—ordnance, and acetone. Contracts were made by the Board with established firms for regular purchase of textiles, timber, tanned and leather goods, and various types of manufactured iron and steel goods. For instance, all Government orders for cotton textiles were met by Indian mills at prices fixed so as to yield a fixed rate of profit to the manufacturers. The whole of the Army requirements for boots were met by Indian factories (chiefly located at Cawnpore) at prices lower than could have been obtained elsewhere. The five existing Indian woollen mills all undertook to hand over the whole of their output to Government, but although they worked night and day Government was obliged to buy imported woollen goods in addition. Contracts were made with Tata & Co. for the supply of steel rails in excess of the quantity they had already undertaken to supply, and for other railway material. In this way the rapid expansion of already established industries was materially assisted.

[4] Priority was refused for an immense number of articles, including numerous chemicals, leather, cutlery and iron and steel goods, and a large number of tools, machines, and spare parts—many of which had previously not been manufactured at all in India. When there seemed no prospect of the speedy establishment of such industries in India, would-be importers were advised to try to obtain the goods from the United States or from Japan. Special attention was paid to the manufacture in India of articles (sometimes termed "key") needed by the staple industries, such as accessories for the milling industries, the manufacture of ferro-manganese for use in the manufacture of steel and of glass for the chemical and other industries. Notable advance was made in preparing chemicals for industrial use. (V. *D.O.T. Report on the Conditions and Prospects of British Trade in India after the War*, 1919, p. 107.)

undertaking investigations and laying plans for the establishment of industries new to India.

Indian goods, even when they were of comparatively inferior quality and relatively high in price, thus received very effective protection.[1] At the same time every encouragement was given to the Provincial Governments to improve and extend the organization of their industrial departments.

In 1918 the Industrial Commission presented its report. The Commissioners' proposals were based upon the fundamental principles that " in future Government must play an active part in the industrial development of the country, with the aim of making India more self-contained in respect of men and material " ; and that " it is impossible for Government to undertake that part, unless provided with adequate administrative equipment and forearmed with reliable scientific and technical advice." The Commissioners described industrial conditions in India, and discussed the potentialities of development. They showed " how little the march of modern industry has affected the great bulk of the Indian population, which remains engrossed in agriculture, winning a bare subsistence from the soil by antiquated methods of cultivation," and concluded that the changes which had already taken place in rural areas were due to " economic " rather than to " industrial " developments ; that is, to changes in prices and marketing conditions, rather than to any marked tendency towards industrialization.

In discussing India's industrial deficiencies, special prominence was given to the unequal economic development, which entailed dependence on outside sources for many articles necessary for a civilized community, and on the bulk export of food-stuffs and raw materials in payment for imports.

India's dependence on imports of iron and steel goods and machinery, the shyness of capital for industrial ventures, lack of scientific technologists and engineers and particular deficiencies in materials were discussed in detail. Particular attention was given to the question of power for industrial purposes.[2]

Lack of education, the low standard of comfort of the workers (reacting on efficiency), and the effects of preventible diseases were singled out as the chief causes of the comparative inefficiency of Indian labour, but it was concluded that the admitted inefficiency of labour was not an irremovable factor. The Commissioners summarized the industrial situation by saying

[1] It was said that the war had brought about an " atmosphere of economic protection " in India, " in which the industries of India, both nascent and established, have flourished to an unprecedented degree " (*Moral and Material Progress of India*, 1917–18, p. 25). The increase in industrial establishments is shown in Table XIII, p. 529.

[2] *Report of the Industrial Commission*, §§ 78–81.

that India was a country rich in raw materials and industrial possibilities, but poor in manufacturing accomplishment.

The main recommendations of the Commission fell under four headings.

First, they proposed improved departmental organization for the encouragement and control of industries. This was to take the form of the creation of Imperial and Provincial Departments of Industries and of an Imperial Industrial Service. Most of the actual administrative work was to be decentralized and placed in the hands of the Provincial Departments of Industries, each of which was to be presided over by a Director of Industries aided by a Provincial Board of Industries. This was in consonance with the political reforms of 1919 which classed " industries " as a transferred subject.

In addition, it was proposed that an Imperial Department of Stores should be established at Calcutta, with a branch in each province, to control the placing of all Government orders and contracts.

Secondly, suggestions were made with regard to the improvement of technical training and education (including a scheme of apprenticeship for foremen) and the improvement of conditions in factories and industrial centres (by improved housing, welfare work, sanitation, and other public health work).

Thirdly, proposals were put forward for the reorganization of the scientific staffs of the industrial departments.

Fourthly, recommendations were made as to the giving of technical and financial aid to industries, the encouragement of industrial co-operation, and the provision of improved transport and freight facilities.

These recommendations were accepted in principle by the Government of India, but little could be done immediately owing to the temporary dislocations due to the war and to post-war reorganization, and to the need of co-ordinating industrial policy both with the political reforms of 1919 and with the proposals of the Fiscal Commission which was set up in 1921 and reported in the following year.

Naturally the conditions of industrial development were materially altered by the cessation of war, and Indian industry was confronted not only with certain temporary dislocations, but also with some more permanent and fundamental difficulties, which had not been obvious during the war period of rapid industrial stimulation.[1]

It was some little while in India—as in other countries—before the cessation of the war demand and the destruction of capital

[1] Even before the cessation of war, competition from countries (such as Japan) not seriously affected by the war had become serious in certain cases.

and decline in the world's purchasing power began to affect adversely industrial sales and profits. Up till the autumn of 1920 there was a post-war boom, and India's industries prospered. Between April 1919 and March 1920 there was an unexampled boom in company promoting in India, especially in the engineering, sugar and oil refining, tanning and timber industries.[1] Unfortunately, the high profits that were earned encouraged speculation, and an unhealthy over-activity caused the boom to develop into a crisis, which was followed by a crash and violent depression.[2]

India's large-scale industries (except the jute industry) were especially hard hit. The cotton industry suffered severely and the iron and steel industry—from which so much was expected—was forced to plead for protection against imports. The period since about 1922–23 has been one of industrial retrenchment and reorganization, and the financial position has made it impossible for Government to adopt all the recommendations of the Industrial Commission.

The Board of Industries and Munitions, constituted on a temporary basis in 1920 (to close the war commitments of the Indian Munitions Board and take over the initial functions of the proposed Central Department of Industries), was replaced in 1921 by a permanent "Imperial Department of Industries," but the latter has not yet undertaken any far-going, constructive functions.[3]

Despite the recommendations of the Inchcape Retrenchment Committee (1922–23) that the Central Stores Department (set up in 1922) should be abandoned, Government decided to proceed with it, but to reduce its commitments to a minimum. It has recently issued Rules calling for rupee tenders, which tends to assist Indian firms. Hence the purchase of Government stores is now made as far as possible in India.[4]

As the recommendations of the Industrial Commission have not yet been fully adopted, any success in stimulating industry that has so far been achieved has been mainly due either to fiscal protection, or to the work of the Provincial Departments of

[1] *Indian Supplement of the Times*, November 17, 1921, p. 13.

[2] The expansion of the output of factories under direct Government control for the manufacture of materials needed for war purposes, such as army clothing, leather goods, ordnance, and acetone, has—in spite of the cessation of warfare—proved to be permanent, as even in peace time the Government's demands suffice to give full employment.

[3] For a list of the functions of this department see the *Moral and Material Progress of India*, 1924–25. The department was renamed the Department of Industries and Labour after the issue of the *Report of the Inchcape Retrenchment Committee* in 1922–23.

[4] *Report of the Stores Purchase Committee.* The purchase of stores abroad was also discouraged by the Sea Customs Act of 1924, which made all stores purchased on Government account liable to duty on the same terms as merchandise imported on private account.

Industries. The former policy and its results will be discussed below in connection with commercial policy in general.[1] The latter will be described in the following section.

§ 3. THE WORK OF THE PROVINCIAL DEPARTMENTS OF INDUSTRIES

The idea underlying the establishment of Provincial Departments of Industries was that, owing to India's " uneven " economic development in the nineteenth century, her industrial achievements had been disappointing, and that it would be very difficult, if not impossible, for the essential links in the industrial chain ever to be forged unless special Government aid were granted in the initial stages. The actual machinery adopted—that of the establishment of self-determining Provincial Departments, whose work should be co-ordinated and facilitated, but not controlled, by a Central Department—was modelled on that already successfully adopted in the agricultural sphere.

Each Provincial Department was to be under the control of a full-time director, aided by deputy or assistant directors for the general administrative work, and by technical experts. Actually, during, and just after the war, a large part of the time both of the directors and of their staffs was taken up with munitions and other special war work, and the appointment of scientific experts has been cut down to a minimum, especially since the issue of the *Report of the Inchcape Retrenchment Committee* (in 1922–23). In nearly every report one reads that development has been retarded owing to lack of personnel and general financial stringency.

It may be said at once that, although the departments have proved but a partial success, this does not condemn either the policy or the officials, as the policy has not yet been systematically applied, and the work attempted has been executed under most adverse circumstances.

The functions performed by the departments include the provision of financial and technical aid to existing industries, the conduct of research work for both existing and potential industries, the establishment of new industries deemed to be particularly valuable links in the industrial chain, the provision or encouragement of technical training, the extension of markets and improvement in marketing, the dovetailing of agricultural and industrial employments, the co-ordination of knowledge and promotion of co-operation with other departments engaged in the task of attempting to improve the economic position of the masses, and (during the war) the control and distribution of supplies of

[1] *V.* chap. xiii, § 2.

imported raw materials required by particular industries. In addition, the departments control a number of activities previously performed by other authorities (such as well-boring, and technical educational work) and have to perform considerable routine work, such as inspection under the Boilers and Electrical Works Acts, the prevention of smoke nuisances, and investigations into labour problems.

Existing industries have been helped either by direct money grants, loans, or special facilities for obtaining land, etc.[1] In Madras the State Aid to Industries Act of 1923 regulated the giving of grants, and similar Acts have since been passed in the Punjab, Bihar and Orissa, the Central Provinces and Behar, Bombay, Bengal, and the United Provinces.

Research may either be carried out under the auspices of a Department of Industry in a special research institution, or experimental factories may be set up under the department in which both actual manufacture and research work may be carried on. In either case technical training may be carried on in connection with research or manufacture, and technical aid may be rendered and information supplied to private firms by the experts employed in such institutions. In some cases the departments have themselves instituted pioneer manufactories, but if the latter yield profits they are handed over to private enterprise. The principle has been rigidly maintained that Government should not aim at manufacturing on a commercial scale to the exclusion of, or in competition with, private enterprise.

Much of the research work—including experiments with regard to the use of modern machinery in agricultural operations,[2] improvements in hand-loom weaving and the manufacture of aluminium goods and of chrome leather, etc.—has been conducted in the Schools of Art. Extensive experimental work in these spheres, together with research into the possible utilization of water power and the setting up of pioneer factories for the manufacture of pencils, glass, jagri, and lime-sand bricks, were all undertaken in Madras under the energetic supervision of Mr. Chatterton even before 1914.[3]

The main object, in the cotton hand-weaving industry, was to introduce improved looms.[4] Fly-shuttle looms were set up, "weaving competitions" were held, peripatetic weaving parties

[1] For instance, a grant of Rs. 75,000 was made to assist a soap factory at Calicut (*Report of the Madras Department of Industries*, 1918–19, p. 15).

[2] *E.g.* Government gave loans for the purchase of oil engines and pumps, a boring department was established, and inspectors were sent round to undertake repairs and give advice.

[3] *V.* above, p. 210, and *Report of the Industrial Commission*, Appendix J.

[4] *Report of the Industrial Commission*, Appendix J, p. 113. It was estimated that the adoption of the fly-shuttle enabled the weaver to increase his earnings by Rs. 2 8a. 0p. *per mensem*.

toured the Presidency, and weavers' co-operative societies were started. Similar work was undertaken in many other Presidencies.[1] As a result the number of hand-weavers has ceased to decline, and their output has increased.[2] The future seems to lie with the individual weaver, rather than with the small factory, in India, on account of the scarcity of capital and managerial talent, and because of the weavers' dislike of factory conditions. Moreover, it appears that the weaver is not averse from adopting improved machinery, when its utility can be clearly brought home to him by intensive propaganda and ocular demonstration. Obstinate opposition is chiefly confined to the *sahukars* (money-lenders), who do not want to lose their hold over the artisans. In fact, it may be said that progress with regard to the universal adoption of improved methods is chiefly held up by lack of money for intensive propaganda.

The improved methods of tanning discovered in the Madras Presidency spread to other Presidencies, especially the Punjab, during the war, when the demand for Indian leather grew rapidly.

Since 1914 the Madras Department of Industries has undertaken work in connection with paper-making, oil-pressing, the manufacture of glycerine, the decortication of ground-nuts, the manufacture of glue, fruit-preserving,[3] the manufacture of inks, adhesives, etc., and the manufacture of soap.

In Bombay—to consider the work of another Presidency for a moment—in addition to the work in the hand-loom weaving, tanning and leather, glass and sugar industries, special attention

[1] In Bombay it was estimated that the improved fly-shuttle shay increased the weaver's output by 40 per cent., and it was reported that nearly all the weavers who were trained in the weaving schools purchased the improved looms when they left. Also, when fly-shuttle shays are introduced into a district, the by-industry of fly-shuttle shay manufacture often springs up. Pupils are attracted to the schools by free instruction and the offer of prizes for good work.

[2] *Report of the Industrial Commission*, Appendix I, and p. 208 above. Mr. Chatterton's conclusions with regard to the position of the industry before the war in Madras (see *Madras Census Report*, 1911, pp. 77, 91 and 92), are worth quoting. He says: "The condition of hand-loom weavers is generally assumed to have steadily deteriorated owing to the effect of competition, and of indirect evidence there is plenty in support of this idea. The weavers themselves complain that their condition has steadily become worse, that they have to work harder and that now the coarse weavers, even by the most unremitting toil, are only able to make a bare livelihood. I think, therefore, we may safely accept the following conclusion: That in the last forty years the number of hand-loom weavers has remained practically stationary, but that owing to stress of competition they now turn out a larger amount of finished work than was formerly the case; that is to say, the majority of them have to work harder to gain a bare living. One might also add that their lot would probably be greatly improved if they could be induced to accept outside assistance, which can only be effectively rendered by the establishment of small hand-loom weaving factories. The individual weaver suffers because he is still trying to carry on a complex series of operations without recognition of the advantages of subdivision of labour."

[3] A Government Fruit-Preserving and Industrial Laboratory was instituted at Coonoor (*Report of the Provincial Department of Industries, Madras*, 1919–20, pp. 24, 25).

has been paid to the chemical and engineering industries, in addition to experiments in a group of miscellaneous industries, including fisheries,[1] pottery, oil-crushing, wood distillation, calico-printing, and the manufacture of casein. The schemes for the introduction of various chemical industries have been the most extensive and offer the greatest potentialities, but the work is in most cases still in the experimental stage. The possibility of establishing various important chemical industries on a commercial scale depends on the possibility of utilizing and marketing a number of by-products. A chemical survey was made in 1920–21 of the commercial prospects of no less than thirty-three chemical industries in the Bombay Presidency.[2]

Similar work has been undertaken in the other provinces, prominent amongst which may be mentioned the progress in the introduction of improved methods of dyeing in the Punjab [3] and of dyeing and calico-printing in the United Provinces.[4]

Inquiries into the problem of the provision of power for industrial purposes have been undertaken by many Provincial Departments, and great efforts have been made to introduce substitutes for coal in districts remote from the Gondwana coalfields.[5]

Another very important side of the work of the departments has been the provision and encouragement of technical and industrial training, but space forbids any attempt at describing the various provincial systems and institutions.

In conservative India, with its traditional neglect of advertisement, where imported goods " hold the field " and are well known, it is extraordinarily difficult to find a market for indigenous products even when the latter are equal in quality and no dearer than the former. It is very often assumed as a matter of course that indigenous products are necessarily inferior. Hence the Departments of Industries have provided emporiums for the display and sale of indigenous products, numerous provincial or district exhibitions have been organized, and British or foreign exhibitions have been participated in. The advertising value of the exhibitions held in India seems to have been good, but that of the British exhibitions more doubtful. The opinion has been expressed that in order to open up regular and reliable markets in England it is necessary to set up a permanent warehouse or emporium in London, by means of which samples can be exhibited and orders placed.

[1] The idea was in particular to improve the curing of fish and perhaps eventually to introduce the canning industry, in imitation of Madras.

[2] *Report of the Bombay Department of Industries*, 1920–21.

[3] *Report of the Punjab Department of Industries*, 1922–23, p. 5.

[4] *Report of the United Provinces Department of Industries*, 1923–24, p. 20.

[5] *V.* chap. ii, § 3.

Various attempts have been made by the departments to introduce industrial production as a by-industry to agriculture, but so far with little success.

Co-ordination of knowledge and co-operation with other departments are promoted by the holding of conferences (sometimes confined to the officials of the Departments of Industries, sometimes held jointly with other departments), by the maintenance of Intelligence Bureaux, and by more or less informal joint work with the Provincial Governments and with various departments. Attempts to co-operate with the public are made through the Intelligence Departments and by means of specific " publicity " campaigns.

The work of the departments is already carried on in co-operation with that of the Agricultural, Co-operative, Forest and Educational Departments, although probably still more could be done in this direction, especially as regards co-operation with local authorities and municipalities.

The achievements of the departments naturally vary in the different provinces. The degree of industrialization in each province, the date at which the organization of the departments began, and the amount of war dislocation, have varied from province to province—and, of course, from district to district—and have made it difficult to measure the relative progress made. It is, however, probably safe to say that on the whole expectations have been disappointed with regard to the influence of the departments on the rate of industrial development. In Bombay this disappointment has already led to the closure of the department as an independent unit.[1] The main explanation of the lack of more rapid progress appears to be the prevailing financial stringency. The whole object of the departments is to undertake expenditure which can only in the long run become productive, but the work so far undertaken has not sufficed to fill up India's " industrial gaps."

The difficulties confronting the departments confirm the conclusion of the Industrial Commission as to the nature of India's chief industrial deficiencies, and make it apparent that until these deficiencies are remedied no really fundamental industrial progress can be made. These fundamental industrial deficiencies may be summarized under six main heads: (i) the shortage of scientific and technical experts; (ii) the shortage of skilled labour and of facilities for technical training; (iii) the lack of cheap and efficient power for industrial purposes; (iv) the shortage of capital; (v) the need for the establishment of a large number of

[1] In 1924 the separate office of Director of Industries was abolished, and the remaining functions of the Director were handed over to the Registrar of Co-operative Societies (*Moral and Material Progress of India*, 1924–25, p. 184).

by-industries, before large-scale chemical, metal and engineering work, etc., can be expected to pay; and (vi) the need for an improved transport system.

§ 4. THE INDUSTRIAL OUTLOOK

In the light of the above account of recent industrial developments and changes in industrial policy, let us now consider the present-day industrial outlook in India, and what can be done to stimulate and encourage industry.

In the first place, it is clear that the indigenous crafts and hand industries are now affected at every point by modern methods of large-scale production. In some cases handicrafts at present survive mainly because they are located in districts remote from industrial centres and mechanical transport, but as the railway net spreads the sphere of such handicraftsmen is bound to become smaller and smaller. In other cases the handicrafts should be able to retain their present position, even if they cannot expect to improve it (in relation to factory industries), if modern implements and improved methods of organization and of marketing are adopted. In a country like India, small-scale organization possesses certain definite advantages over large-scale organization, in industries which do not demand intricate scientific co-ordination and the application of elaborate chemical or mechanical principles and methods,[1] especially if some form of co-operative sale and purchase can be introduced.

In the second place, it is clear that some advance has already been made, and could be greatly extended, in the preparation of food-stuffs and raw materials for the market, such as rice, wheat, sugar, and vegetable oils. Here improvements can be gradually introduced, and there is no need to start large-scale power-using factories right away.

For example, much might be done to improve the methods of preparing coconut products for the market. In the coastal areas of South India—particularly on the west—almost the whole population is dependent upon the coconut for its livelihood. The leaves are used for roofing, matting, the manufacture of brooms, baskets and umbrellas, and (after burning) as manure. The shells act as fuel, and are used as utensils, and coir is obtained from the fibre of the shell. The juice is drunk in its raw state, after fermentation, or after distillation.[2] From it also jagri (*i.e.* sugar) can be extracted. The kernels are eaten, or dried into copra;

[1] For instance, in the hand-weaving industry weaving demands the indefinite repetition of certain comparatively simple processes, rather than intricate scientific co-ordination. (*V.* P. P. Pillai, *Economic Conditions in India*, pp. 145, 146, 149.)

[2] In this form it is known as "arrack."

the oil expressed is used for lighting and cooking purposes; and the trunks of the coconut tree are used for building and as water-pipes. At present the methods of preparation and organization of the various coconut industries are most primitive, and obviously great improvements could be introduced, especially with regard to the preparation of vegetable oil from copra. Copra is one of the chief sources of the vegetable oils for which the demand in the West has recently become so great. Tropical Africa is at present the great source of supply, but there is no reason why a big trade in copra should not also be established in India. Apart from the possibilities of export, there is room for the greatly extended consumption of coconut oil in India as a substitute for ghi. The residue—as of all oilseeds—is valuable as oilcake for fodder and manure. The manufacture of mats, ropes, and cordage from coir is a cottage industry, which could easily be extended and would form a very valuable by-employment for agricultural workers. This is certainly a direction in which both internal and external trade might easily be extended and become of real importance.

In the third place it can be said that, whilst success has been achieved in particular instances in organizing both certain long-established and some new industries on a large scale, and although there are undoubtedly great potentialities in this direction, so far nothing worthy of the name of an "industrial revolution" appears to be taking place.[1] The fact is that India still suffers from certain grave deficiencies with regard to the prerequisites of successful industrial production.

It has been said that four things are required to found and establish an industry successfully in any country—men, money, materials, and markets.[2] If to these be added motive-power, the saying may be considered to sum up the prerequisites of industrial production.

India is undoubtedly well supplied with both "materials"—*i.e.* natural resources, animal, vegetable, and mineral—and with markets. Her staple products are in great demand abroad, and she has an immense *potential* internal market. In comparison with most other countries she is well off in both these respects.

With regard to India's supply of "money"—including capital and financial facilities[3]—it need only be said that, although the internal supply of capital is still inadequate, India is able (owing to her Imperial connections) to obtain foreign supplies on comparatively easy terms, and the Government has recognized the

[1] *V.* chap. iii, § 3. For an account of the achievements and potentialities in each of the principal large-scale industries, *v.* chaps. x and xi.

[2] Indian number of the *Times*, November 17, 1921, p. 12.

[3] *V.* chaps. xiv and xv.

desirability of stimulating the internal supply. Measures have recently been adopted to extend and improve the supply of financial facilities, and although progress in these respects may be slow, there is no reason why it should not be sure.

"Motive power" must be interpreted to include transport and communications, as well as the mechanical energy necessary for large-scale industrial production. We have seen that immense improvements in transport and communications, as well as in the supply of industrial power, have been introduced into India since the middle of the nineteenth century, but that nevertheless in these respects India is still at a disadvantage, in comparison with many Western countries.[1]

"Men" must be taken to include the supply of industrial leaders, technical and scientific experts, skilled artisans and manual workers. It is perhaps here that India's most difficult industrial problem is to be found. It has often been asserted (or at least assumed) that India has the advantage of an almost inexhaustible supply of cheap manual labour suitable for industrial production. Such an assumption is directly opposed to the actual facts. Although wages are low, labour is dear; and although the population is redundant, the number of persons offering to undertake industrial work at a wage which "the traffic can bear" is strictly limited.

It might be imagined that nothing would be easier than to recruit industrial labour from amongst the vast agricultural population, whose standard of life is acknowledged to be extraordinarily low. Actually, Indian agriculturists and rural artisans are extremely reluctant to take up industrial life in the towns or in rural factories, even when they can thereby considerably increase their earnings. The cultivators cling to their plots of land, however small and unremunerative, and high earnings do not compensate them for the disabilities of working-class life in urban centres, or for the hated restrictions and discipline of factory employment. Moreover, an increase in wages does not, as a rule, entice them to more regular and harder work, but merely enables them to reduce the number of days per week or weeks per year in which they remain at their employment.[2] The result is that the large-scale industries have to rely on an intermittent,[3] irregular and badly trained supply of labour which in many cases is not worth even the low wages earned.[4] This explains the apparent

[1] *V.* chaps. ii and vi.

[2] *V.* chap. v, p. 123.

[3] "The average operative may be said to take two days off every month, and a further annual holiday of from three to seven weeks. In addition he receives the Sunday holiday and from four to ten native holidays during the year" (P. P. Pillai, *Economic Conditions in India*, p. 238).

[4] Industrial wages are low in India in comparison with those prevailing in the West, although higher than the earnings of the cultivator or rural worker in India.

paradox of the scarcity of labour in India. "Labour, labour everywhere, nor any one to work."

The factors that render industrial labour scarce in India also tend to render it inefficient, and in addition several others have to be taken into consideration. Not only is the labour supply intermittent, fluctuating, lacking in ambition and insensitive to the spur of higher wages, but the customary leisurely methods of work and the bad conditions of life of the urban industrial worker reduce his efficiency and output. If we consider the iniquitous housing, insanitary surroundings, and unsuitable dietary of the (usually also indebted) factory population of large towns, it becomes obvious that the worker's physical and mental condition cannot be anything but wretchedly subnormal. When it is realized that the labourer who is obliged to live in such uncongenial, unhealthy and soul-destroying surroundings is in any case illiterate, superstitious and untrained, is it to be expected—entirely without prejudice to his "natural" abilities—that at any wage, however low, his services can be really "cheap"? "Industrial success," says the Indian Trade Commissioner, "will be in spite of, rather than on account of, the low-paid labour." [1]

With certain exceptions (in particularly progressive industries and localities) the labour problem in India is still in quite a different phase from that of the West.[2] The fundamental problems are those of education, the introduction of improvements in both factory and (still more) home conditions, and the formation of a class of permanent and trainable industrial workers. Until these problems have been attacked, any comparison of the relative efficiency of Indian and European workers is almost meaningless. Even apart from such fundamental considerations it is clear that the best use is not at present made of the industrial labour force. For instance, the estimate made at the excellently conducted Buckingham and Carnatic Mills, Madras, that it takes two and two-thirds Indian workers to produce the same output as one Lancashire worker, must not be taken as a criterion of the relative inefficiency of the Indian workers. To form such a conclusion would be entirely false, because "though a certain degree of inferiority does exist," the lower output per worker is due in the main to a different method of organizing the work.[3] Managers

[1] V. *D.O.T. Report on the Prospects and Conditions of British Trade in India*, 1919, p. 18, and the *Round Table*, December 1923, "The Economic and Financial Condition of India."

[2] *V.* chap. xii, § 5. Nevertheless every effort should be made to develop labour organizations *pari passu* with the formation of a class of industrial workers, and labour organizations should prove a valuable means of improving the education and standard of living of the workers.

[3] *Asiatic Review*, April 1923, discussion following Mr. Pillai's paper on "The Indian Labour Problem," p. 83. For other estimates of the relative efficiency of Indian labour see Pillai, *Economic Conditions in India*, pp. 207, 208, 238, 239.

in India find it economical to put four men to four looms, and to work those looms at a greater speed and for longer hours than in Lancashire, whereas in Lancashire it pays better to work the looms less quickly, and to put only one woman weaver to four looms. The former method only pays because of the low rate of wages. In Lancashire, to save the wages of three workers more than counterbalances the lower output per loom.[1] Moreover, the requisite machinery is more expensive, more difficult to procure, and less easy to keep in repair in India than in the West. At first sight the lower labour costs of production in Japanese than in Indian mills is more puzzling, but again the explanation appears to be largely a difference in organization.[2] It appears that in many cases the operatives could efficiently tend more machines than, on an average, they have at present under their charge. It is not the employers alone who are responsible for inefficiency of this type, as unfortunately the trade unions, and Indian labour leaders in general, are opposed to reforms which, while increasing output per head, tend to decrease the numbers employed per machine or per process. Such reforms would not necessarily result in " speeding-up," although it is necessary to examine each on its own merits in order to avoid undue pressure on the operative, and it is much to be deplored that a policy of unreasoning opposition should have been adopted in this respect.[3] The arguments advanced are comparable with the old-fashioned objections that used to be made in England to the introduction of machinery and improved processes. The strikes of Bombay mill operatives and of Madras railway workers in 1928 were due in the main to disputes of this nature.

It is not possible to measure the " natural ability " of labour, apart from actual output, but many employers testify to the manual dexterity and adaptability of the Indian artisan. This is what would be expected considering the erstwhile high quality of the output of the handicraftsman in the indigenous industries. The facts remain that at present conditions are not favourable, the cost of supervision is high,[4] and industry is organized in

Mr. Pillai gives the references to the principal sources of these estimates. Particular attention should be paid to the evidence on the subject given in Appendix B to the Freer Smith Committee's *Report on Textile Factory Workers*, Cmd. 3617 of 1907, and by Sir Alexander McRobert before the Industrial Commission (of 1919, vol. i of *Evidence*, Cmd. 234, pp. 278 *et seq.*).

[1] The four looms and four weavers in Madras produce more per hour than the four looms and one woman weaver in Lancashire.

[2] *V.* chap. xi, p. 269.

[3] *V.* chap. xi, p. 276; chap. xii, p. 318; and *Times*, July 24, 1928, " South Indian Strike: Causes of Unrest."

[4] The management and training of a mixed illiterate crowd of Indian workers, varying from each other in caste, religion, language, customs and general outlook, are much more difficult than the management and training of a relatively homogeneous group of (for instance) English working-men, whilst at the same time the

accordance with the prevalence of " cheap " labour. Nevertheless there is no reason to suppose that given better general education, facilities for technical training, and improved surroundings, Indian labour may not eventually become " cheap " in the best sense of the word.[1] The difficulty is that it is precisely in those industries—such as the iron and steel, mining, engineering, and electrical and chemical industries—in which development is most urgent, that the highest degree of skill and intelligence is desirable on the part of the operatives.

The situation with regard to the other types of " men "—namely, the highly-skilled artisans, technical and scientific experts, and industrial leaders—is no less difficult. The deficiencies of education in India are notorious, as also the reluctance of the upper classes to take up technical and industrial careers. As we have seen, attempts are now being made to increase the facilities for scientific and technical training, but it will be long before arrears can be made up, and education in general still suffers from the artificiality and superficiality inseparable from a system grafted wholesale into one country from another without adequate adaptation to the new surroundings. The problem is that without better technical and scientific education it is difficult to obtain the necessary staff for large-scale modern industries, whereas without a regular and expanding demand from large-scale modern industries it is difficult to induce young Indians to undergo the necessary higher technical and scientific education. The best plan under the circumstances seems to be that adopted at Jamshedpur, where provision is made for the thorough training of men who can subsequently be employed in the works.[2]

Until the supply of trained men has been greatly augmented, the cost of the technical staff to the modern scientific industries must necessarily remain exceptionally high, and the extension of technical and vocational education should precede a policy of protection of industry.[3] It may be objected that in the West, especially in England, technical education has succeeded, not preceded the establishment of large-scale industry, and that for many years men were trained entirely in the works themselves But in the West the whole movement towards industrialization was spontaneous, whereas in India the attempt is being made deliberately to graft Western methods and organization into Eastern society, so that it will be necessary to take special measures to ensure that an adequately trained labour supply is forthcoming.

class of managers and overseers is much more limited, and consequently tends to be less efficient as a whole.

[1] *Report of the Industrial Commission*, 1919, Cmd. 235, p. 354.

[2] *V.* p. 214, above.

[3] *Evidence of the Enquiry of the Tariff Board in the Paper and Paper Pulp Industry*, June 1924, p. 549.

Finally we come to the class of industrial leaders. This may eventually prove to be the crux of the whole matter. "The supreme need of the country," admits Mr. Pillai, "is for managers and foremen, for pioneers and entrepreneurs." [1] It can only be said that the potentiality of Indians as entrepreneurs is, at present, an almost entirely unknown factor. It has frequently been asserted that it is not so much the lack of men with technical skill that constitutes a serious problem in India, as the lack of men "experienced in the practical management of shops and factories and in the standards and requirements of markets." [2] Few of the wealthy men of India have as yet cared to invest their capital and energy in industrial concerns, whilst even in the cotton mill and iron and steel industries, the Parsee element—which can hardly be considered as typically "Indian"—exercises an influence out of all proportion to its numbers. Moreover, the Managing Agency system, by concentrating industrial control in a comparatively few hands, and by placing such control on an almost hereditary basis, undoubtedly makes it exceptionally difficult for the able, but not necessarily wealthy or well-connected young man, to rise to a position of responsibility.[3]

In addition to the question of the supply of each of the pre-requisites of industrial production, there is the problem of the co-ordination of their supply, and of central control over industrial development in general. In a country where voluntary industrial leadership is particularly deficient, the policy of the Government is correspondingly important.

We have already seen that at present the chief instruments of the Government in the industrial sphere are the Provincial Departments of Industries, and that although they have done excellent work in many ways, they have been, so far almost without exception, seriously hindered by financial stringency. Meanwhile, although both the Industrial Commission and the Government of India (at one time) visualized important co-ordinating functions for a Central Industrial Department, in practice—primarily owing to the policy of retrenchment—very little has yet been accomplished in this direction. This is certainly a serious defect.

What is needed is a really comprehensive policy, co-ordinated with the policy adopted in other economic spheres. The Government should take a long view and prepare far-reaching schemes, for instance for the provision of motive power, the training of technical labour, the utilization of by-products, and for the filling in of industrial gaps. Such work should be centrally controlled, but

[1] *Economic Conditions in India*, p. 187.
[2] Indian number of the *Times*, November 17, 1921, p. 13.
[3] *V.* chap. v, § 3.

much decentralized work is also needed in order to enlist the co-operation of the mass of the workers, and to enable existing social and religious barriers to material progress to be removed.

A great increase in expenditure upon industrial stimulation would, like expenditure on agriculture and on public health, in the end prove extremely productive. In particular, financial aid is necessary for investigations on a scale which no private individual could undertake; for general, technical, and industrial training; and in order to assist intensive propaganda for the promotion of improved methods of industrial production amongst industrial workers of all grades.

CHAPTER X

INDIA'S LARGE-SCALE INDUSTRIES

§ 1. INTRODUCTORY, p. 234.

§ 2. THE COAL AND PETROLEUM INDUSTRIES, p. 235.
Recent developments in the production, export, and import of coal—Disadvantageous factors—The Coal Committee, 1924–25—Possible remedies—The position and problems of the Burmese petroleum industry.

§ 3. THE IRON AND STEEL INDUSTRY, p. 242.
The foundation and development of the Tata Iron and Steel Company—Depression and the Tariff Board—An analysis of the present position and future prospects of the industry.

§ 4. THE ENGINEERING AND ALLIED INDUSTRIES, p. 254.
The expansion of the engineering and allied industries—Conditions and problems of production.

§ 5. THE CHEMICAL INDUSTRIES, p. 256.
India's chemical resources—Present-day production, and future potentialities.

§ 1. INTRODUCTORY

From the account given in the last chapter of recent industrial development in India, and of the position at the present day, it can be concluded that little expansion can be expected from the indigenous industries, even under the most favourable conditions, and that, if India is to attain a better-balanced economic system, it must be by developing her large-scale industries along modern scientific lines. Hence it is important to understand the position and problems of the chief groups of existing and potential large-scale industries in India. This will be the subject of the following two chapters. The "heavy" industries will first be considered, followed by the textiles, plantation industries, and then a group of miscellaneous industries, but it should never be forgotten that the cotton and jute mill industries were the first to develop in India on a really large scale, and that the rest are mostly of relatively recent origin.

Space forbids an analysis of every industry that has been, or may be, established on a large scale in India. The attempt has therefore been made to deal with each of the major industries, and with such of the minor ones that best illustrate the funda-

mental industrial problems of the country, whilst those (such as some of the mineral industries) [1] which have already been considered at some length in other connections will be excluded.

§ 2. THE COAL AND PETROLEUM INDUSTRIES

The coal and petroleum industries, as the main Indian sources of industrial power (apart from hydro-electricity), are naturally of fundamental importance from the point of view of industrialization. We have already traced, in outline, their origin and early development,[2] and can here concentrate upon recent developments and present-day problems.

The output of coal increased steadily and rapidly from the opening up of the Bengal coalfields in the middle of the nineteenth century (in connection with the construction of the railways) down to 1919, since when any further increase appears to have been checked.[3] The bulk of the output is consumed within the country, and satisfies the greater part of the internal demand for coal, but there is still a regular demand, chiefly in Western India, for a certain quantity of foreign coal.[4] Exports, on the other hand, have markedly declined, and are now less than one-third of their pre-war figure.

The check to the expansion of output since 1919, the decline in exports, and the unsatisfactory dividends that have been paid by a majority of colliery companies during the last few years,[5] indicate that the industry is not as prosperous as might be expected in view of the apparently great advantages of outcropping (or very shallow) mines and cheap labour; though the effect of these factors is exhibited in the low pit-head price of Indian coal.[6]

Four main disadvantageous factors appear to be at work:

[1] *V.* chap. ii, § 3. [2] *V.* chap. ii, § 3. [3] *V.* Table IV, p. 519.

[4] Imports have fluctuated somewhat violently since 1914, but at present tend towards about the pre-war level.

[5] The following figures illustrate this point. In 1922 (at which date there were 288 Joint Stock Coal Companies at work in India, with a paid-up capital of Rs. 11,37 lakhs), out of 132 coal companies quoted in the share list, with a paid-up capital of Rs. 8,89 lakhs, sixty-two declared no dividend, and seven were either new companies or companies whose dividends had not yet been reported. Eight companies did extremely well, paying dividends between 60 and 145 per cent.; seven paid between 35 and 50 per cent., and the remainder (*i.e.* forty-eight) paid between $1\frac{1}{2}$ and 30 per cent. (*Report on the Production of Coal in India*, 1922). In 1925 (*Capital*, May 12, 1927), out of ninety-nine companies quoted, forty-five paid no dividends, five paid over 60 per cent., ten paid from 35 to 50 per cent., and the remainder (thirty-nine) paid between $2\frac{1}{2}$ and $22\frac{1}{2}$ per cent. During the nineteenth century, and up to 1914, the colliery companies were able to dispose of their increasing output without difficulty, at a good profit.

[6] Although Indian pit-head prices are higher than before the war (for instance, an average of Rs. 3 8a. 0p. in 1913; Rs. 7 11a. 0p., the peak, in 1922; Rs. 7 7a. 0p. in 1923; Rs. 7 1a. 0p. in 1924, and Rs. 6 1a. 0p. in 1925), they are still less, and in most cases considerably less, than in any other country except South Africa.

difficulties due to the post-war reorganization of industry and trade; an increase in raising costs; the uneconomic control and organization of mining; and the unsatisfactory nature of the labour supply.

During the war the cutting off of British coal supplies, and the increased demand for coal from Indian war-stimulated industries, led to a threatened shortage of coal.[1] The deficiency was supplied partly by increased production in Bengal, and partly by increased imports of non-British (especially South African) coal, but in addition drastic measures were taken to conserve supplies. All Indian coal of good quality was requisitioned (on the basis of cost of production plus a fixed profit) and its distribution was carefully controlled so as to ensure supplies for war purposes. During the post-war trade boom the situation became still more serious, as the railways were suffering from capital depreciation, had not yet been able to make up arrears in replacement and repairs, and hence could not easily cope with the increased traffic. Great delays in delivery occurred, and smaller businesses were frequently unable to obtain coal at all. Hence in July 1920, in order to economize railway wagons, conserve supplies, and to prevent the supply of coal by sea to Indian ports from being hindered by overburdening the docks with bunker coal, the Government prohibited the export of coal except under licence, and abolished the preference formerly given by the Bengal railways to bunker coal.[2] Thereafter exports were permitted, on a very limited scale, to certain important bunkering ports only, such as Colombo, Aden, Sabang, and Singapore. Nevertheless stocks continued to decline, railway facilities were still inadequate, and the output of coal fell heavily owing to shortage of labour.[3] Further restrictions were therefore introduced. Exports to Aden, Sabang, and Singapore were entirely prohibited, and those to Colombo were gradually reduced until they were prohibited, except for a certain amount for the Ceylon Government railways. Bunkering at Indian ports was also further restricted.

These measures were designed simply to tide over a period of temporary scarcity, during which it was hoped that the railways

[1] In 1916 a specific import duty of 8 annas per ton was imposed, as a revenue duty, but was too slight to affect imports.

[2] V. *Report of the Indian Coal Committee*, 1925, vol. i, p. 8, and the *Minute of Dissent* by M. Banerjee. The latter asserted that the embargo on export was "dictated by the exigencies of the railway position" and had proved a great mistake.

[3] The decline in output from 21·7 million tons in 1919 to only 17 millions in 1920, in spite of an increase in wages designed specifically to increase output in view of the increased internal demand for coal, has been attributed directly to the rise in wages which, it is asserted, enabled the miners to earn as much as before in a shorter time. Actually the shortage of labour in 1920 was probably mainly the result of a good harvest, which prevented agriculturists from applying for work in the mines.

would be able to reorganize and the colliery companies to increase their output. Hence in 1922 and 1923 the restrictions on export were gradually removed. Indian coal did not, however, succeed in regaining all its former markets. In 1925 Bengal coal could with difficulty compete with foreign coal, even in Rangoon and Madras. Since then it has regained its supremacy in neighbouring ports, such as Rangoon, but in Bombay and Karachi severe competition is still experienced from both British and African coal,[1] and from oil fuel and hydro-electricity.

The failure of Indian coal to regain its former foreign markets may be attributed partly to the policy of prohibiting exports, which gave the advantage of established business relationships to India's competitors, partly to the unreliable quality of the coal exported[2] and partly to the increased cost of production and transport, and deficiencies of organization, which have also recently rendered sales less profitable in the internal market.

In view of the depression, the coal companies advocated a countervailing duty on imported South African coal (in addition to the existing specific duty of 8 annas per ton), and the Legislative Assembly passed a resolution demanding that the question should be referred to the Tariff Board which had been established (in 1924) to consider such demands.[3]

An analysis of the statistics of the coal trade revealed the fact that competition prevailed chiefly in the overseas markets, and it was realized that what was necessary was to improve and grade the quality of the coal exported and reduce the cost of transport, not to impose a protective tariff. The Government decided to refer these technical questions to an expert Coal Committee, and to defer reference to the Tariff Board until after the Coal Committee had reported.

The Committee (which reported in 1925) recommended measures designed to reduce the cost of transport, improve organization, and reduce raising costs. It concluded that on purely statistical grounds transport and dock charges were not excessive, but recommended that on " general grounds " the railway rebate on exported coal should be increased from 25 to 37½ per

[1] South and East African coal, in particular, has obtained a very strong position and is preferred to Indian coal even at higher prices.

[2] Purchasers are suspicious of Indian coal, as they have at times been misled as to its exact quality. Unfortunately, inferior coal has been sold under misleading names. The best Indian coal is at least as good as the average level of the best Natal coal, and distinctly better than the average Transvaal or Japanese (*Coal Committee Report*, p. 27). It has been said that even the Bombay coal importer has to be convinced not that there are good Indian coals, but that he can be certain of getting them. The Tariff Board reported (in 1926) that Indian coal could be sold at Western Indian ports, at a profit, at the same price as South African coal, but that consumers would not buy it unless it was sold at Rs. 2 per ton less than South African coal

[3] *V.* chap. xiii, p. 352.

cent.,[1] and that port and river dues should also be reduced. Indian coal is undoubtedly at a comparative disadvantage as regards steamer freights, as Calcutta does not attract tramp steamers,[2] but no recommendations were made under this heading. Detailed recommendations were made with regard to the institution of a Grading Board, which should classify Indian collieries, grade and inspect the coal and give certificates for export, so that purchasers should know exactly what they were buying. Grading was to be voluntary, but only those on the grading lists were to be eligible for railway rebates and special concessions from the Port Commissioners.

This proposal was accepted by the Government, the appropriate legislation was passed in 1925, and in January 1926 the Grading Board was actually constituted.[3]

The railway companies and the Port Trust Authorities also accepted the proposed reduction in freights and port dues, which have accordingly now been put into force.

So far we have been considering factors which mainly affect exports. The other unsatisfactory features of production and organization affect both exports and sales in the home market, and it is the decline in profits on sales in India that is the really serious problem. If the economic development of the country as a whole is considered, and not merely the wishes of colliery owners, it seems clear that internal markets, in particular Bengal, Madras, and Burma, should be able to absorb the bulk of the output of the Bengal mines at fair prices from the point of view of both producers and consumers. As industrialization proceeds, the scarcity of sources of power will become more and more noticeable, and every possible measure should be taken to encourage and develop supplies of all kinds. The development of electrical power and use of oil in Western India should be stimulated, not deplored, whilst if Bombay and Karachi can import coal at " subsidized " prices, so much the better for them and for Indian industrial development as a whole. The conclusion is that any attempt to regain the Singapore and other foreign markets is both useless and unnecessary, and that it is better to concentrate on improving the internal organization of the industry and supplying the best Indian coal at reasonable prices to Indian railways and industries. When 7 per cent. of the output could be sold overseas at a handsome profit (which could be utilized to assist the develop-

[1] The argument was that the railways stood to lose more from the reduction in the quantity of coal transported, if some mines were obliged to close in consequence of the loss of their export trade, than they would from an increase in the rebate.

[2] Calcutta has a large excess of exports of merchandise, and is off the main trade routes. Moreover, the use of casual tramps is discouraged by the regular liners, which give special terms to shippers who ship in " Conference " steamer only.

[3] Coal certified by the Grading Board now receives a railway rebate of 11 annas per ton when shipped from Calcutta.

ment of the industry as a whole) it was advantageous to export, but there is no case for subsidizing the export of coal which cannot be profitably sold and is really needed for internal development. The fact that protection would stimulate production very slightly was recognized by the Tariff Board, which considered the demand for protection, and for countervailing duties on South African coal, in 1926, and reported that there was no case for general protection, and that it was inadvisable to impose a countervailing duty on South African coal.[1]

The Coal Committee concluded that costs in 1924 were 50 per cent. above the pre-war level,[2] owing to an increase in wages and the cost of stores, additional expenditure necessitated by social legislation (such as the Mines Act of 1922, the Boiler Act and the Workmen's Compensation Act, 1924), the improvement in the standard of housing accommodation, sanitary arrangements and water-supply provided by the companies, and a decline in the output per head. A substantial rise in the wages of all miners (surface and underground) and of the executive and clerical staff had been granted in 1920, whilst at the same time output declined from 111 tons per head per annum in 1919 to 94 tons in 1920. Nevertheless, the wages and the standard of life of Indian miners, even now, are so low that any reduction in wages or economies with regard to conditions of work, etc., would be most undesirable. On the other hand, costs might be lowered by the adoption of improved methods of production and of organization. The Coal Committee suggested two main improvements : (*a*) the introduction of more mechanical appliances, which would involve a concurrent improvement in transport facilities and result in the reduction of overhead charges[3]; (*b*) the avoidance of stacking. At present the coal raised is stacked before loading, and is loaded (and sometimes restacked) by hand when required for transport. If all the coal raised could be loaded directly by machinery into wagons and no part of it were dumped, or " stacked," the loading would be done in one operation, and the labour now employed in stacking and restacking could be more profitably employed on

[1] *Report of the Tariff Board on the Coal Industry*, 1926. One member wrote a minority report recommending a countervailing duty, but the Government accepted the finding of the majority (v. *Moral and Material Progress of India*, 1926–27, p. 192).

[2] Rs. 5 per ton for Jherria and Rs. 6 for Raniganj coal were accepted as fair average estimates of pit-head costs at this date.

[3] The Coal Committee concluded that mechanical coal cutters would be an economy if output were increased, but not at the existing level of production. The difficulty is that at present the collieries cannot obtain the supply of railway wagons necessary to enable them to dispose of an increased output of coal, and hence where mechanical cutting appliances have been introduced, they are only producing some 40 per cent. of their potential output, and actually cost more per ton than hand labour (p. 36). Electricity is already largely used for haulage, pumping, lighting, and ventilation.

underground work. Moreover, coal deteriorates from stacking, a certain amount of pilferage takes place, and there is risk of fire. The mechanical loading appliances would at the same time " pick and screen " the coal, which could therefore be despatched from the colliery ready for sale and consumption. Both these improvements involve a reform in the railway services to the collieries.

Minor suggestions for reducing costs included the laying of rails right up to the working face of the pits, so that the present method of carrying coal in baskets from the face to the tubs could be obviated ; concentrating work in smaller areas and so economizing the supervision of plant and labour ; and the introduction of more regular working shifts, so that production should be concentrated into four to six days instead of being spread over seven.

Of these remedies the avoidance of stacking would achieve much the greatest results, and would save quite 8 annas per ton of coal raised.

The main fault in the organization of the industry is, however, as in England, the excessive number of separate colliery companies.[1] This entails uneconomic production, high overhead charges, difficulties with regard to transport,[2] and great inequalities of returns on capital invested.[3] Although voluntary grouping or amalgamation is unlikely to occur, it is difficult to devise means of enforcing reorganization, so it can only be hoped that the companies will in the future show greater readiness to co-operate.

Finally we come to the labour problem. The supply of labour is unstable and the output per head unduly low, despite the ease of working the shallow out-cropping mines.[4] In comparing the output per worker below ground in India with that of Great Britain, it should be noted, on the one hand, that the seams

[1] In 1923 there were 827 separate collieries in Bengal and Bihar, producing a total of 17·8 million tons of coal, or an average of 21,560 tons per colliery. This compared with sixty-nine collieries in South Africa, producing 10·6 million tons, or an average of 154,000 tons per colliery.

[2] Separate siding accommodation is required by each mine, and the large number of separate mines also necessitates a large supply of wagons for comparatively small coal loads. A system of " pooling " wagons was introduced in 1921, but is still in need of improvement. Unfortunately, colliery raisings are greatest at the same time as crops are moved.

[3] *V.* p. 235, above.

[4] The following table (*Report on the Production and Consumption of Coal in India*, 1922, p. 3) shows the output per head of workers below ground in various countries :

	Output (Tons per head)	Date
United Kingdom . . .	178	1921
France	203	1919
Belgium	193	1921
Japan	136	1921
India	162	1921

If output above and below ground is considered India comes out still worse, producing (in 1921) only ninety-four tons per head, *i.e.* less even than Japan.

worked in India are much thicker, and the distances from shaft to working face much less, but, on the other hand, that in India women as well as men work below ground.[1]

The labour supply is unstable and inefficient because the "miner" is still primarily an agriculturist, who only takes up mining casually, as an unskilled labourer, in order to supplement his other means of livelihood. His standard of comfort is so low that an increase in wages merely decreases output, as he finds that he can secure the sum desired by working fewer days per week, or weeks per year. Hence low wages, low efficiency, and a low standard of living constitute a vicious circle from which it is difficult to escape. Little can be expected from workers so miserably housed and cared for as Indian miners, but here the initiative must surely come from the colliery owners who, in the long run, would undoubtedly find it profitable to increase the amenities of life of the miners. The root trouble in the industry is that, while coal-mining has now become a scientific, and in some ways a chemical industry, India still attempts to carry it on by means of hand-shovelling and loading. What is needed is the introduction of up-to-date mechanical appliances and methods, worked by a stable body of trained and well-fed workers. Under such conditions the industry would undoubtedly be able to supply neighbouring internal markets with industrial power at a reasonable and profitable price for many years to come, even if all efforts at supplying foreign and far distant internal markets were abandoned.

The Burmese mineral-oil industry[2] is in quite a different position, and is confronted with an entirely different set of problems. Here production is concentrated (mainly in the hands of the Burmah Oil Company), and organization and methods are highly efficient and up to date. The Yengangyaung fields have been electrified, and electrification is proceeding at Singu. Both fields are connected by pipe-lines with the Burmah Oil Company's refineries at Rangoon, and the company owns tank installations at the chief Indian ports, and a fleet of tank steamers.[3]

Nearly the whole of the oil shipped is sent (mainly in the form of kerosene) to the Indian mainland,[4] where it finds a ready market,

[1] The women's work is dovetailed closely with that of the men (for instance, women carry the coal cut by men to the coal tubs on the rails), and its abolition would entail much reorganization. The introduction of better mechanical appliances should gradually do away with the need for much of the women's work. A bill to prohibit the employment of women underground has recently been introduced (*v.* chap. xii, p. 306).

[2] *V.* chap. ii, p. 26, and Fig. IV, p. 519. We have already seen that the bulk of India's output of mineral oil is produced by the Burmah Oil Company from the Yengangyaung and Singu oil-fields.

[3] *V.* V. Anstey, *Trade of the Indian Ocean*, chap. vii.

[4] In 1925–26 152,000,000 gallons of oil (mainly kerosene) were sent to the Indian mainland, whilst 8,200,000 gallons, chiefly of benzine and other light oils, together with some paraffin wax, were exported (mainly to the United Kingdom).

although it does not, and cannot, anything like satisfy the whole demand.[1] Apart from temporary troubles, such as that caused in 1928 by the import of " dumped " Soviet oil,[2] the Burmah Oil Company has been extremely prosperous, and finds no difficulty either in disposing of its product at a remunerative price[3] or in earning good dividends. The sale of dumped Soviet oil in India during 1928 led to an application for protection, but the Tariff Board concluded that no case for protection had been made out.[4] The main question is, how long will supplies last ? and this presents a problem that cannot be solved by improved organization or by lowered costs of production.

§ 3. THE IRON AND STEEL INDUSTRY

The only large-scale ironworks successfully established in India during the nineteenth century were those of the Bengal Iron and Steel Company, founded at Barakar, near Raniganj, in 1875.[5] This firm in 1903 attempted the production of steel, but abandoned the attempt within a year, having lost heavily. In 1919 it was reorganized with enlarged capital as the Bengal Iron Company. Since the war other firms have entered the field of iron production, but the really important and interesting developments that have recently taken place have been in connection with the manufacture of steel. As the latter is produced on a large scale only by the Tata Iron and Steel Company, it is really with the progress and problems of this latter company that we are now concerned.

Mr. Jamshetji Tata, whose career forms a true example of industrial romance,[6] was the founder of the Indian steel industry. After he had rebuilt the fortunes of his family's firm he brought over, at his own expense,[7] American and European experts to

In 1926–27 and 1927–28 the amount of Burmese oil sent to the mainland declined to 138,000,000 and 127,000,000 gallons, respectively, owing to the " price war " that was proceeding, which also accounted for the drop in exports to the very low figure of 2,900 gallons in 1927–28.

[1] In 1925–26 India imported 200,000,000 gallons of oil from foreign countries (as compared with 152,000,000 gallons from Burma) and 232,000,000 gallons in 1927–28.

[2] *V.* V. Anstey, *Trade of the Indian Ocean*, chap. vii. These difficulties have been due to the price war in India between the Standard Oil and the Royal Dutch Companies, but have now been overcome.

[3] As a matter of fact the company has made a good profit on selling the cheaper qualities of kerosene in India at a price considerably less than the prevailing market price. This policy has been pursued in accordance with an agreement (formed in 1905) between the company and the Indian Government, whereby a maximum selling price is fixed for certain types of oil, in the interests of the poorer Indian consumers.

[4] *Report of the Tariff Board on the Indian Oil Industry*, 1928. [5] *V.* chap. ii, § 3.

[6] *V.* Sir D. E. Wacha, *Life of Tata*, and T. Harris, *Life of J. N. Tata*.

[7] The firm spent Rs. 5,50,000 before the decision was reached that iron and steel works could be established with reasonable prospects of success.

undertake pioneer survey work in Bengal and Bihar, with the object of establishing iron and steel works on a large scale, utilizing the latest scientific methods. It was not till after his death in 1903 that his sons founded (in 1907) the Tata Iron and Steel Company Ltd., with Indian capital,[1] and began to construct works at Sakchi, a small village in Chota Nagpur some 155 miles west of Calcutta. This village was chosen as the most suitable point of assembly for all the necessary raw materials. Coal was obtained from the Jherria coalfields (115 miles distant), iron ore from the company's iron-ore works at Gurumaishini (forty-five miles distant), and dolomite, utilized as a " flux " and refractory material, from a distance of forty miles. The iron ore at Gurumaishini is cheap and of excellent quality, and contains on an average over 60 per cent. of metallic iron. It was rightly expected that the railway (which then stopped short at Kalimati,[2] two miles distant) could be extended without difficulty to Sakchi, and that the site would permit of almost unlimited extension of the works as the industry made its way. The construction of the plant was completed and production of iron began in 1911, and that of steel in January 1913. Later the name of the village was changed to " Jamshedpur " in honour of the pioneer work of Mr. Jamshetji Tata. Not only the iron and steel works, but practically the whole town of Jamshedpur belongs to the Tata Iron and Steel Company, whilst many by-industries are carried on in the neighbourhood. Excellent pig-iron has been turned out from the very beginning, and the initial difficulties in connection with the steel furnaces were quickly overcome. The Government assisted by undertaking to purchase on behalf of the State railways some 20,000 tons annually of steel rails for a period of ten years, at a price not greater than that at which similar rails could be imported, and gave a concession of 0·15 of an anna per mile on the railway freightage of all raw materials required by the works.[3] The railway was extended from Kalimati and a special station built at Jamshedpur. The works were originally designed for an output of 120,000 tons of pig-iron, and for the conversion of 85,000 tons thereof into 72,000 tons of steel. This was at a time when no less than 450,000 tons of iron and steel goods of a similar class were annually imported, so that the market for the goods was already far greater than the proposed output. During the first working period (up to November 1913) a profit of Rs. 8,58,583 was made, and about 9,000 hands, including 125 European engineers and skilled supervisors, were employed. Orders

[1] The authorized capital was Rs. 2,31,75,000. Messrs. Tata Sons, Ltd., were appointed managing agents.

[2] On the Bengal-Nagpur Railway.

[3] A similar freightage reduction was granted to all finished products dispatched for shipment from Calcutta.

were received not only from the internal markets, but also from Japan, China, Java, Ceylon, Burma, the Straits Settlements, Australia, and from South and West America.[1] In 1914, therefore, the outlook was extremely promising, and it seemed as if India might be entering on a new industrial phase which would enable her eventually to "industrialize" in the sense in which that term has been understood in the West.

During the war the company held an almost monopolistic position in the Indian market and received great encouragement from Government, although it did not reap the full monopoly profits gained by similar companies in England, owing largely to the long-term contracts at relatively low prices[2] (*i.e.* Rs. 150 per ton) that it made with Government for the supply of steel goods for war purposes. By 1916–17 the original Tata plant at Jamshedpur was in full production, and the so-called "greater extensions" were definitely projected. It was intended that the new plant should be completed by 1920–21, but unlooked-for delays occurred, owing to the extreme economic instability of the period, so that full production did not actually begin until 1925.[3] Nevertheless, the company earned fair profits up to, and including, 1920–21. Indeed, the delays themselves were due mainly to the post-war boom, which made it difficult to satisfy the world's demands for iron and steel goods, machinery and plant. Even in 1922, although it became necessary to issue additional Debenture Stock (in order to carry on until the "Greater Extensions" commenced production),[4] the outlook appeared so favourable that plans were laid for the establishment of four more steel-producing firms in India,[5] and the industry was quoted as the outstanding example of "industrialization," and of successful Indian enterprise and management. Moreover, the imposition of duties of from 10 per cent. to 15 per cent. on imported iron and steel goods (according to description) in 1922 offered a certain amount of protection to the home products, although the demand was so great that it was said that European exporters "hardly felt the competition of Indian products."[6]

Unfortunately, after 1921–22 a complete change took place in the prospects of the industry, and the new schemes mentioned above were either abandoned or suspended, as far as the produc-

[1] *Indian Year Book*, 1914, p. 495.

[2] *V.* p. 245, below.

[3] *Annual Report of the Tata Iron and Steel Company*, 1924–25.

[4] V. *First Report of the Tariff Board on Steel*, p. 8, and P. P. Pillai, *Economic Conditions in India*, p. 222.

[5] For an account of these projects, whose eventual total annual output was estimated at 1,500,000 tons of pig-iron, and 1,000,000 tons of steel, *v.* P. P. Pillai, *Economic Conditions in India*, p. 222.

[6] P. P. Pillai, *Economic Conditions in India*, p. 227.

tion of steel was concerned.[1] Briefly it may be said that the price of steel imports fell abruptly, from 1921 onwards, to a level far below the cost of production of similar articles in India.[2] In 1923 imported steel fetched only 20 to 25 per cent. more than in 1914, although the general level of prices had risen by 60 per cent. The profits of the Tata Company fell in 1921–22 to 4 per cent., and in 1922–23 no dividends could be paid except on First Preference shares, whilst in 1923–24 even the latter received no dividend.[3]

At this time the Government had just adopted the policy of "discriminating protection" recommended by the Indian Fiscal Commission, and had set up a Tariff Board to consider the claims of particular industries to protection.[4] The steel industry was the first to be investigated, and the Board was also requested to inquire into the position and needs of a number of industries that use steel as their raw material. The Tata Iron and Steel Company preferred a claim to the Board for a duty of 33⅓ per cent. on all iron and steel imported.

The Board concluded that the steel industry, and a number of industries utilizing steel as raw material, fulfilled the conditions laid down by the Fiscal Commission as entitling an industry to protection,[5] and recommended that the existing duties of 15 per cent. *ad valorem* on imported steel and 10 per cent. on steel rails and some other specified articles should be doubled, or more than doubled.[6] The basis of this recommendation was the estimate that whereas an average price of Rs. 180 per ton was necessary to enable Tata's to cover costs and provide a fair manufacturer's profit, steel was being, and likely to be, imported at an average price, apart from duties, of about Rs. 140 per ton.[7] In accordance

[1] In 1924 representatives of the Indian Iron and Steel Company and of the United Steel Corporation (two of the companies concerned) said in evidence before the Tariff Board that without protection they would be unable to raise the capital necessary for their enterprises.

[2] Before the war import prices were comparatively low. For the three pre-war years rails could be landed in India at about Rs. 105 per ton, structural sections and plates at a slightly higher price, and Continental mild steel bars at rather less (*First Tariff Board Report*, p. 23). Tata's was enabled to compete on account of the low cost of production in India at this time. During the war, and again in 1920–21, import prices ruled very high. For instance, the Bombay Baroda and Central Indian Railway paid from Rs. 340 to Rs. 350 per ton (c.i.f.) for imported structural shapes in 1920–21 (*First Tariff Board Report*, p. 23). Tata's sold steel to the Government at Rs. 150 per ton, at which price it made handsome profits, although (naturally) not so great as if it had been free to take full advantage of the market rates.

[3] *V. Annual Reports of the Tata Iron and Steel Company.*

[4] *V.* chap. xiii, p. 352.

[5] *V.* chap. xiii, p. 351.

[6] V. *Economica*, March 1925, p. 62, "A Note on the Steel Industry of India," by Dr. Slater. During the debates in the Legislative Assembly, the Swarajists made out a strong case in favour of bounties rather than protective duties, in the interests of consumers, and in order to prevent foreign firms from setting up in India behind the tariff wall.

[7] *First Report of the Tariff Board on the Steel Industry*, p. 26.

with the Board's recommendations the Steel Industry (Protection) Act, 1924, was passed, imposing protective duties of varying rates and kinds—some specific, some *ad valorem*—not only on steel ingots but also on a large number of enumerated iron and steel goods.[1] The result, in short, was the imposition of duties averaging about 33⅓ per cent. *ad valorem*, that is, practically what had been demanded by Tata's. In addition, bounties were granted on the production of steel rails,[2] fishplates, and railway wagons.[3] Power was given to the Governor-General in Council to increase the duties, by notification in the *Gazette of India*, if the price of imports should render ineffective the protection thus granted. Both duties and bounties were granted for three years, after which they were to be revised.

Tata's inability to compete with imports was partly due to increased costs of production in India,[4] and partly to the exceptionally low price of imports, owing to the great steel slump in Europe. This slump was due to the coincidence of a great and sudden decrease in the world-consumption of steel with a vast increase in steel-making [5] capacity. It seems clear that European firms were selling at a loss, which they were enabled to do by the large reserves built up during the war, so that allegations of deliberate "dumping" in India appear superfluous. No such reserves had accrued to Tata's, which only realized an average dividend of 7·05 per cent. on all classes of shares even during the first sixteen years following its establishment.[6]

Unfortunately, owing mainly to the sudden rise in the sterling value of the rupee in the summer of 1924 (*i.e.* from 1*s.* 4*d.* to 1*s.* 6*d.*), the calculations on which the above measures had been based were completely upset by a heavy and unexpected fall in the price of steel imports.[7] At this time competition from Belgian steel became especially keen, although previously the better

[1] Schedule VII of the Act, the text of which was published in the *Indian Trade Journal*, June 26, 1924.

[2] Protective duties alone would have been useless for steel rails, on account of the long-term contracts for the supply of rails at a fixed price.

[3] These bounties were in addition to protective duties for steel rails and fishplates, but no protective duties (other than those on the steel used in their construction) were imposed on railway wagons. Protection was not granted for locomotives, steel castings, and enamelled ware.

[4] *V.* p. 250, below.

[5] Productive power had increased enormously during the war in the United Kingdom, France, and Belgium (where great extensions of plant had been made), whilst in 1924 consumption, in these countries, had fallen to about two-thirds of the pre-war figure. In the United States production and consumption had increased proportionately.

[6] V. *Economica*, November 1925, "A Note on the Steel Industry of India," by Dr. Slater.

[7] When the sterling value of the rupee rose, imports could naturally be sold at a lower rupee price. V. *Economica*, March 1925, "A Note on the Steel Industry of India."

quality and more suitable specifications of British materials had caused them to be preferred, even when slightly more expensive. This proved only a temporary phenomenon, as the price of British steel soon fell also.[1]

Tata's applied to the Tariff Board for increased protection, and the latter recommended almost doubling the duties,[2] but the Government decided that a bounty on production (in addition to the existing duties) would be more appropriate and less costly.[3] Hence a bounty was granted of Rs. 20 per ton of finished steel on not more than 70 per cent. of the monthly ingot steel production, payable up till September 30, 1925.

In June 1925 the Tariff Board was requested to review the question again, before the expiry of the bounty on September 30. It recommended that the bounty should be renewed at the rate of Rs. 18 per ton on 70 per cent. of the total ingot production, subject to a limit of Rs. 90 lakhs, up to March 1927.[4] The Government, however, only granted a bounty of Rs. 12 per ton, with a maximum liability of Rs. 60 lakhs, which appears to have been calculated to save the Company from failure, but to stimulate reorganization. It was felt that a higher bounty would protect the monopoly and shareholders of the company at an undue expense to the tax-payer.

Actually the autumn of 1924 proved the worst period in the history of the company,[5] and towards the end of 1925 there were signs that both Indian and world demand for steel had begun to increase, and conditions of production to improve, whilst stocks had ceased to accumulate in Europe.

Considerable economies in working costs had been achieved, the production of pig-iron, steel ingots and finished steel had all increased, and the "greater extensions" were in full operation, by the time the Tariff Board reconsidered (in the autumn of 1926) the whole question of the protection of the steel industry, in view of the expiry in March 1927 of the Act of 1924.

The report, published in January 1927, concluded that in spite of the improvements effected, and on the assumption that

[1] On this point v. *Report of the Tariff Board of September*, 1925, p. 6. For changes in the relative importance of sources of import of steel v. *Annual Reviews of the Trade of India*, 1923–24 *et seq.*

[2] *Report of the Tariff Board regarding the Increase of Duties on Steel*, October 1924.

[3] A higher duty would have hit consumers of steel very hard, and would have seriously checked consumption as well as imports. The funds for the payment of the bounties were provided by the revenue obtained from the increased import duties.

[4] *I.e.* when the whole question of protection for steel was due for reconsideration. V. *Indian Trade Journal*, September 3, 1925, and the *Report of the Indian Tariff Board regarding the Grant of Supplementary Protection to the Steel Industry*, September 1925.

[5] *V. Annaal Reports of the Tata Iron and Steel Company.*

the price of imports would remain for some years at about the same level, the company would not be able to compete with imports without some assistance. The proposals of the Board for a modified form of protection, to remain in force for seven years, were accepted with minor modifications, by the Legislature and passed into law in 1927. According to this Act basic duties, varying according to the precise nature of the goods, with—in some cases—an additional duty on steel of non-British origin,[1] have been imposed on imported steel, for a period of seven years. The basic duties are, in almost all cases, lower than the duties in force between 1924 and 1927, but, in many instances, the additional duty on non-British steel brings up the total for Continental steel to a higher level than before. The basic duties may not be lowered, without the consent of the Legislature,[2] but may be raised, and the additional duties can be altered (in either direction), by order of the Governor-General in Council. At the same time the duty (of Rs. 85 per ton) on imported tinplates was reduced to one of Rs. 48 per ton, to remain in force for seven years. Thus the steel industry has been assured of assistance for some years, the tax-payer has been relieved of providing funds for bounties, and the principle of preference to British goods has been introduced. The Tata Iron and Steel Company, for its part, undertook to make further extensions of plant that would secure a larger output of steel at greatly reduced prices. This scheme should be completed in five or six years.[3]

We must now consider in rather more detail the question of the cost of production of steel in India, and whether the industry will eventually be able to compete with imports without assistance.

In the first place it must be understood that the production of steel from iron ore consists of two main stages : first, the production of pig-iron and, second, the conversion of pig-iron into steel ingots and finished steel.[4]

The fundamental factors affecting the first stage of production are the quality and quantity of the available supplies of raw materials, their cost of assembly, and the wages bill. Up to about 1916 India was extraordinarily favourably placed for the

[1] This was because, although the price of British steel had been fairly stable, that of Continental steel had fluctuated considerably, owing to depreciation of exchanges and alleged dumping.

[2] That is, they may not be lowered unless another inquiry is held and further legislation is passed, before 1934. Although the duties have been imposed for seven years, power to order an inquiry before that date, if desirable, has been given to the Governor-General in Council (*Moral and Material Progress of India*, 1926–27, p. 72).

[3] *Annual Report of the Tata Iron and Steel Company*, 1927–28, p. 5.

[4] A short account of the processes utilized at Jamshedpur is given in Appendix F, p. 505.

production of pig-iron. She possessed, or could easily obtain, plentiful cheap supplies of all the necessary raw materials,[1] and her wages bill—though high in certain respects [2]—was not excessive. Between 1916–17 and 1921–22 the cost of production of pig-iron at Jamshedpur increased 86 per cent., *i.e.* from Rs. 18·54 per ton to Rs. 34·47 per ton, owing to the rise in the price of coal (which accounted for more than 50 per cent. of the total increase in the cost of pig-iron), an increase of 40 to 50 per cent. in wages at Jamshedpur, a rather slighter increase in wages at the ore mines and limestone quarries, and a general increase in the price of all purchased materials and consumable stores. Costs rose to an apex of Rs. 36 per ton in 1923–24, since when they have fallen to Rs. 25 per ton (in 1926).

In spite of the rise in costs, India still has a comparative advantage at this stage of production. It was estimated in 1921 (when costs were not far from their peak) that the cost of assembly of the raw materials necessary for producing one ton of pig-iron in India was less than half of the cost in America, the North of England, or South Wales,[3] and that pig-iron could be produced and placed on board ship in Calcutta at little more than half the English price.[4] Even though English and Continental prices have fallen heavily since this date we are justified in concluding that India still is and will long remain the cheapest producer of pig-iron in the world. Throughout the recent years of depression, Tata's has never failed to make a handsome annual profit on the sale and export of its surplus pig-iron.[5]

The initial advantage gained during the first stage of production is lost during the second stage, *i.e.* the conversion of pig-iron into finished steel. Before 1916 Indian steel could be placed on the market at competitive prices. Since then total costs have greatly increased, whilst the price of imports has declined.

[1] *V.* p. 243, above. The question of the supply of the necessary raw materials was considered at length by the Tariff Board (v. Annexure to the *First Report of the Tariff Board*). The Tata Iron and Steel Company purchases about 50 per cent. of its coal, obtaining the rest from its own mines. India is at no comparative disadvantage as regards fluxes and refractory materials, and has excellent supplies of manganese, the most important modifying agent. The Tariff Board, at the time of its first inquiry, concluded that the industry's position with regard to raw materials was sufficiently advantageous to enable it to be said that the industry had "natural advantages." The short haul for iron-ore and coal, in comparison with distances in, for instance, America, is an outstanding advantage.

[2] *V.* p. 251, below.

[3] *Asiatic Review*, October 1921, "The Iron and Steel Position in India," by Glen George.

[4] *Ibid.*

[5] Nearly 200,000 tons of pig-iron are normally annually exported from India (in addition to the annual home consumption of over 300,000 tons per annum), chiefly to Japan (which takes over 50 per cent. of India's exports, although she obtains still larger quantities from China and South Manchuria) and the west coast of America. In 1913–14 only 42,000 tons of pig-iron were exported (*Report of the Tariff Board*, September 1925, p. 29).

The slump in the price of imported steel has now been checked,[1] but there is little reason to expect any rise in the near future. What we have to consider is whether it will be possible to produce steel in India at competitive prices, without assistance, in the near future.

The cost of production of steel at Jamshedpur increased up to 1925, since when it has slightly declined, owing to a reduction in several items of works costs, but overhead charges still remain excessive.

Works costs increased after 1916, owing to the rise in the cost of producing pig-iron (although the latter is still relatively cheap) and to the rise in the cost of coal materials, stores, and labour utilized for the conversion of pig-iron into steel.

Between 1916 and 1925 Tata's had to pay progressively higher prices for its purchased coal,[2] partly on account of the decline in the output of coal (after 1919), partly because long-term contracts were entered into, whereby Tata's undertook to pay a price that depended on the price paid for coal by the Railway Board. The Railway Board's contracts for coal proved disadvantageous, so that Tata's was obliged to pay more than the market price for its coal. These contracts ended in 1925, since when the cost of coal at Jamshedpur has fallen (to Rs. 7 per ton in 1926–27), and although it is higher than before the war, it is less than in other steel-producing countries.[3]

The cost of purchased materials and stores has risen since 1916 in India, as elsewhere, but not more than in competing countries. On the whole, therefore, the Indian steel industry is still at a relative advantage as regards raw materials (including pig-iron), although that advantage is less than it was before the war.

The supply and cost of labour are more serious matters, and here there have been both temporary and permanent difficulties. Amongst temporary disadvantages may be included the strikes and labour troubles from which the Tata Company, like most other employers of labour, has suffered from time to time, and considerable initial expenses due to the necessity of creating a supply of suitable labour.

In the future Tata's ought to escape with less trouble than most other employers,[4] owing to the strenuous attempts that have

[1] According to the *Statutory Enquiry into the Steel Industry* (p. 98) any further decline in the price of British steel is unlikely, but Continental prices are very uncertain. A decline in the latter can be countered under the Act of 1927, by raising the differential duties on non-British steel.

[2] The cost of its own coal has not risen appreciably.

[3] *Coal Supplement to the Indian Trade Journal*, December 23, 1926.

[4] There has recently (1928) been a serious strike at Jamshedpur owing to what must be considered the unreasonable attitude of the operatives, but work has now been resumed (*Times*, May 26, 1928).

been made to conciliate labour, and improve the conditions of life and work of the operatives. The excellent work of the company in undertaking the development and sanitation of the town of Jamshedpur, providing houses, hospitals, and schools for the people, and encouraging co-operative societies, should eventually help to produce a permanent labour supply of a higher degree of efficiency than has yet been attained in India.[1]

Expenses have been incurred by the company owing to the need of employing, at first, a large number of imported workers of the technical and supervisory class, and of providing an expensive institute for the training of Indian technicians.[2] Also, when the new plant was first put into operation more labour had to be taken on and trained than could at first be fully and efficiently employed.[3] Costs due to these causes have already begun to decline, and should fall further in the future, although it will be long before the services of imported technicians can be entirely dispensed with.[4]

Amongst the more permanent disadvantages with regard to labour must be included not only the difficulty of obtaining sufficient suitable Indian technicians and managers, but the relative inefficiency of the semi-skilled and unskilled labourers.

In the past the relative inefficiency of the manual labourers has necessitated the employment of a much larger labour force than in Western countries, in proportion to output. It has been suggested that the deficiencies of the manual labourers should be more than counterbalanced by the extremely low level of wages, in comparison with the West. Probably the large numbers of labourers employed in proportion to output is mainly due (as in the cotton industry) to the type of organization adopted (because of the relative cheapness of labour as compared with machinery), rather than to inefficiency in relation to wages. Climatic

[1] The *Statutory Enquiry* of 1926 says that "The Tata Iron and Steel Company, unlike other industrial enterprises in India, has succeeded in settling a fairly stable labour population in close proximity to the works, and this we believe in part to be the result of the great attention that has been paid to the welfare of the workmen" (p. 76). The policy of an 8-hour day has been adopted since 1921. Even the *Bombay Chronicle* admitted that "the treatment of labour shows signs of improvement. The recognition of the Union and the reinstatement of victimised leaders at the time of Mahatma Gandhi's visit have helped to conciliate public opinion."

[2] *V.* chap. ix, p. 214. The company maintains the Jamshedpur Technical Institute for training Indians for the higher technical and managerial posts, and a number of men have already completed their training.

[3] A temporary disturbance was also caused by the internment during the war of a number of German technicians employed by the company, which was however subsequently able to fill their places with British and Americans of the required ability, and stated that it had been perfectly satisfied with its new staff.

[4] It is estimated that trained Indians, when obtainable at all, can be engaged at one-third the price of imported technicians. The employment of imported technicians has been calculated to involve an extra cost of Rs. 2 per ton (in 1921) of finished steel produced. (*First Report of the Tariff Board*, p. 33.)

disadvantages must also be taken into consideration. In the future Tata's should be able both to increase the efficiency of their staff, and to adopt labour-saving devices. It has been suggested that even at the present time the labour force could be reduced without affecting output adversely.[1]

It is a hopeful fact that works costs have already been reduced more than was anticipated.[2] The Tariff Board, in its first report, concluded that, on the whole, the works costs of Tata's were reasonable, although the obsolete nature of some of the original plant served to increase the average cost of production.

The position with regard to capital costs is far less satisfactory.[3] These are bound to be relatively high, owing to the dearness of capital in India, and the necessity of importing plant and machinery, but the extremely unfortunate conditions under which the greater extensions were carried out, and the failure to achieve the estimated output of steel, have greatly aggravated the problem.

Undoubtedly the company is over-capitalized, partly owing to the delay in the construction of the greater extensions, and partly because those extensions were made at tiptop prices. Unfortunately financial reconstruction to be effective must involve devaluation of the preferred share capital, as the Tata Company has a very small proportion of ordinary and deferred to preferred shares[4]; but the preferred shareholders, when appealed to in 1925, did not accept revaluation.[5]

The rise in prices and money rates in India, and the delay in the construction of the extensions, also necessarily increased interest and depreciation charges. On the other hand, the expenses of the Bombay head offices have not appreciably altered, whilst the managing agents' commission sank to a minimum during the depression, as (apart from a small fee for office expenses) it depends on profits.

One of the principal reasons why capital charges remain exces-

[1] *Statutory Enquiry*, 1926, p. 24.

[2] The Tariff Board estimated that works costs would be reduced to about Rs. 157·3 per ton by 1926–27. Actually they were reduced to Rs. 98·4 in 1926 (Appendix F, p. 505), and still further in 1927–28 (*Annual Report of the Tata Iron and Steel Company*, 1927–28, p. 5).

[3] In the table in Appendix F, p. 505, capital costs are divided into overhead charges and manufacturers' profits. The former include interest on account of working capital obtained by loans, the Bombay Head Office expenses, the managing agents' commission, and depreciation. Manufacturers' profits include all charges on capital other than working capital. Tata's liabilities in 1921–22 on ordinary, deferred, and preference shares worked out at an average of 8·2 per cent., and the Tariff Board concluded that it was unlikely that any other company would have raised capital more cheaply.

[4] V. *Annual Report of the Tata Iron and Steel Company.*

[5] For a table of the dividends paid since the founding of the company, v. *Applications received by the Indian Tariff Board from the Tata Iron and Steel Company*, 1926, p. 114.

sive is that the estimated output of steel has not yet been obtained, although the greater extensions have been in full operation since 1925.[1] There has thus been a large surplus of pig-iron to be sold (which entails lower prices for the same), whilst the incidence of capital charges per ton of steel is raised. The chief reason for the low output of steel is that the new Duplex Plant has not fulfilled expectations. It is possible that the installation of a third tilting furnace might rectify this defect, but the question is a highly technical one and the efficacy of this proposal is doubtful. The newer open-hearth furnaces have given a very satisfactory output, but the original ones are now expensive to operate and should eventually be scrapped. Another possible economy would be a reduction in the quantity of coal used to produce one ton of finished steel. The "Statutory Enquiry" suggests a reduction from over four tons (as at present) to about three tons.[2]

Some critics have suggested that a partial explanation of the high costs of production may be found in the suggestion that the Managing Agent system is unsuitable for so great an enterprise, and one of such a special character. It is urged in reply that in this case identity of interests is secured by the dependence upon profits of the commission earned by the Managing Agency.[3] Nevertheless, the fact that the shareholders are in practice deprived of any effective voice in the management of the company by the Managing Agent system, may tend to make them unwilling to make sacrifices for the company, as (for instance) when they refused the directors' appeal to put more money into the concern.

There seems no reason to suppose that the company has been badly served as regards management. The fact that all the other projects for producing steel in India have been abandoned, tends to show that bad management has not been an important factor in the situation.

In conclusion, it can be said that there seems every reason to hope that, in the future, the industry may be able to stand alone. High capital costs and problems concerned with the organization, supervision, and training of labour stand out as the permanent problems that have to be faced, and it may be said that they reappear in connection with most of India's large-scale industries, noticeably in connection with the engineering and other industries subsidiary to the steel industry. Government aid is still

[1] The works were designed to produce 610,000 tons of pig-iron and 570,000 tons of steel ingots (the equivalent of 420,000 tons of finished steel) per annum. Actually, in 1927–28, 644,296 tons of pig-iron, 599,563 tons of steel ingots, and 408,343 tons of finished steel were produced. (*V.* Appendix F, p. 505.) Large quantities of finished steel are still imported: *e.g.* 1,197,000 tons in 1927–28.

[2] *Statutory Enquiry*, p. 27.

[3] Recently the managing agents (Tata Sons, Ltd.) have merely received the agreed-upon minimum commission of Rs. 50,000 per annum. *V. Annual Reports of the Tata Iron and Steel Company.*

necessary,[1] and it is certainly justified by the fact that the various Tata enterprises have been the outstanding example of the establishment of modern industrial concerns with Indian capital under Indian management, and hence that the failure of one of the most important branches would be a great blow to the spirit of enterprise in India. The Iron and Steel Company has been much in the public eye. Lack of success would be a humiliation and would cast doubt upon the prospects of all the other Tata concerns and thereby shake public confidence. The pioneer work of Mr. J. N. Tata and of his firm certainly deserves the benefit of the doubt (if there is any) and the Iron and Steel Company should undoubtedly be given every assistance to weather the storm.

§ 4. THE ENGINEERING AND ALLIED INDUSTRIES

In discussing the steel industry incidental mention has been made of the fact that in 1924 protection was extended to the products of a number of industries utilizing steel as raw material.[2]

It is difficult to classify these industries. The Tariff Board used the term " Engineering " to denote a large number of miscellaneous metal industries, some of which utilize other raw materials than iron and steel, whilst it classed separately certain other industries, utilizing steel as raw material, which it found convenient to treat individually.[3] It is clear from the Board's investigations that the only long-established and extensive industry out of this whole list was, and still is, what is called the " Engineering Industry," that this latter comprises a large number of firms, most of which produce a great variety of goods, and that there has recently been a notable extension of the type of goods produced.

During the second half of the nineteenth century India's growing engineering industry centred upon the railways, and was concerned mainly with railway repairs.[4] Towards the end of the

[1] *I.e.* if the production of steel is to continue. Left without assistance, the firm might concentrate on the profitable business of pig-iron production, in which it would assuredly be successful. The *Statutory Enquiry* concluded that by 1933–34 protection should no longer be necessary against British steel (p. 99).

[2] *V.* p. 246, above.

[3] *V.* the first three reports of the Tariff Board, which investigated conditions in the following industries: " rolled steel and structural shapes, engineering, wagon-building, tinplate, wire and wire-nails, agricultural implements, railway locomotives, steel castings and enamelled ware." In the first report the Board gives a long list of the products of what it calls the " engineering " industry, which forms a useful guide to the most important branches of this industry in India. Most of the firms concerned are associated in the Indian Engineering Association, which represents a total capital of Rs. 12 crores.

[4] *Report of the Industrial Commission*, p. 25. The largest railway workshops to-day are those of the East Indian Railway Company (at Jamalpur), the Great Indian Peninsula Railway Company (at Bombay), and of the North Western Railway Company (at Lahore).

century workshops were also established in response to the needs of the jute, tea, coal, cotton, and other large-scale industries, and of the Public Works Department (for irrigation, building, and bridge-making purposes, etc.). Still more recently the Jamshedpur Steel Works have stimulated the establishment (in their neighbourhood) of a number of industries, utilizing Indian steel for the manufacture of implements, machines, and other metal goods previously not at all, or not to any appreciable extent, manufactured in India,[1] and the Government has established ordnance factories, which (like the railway workshops) provide a very valuable training in engineering for artisans.[2] In 1921 railway workshops employed some 112,000 persons, and other metal engineering workshops 82,000.[3]

The engineering and other metal industries train artisans, act as markets for the products of the Tata Steel Works, and find widespread, ready-made markets for their products, at their very doors. In many cases their prosperity is closely interdependent with that of the Indian steel industry, and the Tariff Board concluded that, as a rule, their claim for protection rested upon the same facts and arguments as that of the steel industry. Hence, as we have already seen,[4] protective duties have been extended to a large number of their products. No protection was granted to certain branches of industry, such as locomotive building, steel castings and enamelled ware, as these showed little promise of becoming firmly established in the near future. Protection was also refused for agricultural implements, as it was felt that the higher prices involved would impose an unjustifiable burden on agriculturists. In several cases (such as the tinplate industry)[5] protective duties were imposed, although it was admitted that ultimate success is doubtful.

[1] Many of these are financially connected with Tata Sons, Ltd.

[2] Ordnance factories, each employing several thousand men, have been established at Cossipur, Ishapur, Dum-Dum, Kirkee, and Jubbulpore (*Report of the Industrial Commission*, p. 26).

[3] *V.* Table VII, p. 523. In 1903 (the first year for which comparable figures are available) there were only seventy engineering works of all descriptions, employing 52,000 men. A scheme for reorganizing the State Railway Workshops, in accordance with the recommendations of the State Railway Workshops Committee of 1925–26, is at present being undertaken (*Moral and Material Progress of India*, 1927–28, p. 175).

[4] *V.* p. 246, above.

[5] The war-time shortage of imported provisions and stores stimulated the internal production of canned goods, such as jam, and hence increased the demand for tinplate, which was also badly needed for kerosene oil. The Burmah Oil and Tata Iron and Steel Companies formed a new company for the production of tinplate, of which they held all the shares. Unfortunately at present the quality of both the tinplate and the preserves tends to be inferior, and there are special difficulties connected with the production of tinplate in India. For instance, it was found necessary to introduce eighty to ninety Welsh tinplate workers (in 1925) to start the work and train Indian labourers. (*Report of the Statutory Enquiry into the Steel Industry*, 1926, chap. xiii.)

Many of these industries are at present adversely affected by three factors: high capital costs, the difficulty of obtaining an efficient labour force, and the fact that more extensive production started in India just before the world-wide crash in prices, and consequent cut-throat competition. Obviously rapid progress cannot be expected in the newer branches, and India will have to be content to develop them gradually. Few of these newer industries can hope to satisfy the Indian market for many years to come, so that to protect them adequately would place a heavy burden of higher prices on consumers.

§ 5. THE CHEMICAL INDUSTRIES

India is well endowed for the development of large-scale chemical industries, as regards both raw materials and markets,[1] and (according to the survey made by the Indian Munitions Board) she may hope eventually to produce successfully various types of mineral acids, alkalis, coal-tar products, vegetable and essential oils, alkaloids, natural dyes, disinfectants, antiseptics, fertilizers, etc.[2]

In spite of these vast potentialities only a few "heavy" chemicals and some simple drugs and extracts were manufactured in India before the war.[3] During the war considerable advance was made, and quite a large number of chemicals were manufactured on a commercial scale for the first time.[4] Eleven types of acid (including sulphuric and nitric acid), commercial alcohol, many types of alum compounds, bleaching powder, borax, calcium compounds, coal-tar and many magnesium, potassium, sodium, and zinc compounds, etc., are now produced in India,[5] but in almost all cases production is still on an experimental scale. The fundamental problems are those of obtaining cheap and efficient fuel, and the need of developing contemporaneously a large group of industries, *i.e.* the "heavy" chemicals as raw materials for the other chemicals, the other chemicals as markets for the "heavy" chemicals, and the manufacture of chemical plant and machinery. In the absence of one or more of the necessary connecting links it is difficult to produce any one article on a commercial scale at a competitive price, whilst dumping is to be feared if isolated, unprotected industries are founded.[6] The nature of these problems can best be realized by considering the outlook in one or two of the more important branches.

[1] *Report of the Industrial Commission.* [2] *Munitions Handbook*, 1919.
[3] *Report of the Industrial Commission*, p. 53.
[4] Including caustic soda, magnesium chloride, red lead, thymol, sandalwood oil, and zinc chloride.
[5] *V.* the list of chemicals in the *Bulletin of Indian Industries and Labour*, No. 21. [6] *Munitions Handbook*, p. 61.

Sulphuric acid lies at the basis of all chemical production and of many industrial processes. Some 18,000 tons were manufactured, and 2,000 to 3,000 tons imported, by India in 1919, as compared with 7,000,000 tons produced in the United States in 1917.[1] Until recently sulphuric acid has been produced in India by burning sulphur imported from Sicily or Japan—an expensive proposition.[2] The Munitions Board, however, reported that the future of the industry in India was promising "as it has been decided to work up, at Singhbhum, the Burmese zinc concentrates for the production of spelter (commercial zinc). These concentrates consist largely of zinc sulphide, and when roasted produce sulphur dioxide, which can be used for the production of sulphuric acid in the ordinary lead chamber." [3] Here, then, is an instance in which the profitable production of one chemical is clearly dependent upon the establishment of another quite separate chemical industry.

Sodium carbonate and caustic soda may be considered, for industrial purposes, as second in importance only to sulphuric acid. They are essential for many industries, including soap, glass, dye-works, coal-tar, and oil refining.[4] Sodium carbonate might be produced in India either by the Leblanc process, which presupposes a large supply of cheap sulphuric acid; by the ammonia soda process, which utilizes ammonia, salt, and carbon dioxide; or by the electrolytic processes. Caustic soda could be produced from sodium carbonate, or by electrolysis. "Two important by-products are obtained when the electrolytic method is used, viz. hydrogen and chlorine. For the establishment of this industry in India cheap current is an essential and the cost of the main product, caustic soda, could only be reduced to a figure comparable with the selling price of the imported article by making use of the by-products." [5] In these two cases, therefore, successful production depends upon the simultaneous establishment of basic and by-industries, or upon progress in electrical development.

The increasing world-demand for vegetable oils has already been mentioned, and we have seen that India has hitherto exported a large proportion of raw oilseeds in comparison with the finished products—*i.e.* refined oils and oilcake. Much attention has recently been devoted to the problem of how to make India into an oil and oilcake producing [6] and an oil exporting, rather than

[1] *Munitions Handbook*, p. 62.

[2] Note the recommendation of the Tariff Board, adopted by the Government, to remit the import duty on sulphur (*v.* chap. xiii, p. 353).

[3] *Munitions Handbook*, p. 63.

[4] *Ibid.*, p. 69.

[5] *Ibid.*, p. 78.

[6] One of the main reasons for crushing the seeds in India is in order to retain the oilcake in the country as cattle food and manure.

an oilseed exporting, country.[1] The difficulties are (1) that raw materials are admitted free by most countries, whereas a duty is imposed on finished products; (2) the freight on seeds is lower than on oil, as the former are easy to handle and are carried in bulk; (3) the area under oilseeds throughout the world has increased rapidly since the war, and unless demand increases still more rapidly a fall in oil prices may be expected; (4) at present a large proportion of the oil manufactured in India contains an excess of fatty acids, and is therefore liable to become rancid and unsuitable for many industrial purposes.[2] Improved methods of preparation are essential if Indian oils are to find an export market. The adoption of the "solvent process" of extraction, improved methods of refining the oils, the utilization of by-products and the manufacture of a substitute for "ghi" from vegetable oils, have been put forward as possible remedies.[3]

Cotton-seed oil is at present largely wasted in India, in spite of the large area under cotton, which would yield some 200,000 tons of oil were it fully utilized.[4] In America it is subjected to a number of processes which produce edible oil, butter substitutes, low grades of oil used in the manufacture of soap, and cattle food. In India it is often fed direct to cattle, and as the latter cannot utilize the whole of the oil contents, much of the oil is entirely wasted.

One important by-industry of the vegetable oil industry is the manufacture of soap.

The manufacture on a small scale, and according to primitive methods, of very inferior soap has long been carried on in India. Recently the attempt has been made to improve the quality of soap produced, and to introduce modern methods of production. Considerable expansion has occurred since the outbreak of war, but it is questionable whether Indian soap will be able to hold its own in the face of post-war competition.

The Munitions Board concluded that the possibility of building up a really large-scale soap industry, which might perhaps export as well as supply the home market, depended upon the solution of a number of problems which at present confront all the various oil and fat industries in India. If oil-pressing, the production of edible oils and fats, the manufacture of candles, paint and varnishes can be developed, and if a market can be found in India for oilcake, and for the glycerine which is a by-product of the soap industry, then the latter has every prospect of a brilliant future. In many ways India has great advantages for the production of soap: *e.g.* the presence of vegetable oils and fats,

[1] V. *Indian Trade Journal*, September 15, 1927, "Oil Mills in the Bombay Presidency," and February 9, 1928, "Oil Industry in the Madras Presidency."
[2] *Munitions Handbook*, pp. 83, 84. [3] *Ibid.*, p. 85. [4] *Ibid.*, p. 86.

suitable labour, relatively cheap land, low taxation, plentiful markets and a 7½ per cent. duty on imported soap. In addition she can readily suit her customers, some of whom object to using animal fats in any form. Her chief disadvantages are the absence of instructed soap-makers (*i.e.*, chemists, foremen, and artisans), scarcity of capital, and the absence of allied industries such as box and barrel making. Industrial training and by-industries appear to be the fundamental prerequisites.

The successful manufacture of disinfectants in India depends largely on the future price of basic substances, such as sulphuric acid, and on the development of allied industries, such as the coal-tar industry. The manufacture of fertilizers (such as oilcake) and their sale, on the other hand, depends on the realization of the importance of the use of fertilizers by the Indian ryot, and on his power to purchase them when he has realized their value. At present considerable quantities of bones, ammonium sulphate, and other fertilizers are annually exported from India, in spite of the urgent need to restore and reinforce the fertility of Indian soil. Similar problems arise in connection with the manufacture of the various minor chemical products, but need not be considered in detail.

In conclusion, it can simply be said that the far-reaching development of chemical industries in India can only be attained by establishing simultaneously a number of closely related industries which are mutually dependent for raw materials and markets, and (if necessary) protecting them during their early years.

From this short account some idea can be gained of the interdependence of the chemical industries, of the need for a more plentiful and cheaper source of industrial power, and of the very great scope and variety of the industries which to-day are classed under the heading " chemical." Just as the late eighteenth and nineteenth centuries might be called the age of engineering, the present may be called the age of chemistry. In order to produce efficiently, it no longer suffices to have a strong and skilful hand, deft fingers, and an artistic eye. Production must be planned and conducted scientifically, and those who take part in it must have a scientific training. Before the Indian industrial worker has even become accustomed to machinery and mass production, he is expected to go one step further and take part in chemical production. Meanwhile his education has been neglected and his artistic sense destroyed. He no longer cares, nor does it pay him, to produce beautiful fabrics and artistic metal work, and he is unable to take part on equal terms in modern scientific production. Yet his inherent skill and adaptability remain, and the problem is how to put into execution his latent ability and powers.

CHAPTER XI

INDIA'S LARGE-SCALE INDUSTRIES (*Continued*)

§ 1. THE COTTON-MILL INDUSTRY, p. 260.
The rise and development of the cotton-mill industry—The recent depression and the demand for protection—Changes since 1914 with regard to the production and sale of yarn and piece-goods—Causes of the present depression: world-wide, peculiar to India, and peculiar to Bombay—The recommendations of the Tariff Board, and the action taken by Government—Conclusions.

§ 2. THE JUTE INDUSTRY, p. 279.
The rise, expansion, and organization of the jute industry—The labour problem, and the problem due to fluctuations in prices, production, and demand—The outlook.

§ 3. THE MINOR TEXTILE INDUSTRIES, p. 282.
The development and organization of the woollen and silk industries.

§ 4. PLANTATION INDUSTRIES, p. 285.
The rise and present position of the tea industry—The rise and decline of coffee-planting—The rubber, cinchona, and indigo industries.

§ 5. MISCELLANEOUS LARGE-SCALE INDUSTRIES, p. 289.
Other industries for which factories or large-scale works have been established—Rice and flour mills; sugar-refining; cotton-ginning and cotton and jute pressing; tanneries and leather works; the manufacture of shellac; "key" industries; the artificial silk industry; the match, paper, cement, and other minor industries; bicycle and motor construction —Conclusions.

§ 1. THE COTTON-MILL INDUSTRY

THE history of the rise and development of the Indian cotton-mill industry is an oft-told tale, of which only the bare outline need here be recalled. The first successful mill was started in Bombay in 1853,[1] but rapid expansion did not occur until the last quarter of the nineteenth century.[2] The famous "Empress Mill," established in Nagpur by Mr. J. N. Tata, started work in 1887, and

[1] Several earlier, but unsuccessful, attempts had been made at establishing cotton mills in India, about which little information is available (*v.* K. B. Bharucha, *A History of the Cotton-Mill Industry in Western India*; in the Press). Apparently failure was due mainly to the high cost of transport before the railway era.

[2] The high price of raw cotton during the American Civil War paralysed the few existing Indian mills, and the subsequent financial crisis in Bombay retarded the development of the industry for some years.

was followed speedily by the erection of mills in many other parts of India, as well as the Bombay Presidency. Ahmedabad and Sholapur are now essentially cotton manufacturing towns, Madras has important mills, and up-to-date factories are found in most large centres of population within reach of supplies of raw cotton, although about three-quarters of the mill output of the whole of

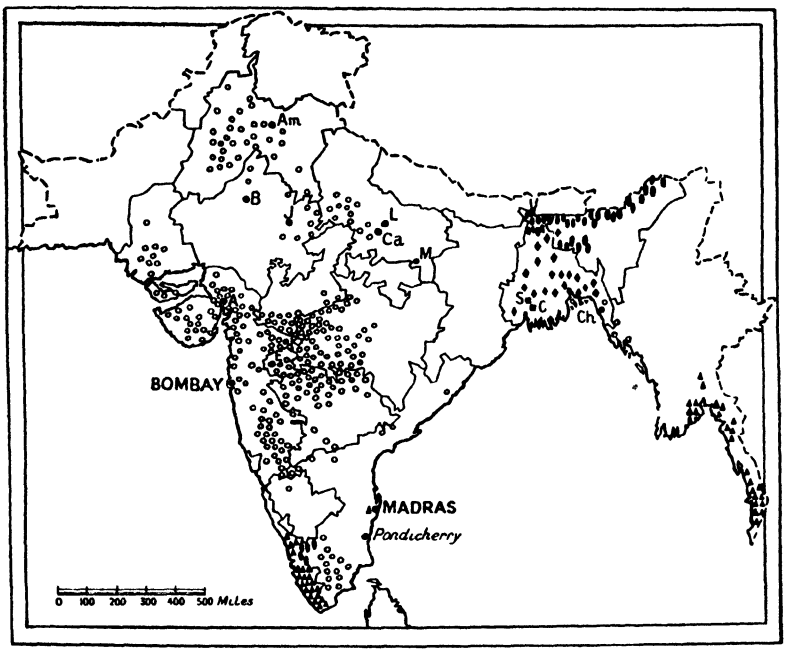


FIG. V. India: Textile and Plantation Production.

Key to Fig. V.

○ = 20,000 bales Cotton.
◆ = 500,000 bales Jute.
▲ = 500,000 lb. Rubber.
● = 10,000,000 lb. Tea.
⬤ = Cotton-Manufacturing Centres.
■ = Jute-Manufacturing Centres.

A = Ahmedabad.
Am = Amritsar.
B = Bikaner.
C = Calcutta.
Ca = Cawnpore.
Ch = Chittagong.
E = Ellora.
J = Jaipur.
L = Lucknow.
M = Mirzapur.
S = Serampur.

India is still produced in the Bombay Presidency.[1] From the beginning the industry was financed and controlled mainly by Indians, including a large number of Parsees, although European managers were often employed. It progressed rapidly from the eighteen-eighties onwards, in spite of the removal of all duties on cotton imports between 1882 and 1894,[2] temporary set-backs due

[1] *V.* Table XIV, p. 530, fig. V, above, and chap. ii, § 4.

[2] Between 1859 and 1882 imported cotton piece-goods paid 5 per cent. and yarn 3½ per cent., but fear of competition from Indian mills led to a great agitation in Lancashire, which resulted in the removal of practically all India's import duties between 1882 and 1894. *V.* chap. xiii, p. 345.

to plague and drought at the end of the century, and the rise of Japanese competition in India's foreign markets early in the twentieth century.[1] The products of the Indian mills wedged themselves between the imported and hand-made goods, obtaining a practical monopoly in the intermediate grades. Thus the better quality mill goods competed with imports, and the inferior types with hand-products. Hand-weavers retained a monopoly in certain types of goods, which involved individual and complicated patterns, as well as in the very coarsest and cheapest types. By 1914 India had become the fourth greatest cotton manufacturing country in the world.[2]

During the war the industry experienced unparalleled prosperity, on account of the impossibility of obtaining normal imports from Lancashire,[3] but, owing to the difficulty of obtaining machinery and plant, few mills were constructed. Existing mills worked at top speed and obtained high profits.

Even after 1918 prosperity continued, and in 1920 a " boom " took place, bringing in average profits of nearly 30 per cent.[4] The world-wide commercial crisis of 1920–21 caused a glut of imported piece-goods at the ports, owing to a great fall in prices, but, although Indian products were affected indirectly, it was several years before the general depression affected the Indian industry seriously.[5]

[1] Early in the twentieth century Japanese ousted Indian yarn from the Japanese market, and a few years later began to oust it from the Chinese market also. Modern cotton mills were first erected in Japan in 1867; raw cotton was first exported from India to Japan in 1889; and the rapid development of the Japanese industry dates from about 1894. (V. *Survey of Textile Industries*, p. 104 (Report of the Committee on Industry and Trade), and *Times*, August 31, 1928.) Moreover the development of China's own cotton-mill industry, and the uncertainty of trade with China (partly due to fluctuations in exchange), also tended to close the China market to Indian goods. At this time, however, any loss in the export trade was more than counterbalanced by the expansion of the home market. The change in markets was accompanied by a relative increase in the production of finer yarns, and in weaving as compared with spinning in India.

[2] It is difficult to obtain a fair basis for such ranking. This estimate is based on the approximate percentage of the world's mill consumption of cotton by weight. On the same basis the average for the years 1925–26 and 1926–27 was as follows: U.S.A., 28·7 per cent.; Great Britain, 13·0 per cent.; Japan, 10·3 per cent.; India, 7·9 per cent.; and Germany, 5·4 per cent. But this belittles the industries of countries utilizing the finer qualities of cotton. According to the latest available returns (varying for different countries between 1923 and 1927) Great Britain possesses 35·0 per cent. of the world's spindles and 25·3 per cent. of the world's looms; U.S.A., 22·7 per cent. and 24·5 per cent.; Germany, 6·6 per cent. and 7·7 per cent.; France, 5·8 per cent. and 5·8 per cent.; India, 5·3 per cent. and 4·9 per cent.; and Japan, 3·5 per cent. and 2·1 per cent. V. *Survey of Textile Industries*, p. 64 (Report of the Committee on Industry and Trade).

[3] During the war the trade in cotton and cotton goods was controlled by the Indian Cotton Contracts Board, and Government orders were supplied by Indian mills at prices yielding a fixed percentage of profits.

[4] P. P. Pillai, *Economic Conditions in India*, p. 206. The actual profits earned varied between 13 and 180 per cent.

[5] *D.O.T. Report on the Conditions and Prospects of British Trade in India*, 1923–24, p. 36.

Meanwhile wages had risen substantially, and the cost of production was at a high level. At the same time Japanese competition was increasing both in the Indian and in the remaining Far Eastern markets.[1] Hence the profits of the less prosperous mills began to disappear, and the Bombay Mill-owners' Association became anxious about the position and prospects of the industry as a whole. The annual bonus instituted during the war was not paid in 1924, causing a two months' strike, and various proposals were made for working short-time and wage reductions. In July 1925 the Mill-owners' Association announced that wages would be reduced by 11½ per cent. on September 1, and demanded the abolition of the cotton excise and protection against Japanese products. This caused one of the most serious strikes that India has yet witnessed, but eventually, owing to the improved financial position of the Government, the suspension of the cotton excise was announced, the wage-cut was withdrawn, and the strike thus ended in victory for the operatives.

Although these events temporarily settled the differences between capital and labour, and removed a genuine and long-standing Indian grievance,[2] they had no effect on Japanese competition, and did not help to dispel the depression.[3]

The desirability of a full inquiry into the condition and prospects of the industry had long been urged from various quarters, but for some time the mill-owners themselves objected to the proposal—in itself a symptom of the need for investigation. Eventually, when the abolition of the cotton excise failed to improve the situation, and the question of stabilizing the rupee at 1*s.* 6*d.* had become acute, the Bombay Mill-owners' Association asked that an inquiry should be held, and put forward demands that included the imposition of an additional protective duty of 17½ per cent. on cotton goods imported, and the return to a one and fourpenny rupee.

The Tariff Board thereupon undertook a thorough investigation, and reported in June 1927. But before examining its conclusions and recommendations it will be best to summarize the

[1] Since 1913 the total capital of the Japanese cotton industry has increased 270 per cent., the number of spindles over 55 per cent., and the number of looms over 100 per cent.

[2] *I.e.* with regard to the cotton excise, *v.* chap. xiii, p. 355.

[3] Directly the suspension of the cotton excise was announced the price of Japanese cotton goods in India was correspondingly reduced (v. *The Times Annual Financial and Commercial Review*, February 9, 1926). It is interesting to note that, although the cotton excise was originally introduced to placate the Lancashire cotton magnates, they accepted its suspension in 1925 almost without a murmur. This was because they recognized that they had suffered more from Japanese than from Indian competition. (*V.* the *Trade and Engineering Supplement of the Times*, February 20, 1926, and Sir Stanley Reed's article in the *Spectator*, December 5, 1925.)

main facts with regard to the present position and recent changes in output, markets, and competition.

The products of the Indian cotton-mill industry may be divided into two main branches—yarn and piece-goods.[1] Although the home (*i.e.* Indian) sales of yarn have increased since before the war, Indian yarn has been almost eliminated from its former foreign markets,[2] owing to increased competition from Japan and from the Chinese mill industry [3] (apart from the loss occasioned by internal troubles in China), so that both Indian mills and importers have suffered from lack of any considerable expansion of total sales.

There has been little change in the relation between Indian mill production and imports of yarn.[4] The Indian mills still produce mainly counts [5] below 30 (having almost a monopoly of such counts), but have increased their output of counts 31 to 40 (*i.e.* the "competitive counts") and of counts above 40.[6] Their output continues to be less than imports of the competitive counts, and very much less than imports of counts over 40.

On the other hand, there has been a no less than startling change in the source of yarn imported. Whereas in 1913–14 Lancashire supplied 80 per cent. and Japan 2 per cent. of the total imports, in 1925–26 Lancashire supplied only 31 per cent., whilst Japan supplied no less than 65 per cent.[7] In 1926–27, however, Lancashire's share rose to 41 per cent., and that of Japan fell to 54 per cent., whilst in 1927–28 Lancashire's share was 39 per cent., Japan's 32 per cent., and China's 25 per cent.[8] An analysis of the

[1] *V.* Table XIV, A., pp. 530, 531.

[2] Exports of Indian yarn declined from a pre-war annual average of 129 million lb. to only 31·9 millions in 1925–26, 41 millions in 1926–27, and 24 millions in 1927–28. Exports to China (formerly the principal market) fell between 1913–14 and 1925–26 from 170 million lb. to only 9·7 millions. They rose again in 1926–27, but fell to a still lower level (0·7 million lb.) in 1927–28.

[3] The number of spindles in China in 1925 was 3·4 millions, as compared with 5·4 millions in Japan, and 8·5 millions in India, but China's total production was 719·2 million lb. as compared with 686·4 millions in India. This discrepancy can be accounted for partly by the Chinese double-shift system, partly because China specializes in very coarse counts, and partly by the strike in Bombay in 1925. (*Tariff Board Report on the Cotton Industry*, p. 97.)

[4] Before the war imports formed 6 per cent. of the total of Indian mill products and imports; in 1925–26, 7 per cent.; in 1926–27, 5·7 per cent.; and in 1927–28, 6·2 per cent.

[5] By a "count" is indicated the number of hanks (of 840 yds. in length) which weigh 1 lb. avoirdupois. For instance, "Count 20" indicates that 20 hanks weigh 1 lb. avoirdupois. Counts from 1 to 20 are considered to be "coarse," those from 20 to 40 are "medium," and above 40 they are "fine."

[6] This tends to disguise any increase in Indian production, by reducing the total weight in proportion to total yards produced.

[7] *Annual Review of the Trade of India*, 1925–26, p. 4.

[8] In 1926–27 and 1927–28 the value of Japan's total trade with India fell heavily, owing to a severe financial crisis in Japan. The imports from China include those from Hong-Kong, and are largely produced by Japanese firms in China.

figures of imports reveals the fact that Japan has been concentrating on yarns of the competitive and higher counts, and that so far her gains have been mainly at the expense of Lancashire. Of counts between 31 and 40 (which used to be Lancashire's great staple line) Japan supplied in 1925–26 no less than 20 million lb. as compared with only 4 million lb. from Lancashire.

The conclusion is that in the home market the Indian mills retain their predominance with regard to yarns (producing over 90 per cent. of the yarn consumed in India), but that imports from Japan need to be watched, in case they expand rapidly and seriously threaten Indian, as well as Lancashire, interests. The increasing imports of Italian and British artificial silk yarn, mainly used by hand-weavers at present, may also prove a danger in the future.[1] Meanwhile Bombay and other ports [2] have suffered from the loss of their former export markets for yarn. Bombay has been particularly hard hit, as whereas before the war she exported 53 per cent. of her total yarn production, in 1924–25 she only exported 11 per cent. Although her export of cloth has recently increased it has not increased sufficiently to compensate for the loss of the yarn export market, so that an additional 300,000,000 yards of Bombay cloth have now to be sold in the home market, just at a time when up-country mills have rapidly increased their output.[3] This is one reason for the present depression in the Bombay mill industry.

In the piece-goods trade Indian mills have greatly increased their output and sales (of both grey, bleached, and coloured goods) since 1914, whereas imports have declined absolutely, as well as relatively.[4] In 1925–26 Indian mills accounted for 43·5 per cent., hand looms 22·3 per cent., and imports 34·2 per cent. of the total of mill, hand-loom, and imported goods. Hence no less than 65·8 per cent. of the total was produced in India, a larger proportion than before the war.[5] As with yarn, there has

[1] Such imports have increased from 225,000 lb. in 1922–23 to 7,510,000 lb. in 1927–28. Early in 1927 the duty on imports of artificial silk yarn was reduced to 7½ per cent.

[2] The bulk of the yarn formerly exported to China was manufactured in the great ports of the chief cotton-mill districts, such as Bombay, Madras, and Tuticorin. Pondicherry also exports considerable quantities of yarn and piece-goods, and caters for a protected market in French colonies. The trade of ports belonging to foreign countries is excluded from the Indian trade statistics: *V.* V. Anstey, *Trade of the Indian Ocean*, Appendix A.

[3] *Tariff Board Report*, p. 100. [4] *V.* Table XIV, A., pp. 530, 531.

[5] The amount of cloth produced by hand-looms is not recorded, but it can be estimated by calculating the total yarn produced in and imported into India, converting that total into cloth (on the assumption that 1 lb. yarn is equivalent to 4 yds. of cloth), and deducting therefrom the known cloth production of the mills (*D.O.T. Report on Conditions and Prospects of British Trade in India*, 1924–25, p. 37 *et seq.*). In the *Trade and Engineering Supplement of the Times*, February 20, 1926, the basis adopted is 1 lb. of yarn to 4½ yds. of cloth. On this latter assumption the share of the hand-loom industry would be rather greater than

been a marked change in the source of imports. In 1913–14 the United Kingdom provided 97·1 per cent. of the total imports, no other single country providing as much as 1 per cent. In 1927–28 the share of the United Kingdom had fallen to 78·2 per cent., whilst Japan provided 16·4 per cent. (in spite of the financial crisis), the Netherlands 1·0 per cent., and the United States 1·4 per cent.[1]

The imports from Japan include considerable quantities of both grey and coloured but few bleached goods, and expansion has been most marked as regards coloured goods of finer quality. Nevertheless, the piece-goods imported from Japan in 1925–26 formed only 4·7 per cent. of the total of piece-goods imported into and produced in India, and were, therefore, very small in comparison with the 48·5 per cent. of the total supplied by Indian mills.

The overseas markets of the Indian mills have increased since the war, as well as the home markets, the total export of Indian piece-goods having increased from a pre-war average of 89·7 million to 167 million yards in 1927–28.[2]

Hence we find that, although the consumption of piece-goods in India has only recently surpassed its pre-war level,[3] Indian mills have managed to dispose of a much larger output, by increasing their share of the home market, and by increased sales abroad. The great decline has been in the consumption of piece-goods imported from Lancashire.

The decline in imports and limited expansion of the total consumption of piece-goods in India (in comparison with the pre-war period) are usually attributed to the fact that the purchasing power of Indian consumers has not risen in proportion to the rise in the price of cotton goods.[4] It is also possible that the war-

the estimate given in the text. In an inquiry into the Indian Piece Goods Trade, made in 1921, Mr. Coubrough concluded that the hand-loom industry had, during recent years, fully maintained its position and importance (*Bulletin of Industries and Labour*, No. 16).

[1] The import of considerable quantities of piece-goods from Japan dates from 1916–17, when 100,000,000 yds. were imported. V. *Tariff Board Report on the Cotton Industry*, p. 40.

[2] This expansion has consisted of a decline in grey, but a rapid increase in coloured piece-goods exported, and the direction of exports has changed, less now going to the Far East, but more to Persia, Mesopotamia, and East Africa.

[3] *V.* Table XIV, A., p. 531.

[4] By 1927 the average price of imported piece-goods had risen 56 per cent., in comparison with July 1924, whereas the price of raw cotton had risen only 27 per cent. (*Daily Telegraph*, May 2, 1927). V. *D.O.T. Report on the Conditions and Prospects of British Trade in India*, 1923–24, p. 109, and 1924–25, p. 109; *Bulletin of Indian Industries and Labour*, No. 16; *Survey of Overseas Market*, p. 289; and *Annual Review of the Trade of India*, 1926–27, p. 14. The great rise in the price of cotton piece-goods began in 1920. In 1926–27 prices fell somewhat, and imports increased, but the situation is still extremely serious for Lancashire. V. *Survey of Textile Industries*, 1928 (Report of the Committee on Industry and Trade).

time enforced economy in clothing has become a habit which it is taking time to break.

From this analysis of both the yarn and the piece-goods trade it appears that Indian mills have increased their output and sales both absolutely and relatively to imports since 1913–14, and that they hold a predominant position in the home market. There seems on the face of it little evidence of increased external competition and little force in the demand for protection,[1] apart from the natural anxiety felt at the rapid increase in the imports of Japanese yarn and piece-goods.

The fact remains that the depression which began in 1922 has not yet abated, at least in Bombay city. The net profits of Bombay mills " fell from Rs. 388 lakhs in 1922 to Rs. 33 lakhs in 1923 and became a loss of Rs. 92 lakhs in 1924 and 134 lakhs in 1925 " [2] In the latter year reserves were drawn upon to the extent of Rs. 63·4 lakhs and the allowances for depreciation fell short of the normal by Rs. 154 lakhs.[3]

These figures indicate a serious position, but it must not be overlooked that extremely high profits were obtained before the depression which enabled strong financial reserves to be accumulated,[4] that there has been a very great difference in the financial results of particular mills, and that the situation has been much worse in Bombay city than elsewhere.

In Ahmedabad, and in the other up-country centres with regard to which figures are forthcoming, the position has improved since 1923, and it seems that most of the well-managed up-country mills that have both spinning and weaving departments have not failed to pay dividends even during the most depressed years.[5]

The result of Bombay's relative ill-success is that her share of the mills at work in India, and of yarn and cloth produced, has fallen heavily.[6] The expansion of up-country mills was especially

[1] Until a few years ago Indian cotton mill-owners themselves confined their demand for protection to hosiery, cotton blankets, and printed calico. (Japanese hosiery easily predominates in India.)

[2] *Tariff Board Report on the Cotton Industry*, p. 24.

[3] During the three worst years the average dividends on paid-up capital, reserves, and depreciation funds together worked out in Bombay at $3\frac{9}{15}$ per cent., $3\frac{9}{10}$ per cent., and $4\frac{1}{2}$ per cent. (*Ibid.*, p. 25).

[4] Mr. J. A. Wadia calculated (on behalf of the Bombay Mill-owners' Association) that the cotton mill industry paid an average dividend of $10\frac{1}{2}$ per cent. on a capital of Rs. $6\frac{1}{4}$ crores between 1905 and 1914, and an average dividend of 53 per cent. on a capital of Rs. $12\frac{1}{2}$ crores, between 1915 and 1922 (inclusive) (*D.O.T. Report on the Conditions and Prospects of British Trade in India*, 1924–25, p. 39).

[5] *Tariff Board Report on the Cotton Industry*, p. 27. Mills with only spinning departments have been more seriously hit than mills with both weaving and spinning departments.

[6] Bombay city's share of the mills at work in India declined from 44·3 per cent. in 1898–99 to 32·6 per cent. in 1912–13, and 28·8 per cent. in 1924–25. Her share of the yarn and cloth produced fell from 52·0 per cent. and 50·3 per cent. respectively in 1912–13 to 38·2 per cent. and 43 per cent. in 1924–25. In 1925 there were 77 mills at work in Bombay, 58 in Ahmedabad, 24 in other centres in the

marked between 1922 and 1926, *i.e.* during the period of greatest depression in Bombay. Thus what has to be explained, and if possible remedied, is not so much a depression in the Indian cotton-mill industry as a whole, as the depression in Bombay. Why are Bombay mills less capable than " up-country " mills of coping with present-day conditions ?

The Tariff Board pointed out that some of the possible causes of the depression are world-wide, and cannot be remedied by direct measures. Some affect the Indian cotton-mill industry as a whole, and may be partly remediable by protection. Others are due to faults of internal organization and management which affect all centres to some extent, but are more prevalent in Bombay than anywhere else, whilst some of the adverse factors are present in Bombay alone.

The depression has undoubtedly partaken of the nature of a " trade cycle," and in so far is temporary in nature, and cannot be remedied by specific measures. The second world factor is the alteration in the relations between agrarian and other prices which has set in since 1920 and has affected adversely the consuming powers of the masses of the population. Here again no direct remedy can be applied, but there is already some tendency for the divergence to become less marked.[1] Thirdly, the course of American cotton prices was for a time adverse to the Indian industry, as a rise in the price of raw cotton coincided for several years with a fall in the price of the manufactured goods. In 1925, however, American prices began to decline ; in 1926 they fell heavily, and the present level constitutes no burden on the industry.

The chief causes of the depression that are peculiar to India are the increased competition from Japan, the loss of the China trade in yarn, the alleged effects of the stabilization of the rupee at 1s. 6d., and certain faults of organization and finance. Japanese competition is the chief basis of the demand for protection, and although the volume of competitive imports is still relatively small, their price undoubtedly affects the price of Indian goods and has enhanced the depression.[2]

Many reasons have been advanced to explain how it is that Japan can purchase raw cotton in India or in America, transport it to Japan, manufacture it and send it to India, pay an import duty of 11 per cent., and yet place it on the market at a price that does not yield reasonable profits to Indian mill-owners. It used

Bombay Presidency, 20 in the United Provinces, 16 in the Madras Presidency, and 7 in the Central Provinces (*Tariff Board Report on the Cotton Industry*, p. 25).

[1] *V.* chap. xvi., p. 459.

[2] *Tariff Board Report on the Cotton Industry*, pp. 39, 48.

to be alleged that the cotton excise constituted a heavy burden on Indian mill-owners, but we have already seen that its removal has made no difference to Japanese competition. Indian mill-owners have also freely asserted that Japanese goods are "dumped" in India, but the Tariff Board categorically denies that there is any evidence to this effect. At one time the depreciation of the yen exchange was an adverse factor, helping Japan to place her goods at a very low price on the market, but the yen has now returned to gold parity.

The adverse effects of the alleged shipping and industrial subsidies have also been exaggerated. Japan gives no subsidies on the shipping services between India and Japan, although she does subsidize other lines, such as those with China and East Africa. It has often been said that Japan gives "export bounties" on cotton, but it appears that this was a reference to a rebate for exports on the 10 per cent. consumption tax levied on textiles in Japan, which was withdrawn in 1916.[1] Moreover, although the Exporters' Association Act and Export Manufacturers' Association Act exempts combination of exporters and manufacturers from business and income taxes,[2] it appears that hardly any gilds or combinations of a type to claim exemptions have actually been formed.[3]

On the other hand, Japan has climatic advantages which may react on the efficiency of the workers; her costs of production are lower than India's owing to the prevalence of the double-shift system, the employment of a larger proportion of women, and inferior conditions of labour; and her commercial organization is exceptionally efficient.

The facts with regard to labour conditions are that in India the hours of adults are restricted to eleven per day and sixty per week, women and juveniles may not be employed at night, and juveniles under sixteen may not be employed for more than six hours. In Japan there is no restriction on the hours of work of adult males, until recently women and juveniles could be employed at night, and the hours of women and juveniles are normally eleven, but can (with special permission) [4] be extended to twelve per day. The age of admission to factory work (twelve years) is almost the same in both countries.[5] Stricter regulations

[1] *Tariff Board Report on the Cotton Industry*, p. 65.

[2] *Trade and Engineering Supplement of the Times*, February 20, 1926, "India, Lancashire, and Japan."

[3] *Tariff Board Report on the Cotton Industry*, p. 66.

[4] This prolongation is only permitted when a single shift is worked. Actually permission has been given for the prolongation of hours in spinning, but not in weaving, mills (*ibid.*, p. 57).

[5] In Japan children under fourteen can only be employed in factories if they have completed the ordinary primary school course.

have recently come into force in Japan, as the Factory Act of 1923 laid it down that from June 1929 women and juveniles (under sixteen) might not be employed for more than eleven hours per day, nor between 10 P.M. and 4 A.M., except that with the permission of the authorities they might be employed until 11 P.M.[1] Hence in the past conditions with regard to the hours of employment in Japan have been distinctly inferior, and even now the regulations in force are laxer in certain respects, for instance, as regards the hours of work of juveniles.

It is difficult to get comparable wage figures for Japanese and Indian factory workers.[2] The conclusion reached as a result of several recent inquiries into the cost of living in Japan is that in a large number of cases the income of factory workers barely meets the minimum requisite to maintain life.[3]

However this may be, it is certain that a far larger proportion of women and girls are employed in textile mills in Japan than in India. In 1922 no less than 704,187 out of 893,266 workers in Japanese textile factories were women and girls, and of these 203,221 were under sixteen.[4] The Tariff Board calculated that in 1925 in Japanese cotton mills 3·8 women were employed to one man, whereas in India, in 1924, 4·3 men were employed to one woman.[5] In the Japanese weaving mills the proportion of women employed was much larger, *i.e.* 5·3 to one man. As women are paid less than men, this reduces the wages bill of Japanese factories.

The assertion that sweating has given a comparative competitive advantage to Japan seems to ignore the theory of the economy of high wages and of good conditions. Although this theory holds good for a country as a whole, it does not hold good for one particular industry which can lightly cast aside its worn-out labour and obtain a new set of workers. In particular, it does not apply in a country like India or Japan where the labour supply is always changing. High wages and good conditions only produce increased efficiency and output when they have the chance of raising the general level of health, education, and training amongst a permanent labour force.

A still more important competitive advantage in Japan is that a two-shift system of ten hours each prevails in that country.[6]

[1] *Studies and Reports of the International Labour Office*, Series B (Economic Conditions), No. 16, "Industrial Conditions and Labour Legislation in Japan," 1926.

[2] Contradictory statements are made by various authorities (*Trade and Engineering Supplement of the Times*, February 20, 1926).

[3] *Report of the International Labour Office*, quoted above.

[4] *Ibid.*, p. 57. Mr. Robertson Scott, *Foundations of Japan*, gives a terrible description of the sweating of girls in the Japanese mills.

[5] *Tariff Board Report on the Cotton Industry*, p. 5.

[6] Two shifts prevail in spinning mills and are worked in about half the weaving mills.

This reduces various overhead costs and by doubling the turnover greatly increases the return on capital employed.

The Bombay Mill-owners' Association calculated that the economies of double-shift working as far as manufacturing costs are concerned amounted to 5 per cent. of the price of cloth, but they assumed that fire insurance premiums would not be increased, made no allowance for depreciation, and included various items (such as income-tax, super-tax, and managing agents' commission) in manufacturing costs that in reality are payable only on profits. The Tariff Board made its own calculation on a different basis, and concluded that the economies of double-shift working amounted to not more than 4 per cent. as regards manufacturing costs, but that if a return on capital of 8 per cent. were included the advantage would be brought up to from 9·2 to 12·5 per cent., according to the quality of the product.[1] Even so the Board assumed that office expenses and miscellaneous charges would not be greater for a double than for a single shift, that supervision would only be slightly more costly, and entirely ignored the cost of lighting at night. It, therefore, appears questionable whether the reduction in manufacturing costs due to double shifts is an important item at all, and it is pretty certain that it would not amount to anything like 4 per cent. On the other hand, it is quite clear that the return on capital, supposing that profits were earned on each shift, would be enhanced, perhaps doubled, by double-shift working.

There is no question, however, of introducing the system into India, at least, not into Bombay. In the first place, there is the aversion of Indian labour from night work and the prohibition of the employment of female and juvenile labour at night. A still more serious objection is that double shifts would necessitate a large additional labour force which would increase beyond all bounds the congestion in a terribly overcrowded city. The Tariff Board, therefore, concluded that "Bombay is a most unsuitable centre for the adoption of the double-shift system."[2]

The conclusion is that undoubtedly Japan has an advantage as regards cost of production owing mainly to climatic, dietetic, and other elements of superiority, and possibly in some measure to the double-shift system and inferior conditions of labour, and that Japanese competition has been an important cause of the depression in India. Furthermore, India's advantage arising out of her proximity to the source of short-stapled cotton is counterbalanced by the fact that Japan operates on both the Indian and American cotton markets on a large scale, and can take immediate advantage of any variation in comparative prices, whilst in

[1] *Tariff Board Report on the Cotton Industry*, pp. 59–64.
[2] *Ibid.*, p. 145; *v.* chap. ii, § 3.

addition she has the Chinese crop in reserve.[1] Freight charges are approximately equal for American cotton to India and to Japan, and Japan gains an advantage by mixing American with Indian cotton.[2] Freightage between India and Japan is not high, and in many cases is surpassed by the railway freightage between Bombay and up-country centres. Finally, it seems certain that the Japanese organization for buying raw cotton is far superior to the Indian; and that a similar advantage in commercial efficiency operates also in other departments of the cotton trade. The large importers of raw cotton are also the principal exporters of piece-goods, and are directly or indirectly interested in actual manufacture. Moreover, manufacturers concentrate on standard lines, thus obtaining the advantage of mass-production to a high degree.[3] The Japanese may be called the Germans of the East.

We have already discussed the loss of India's export trade in yarn, and may conclude that there is no chance of its revival. The Tariff Board attributes this loss partly, at least, to negligence on the part of Bombay mill-owners who, when profits were high in the home market, failed to keep in touch with, and suit the needs of, the China market.[4]

With regard to the effects of the stabilization of the rupee at 1*s.* 6*d.*, the Tariff Board concludes that "coming as it has done at a time of falling prices, it has rendered the problem presented by the disparity between prices and wages in the industry somewhat more pronounced, but otherwise has had no appreciable effect, direct or indirect, on its conditions." [5]

It is obvious that in the long run, when internal and external prices and costs of production have become adjusted to the new conditions, it makes no difference whether exchange is fixed at 1*s.* 6*d.* or 1*s.* 4*d.*, but that whilst those adjustments are still incomplete, hardship may well be inflicted on particular interests. The fixing of the exchange at 1*s.* 6*d.* has meant that imports could be sold at lower rupee prices in India than if exchange had been fixed at 1*s.* 4*d.* Meanwhile, the expenses of production, especially the wage bill, have not fallen to a corresponding extent, and hence the difficulties of adjustment have been enhanced.

We now come to the faults of organization and finance which have contributed towards the depression. Here it is difficult to distinguish between criticisms that refer to India as a whole and criticisms aimed specifically at Bombay mill-owners. Frequently they apply to some extent to India as a whole, but with much

[1] *Tariff Board Report on the Cotton Industry*, p. 53.

[2] It is admitted that Japanese yarn is slightly superior to Indian. V. *Survey of Textile Industries*, p. 104 *et seq.* (Report of the Committee on Industry and Trade).

[3] *Times*, October 10, 1928, "The Japanese Cotton Industry," and the *Survey of Textile Industries*, p. 106.

[4] *Tariff Board Report on the Cotton Industry*, p. 97. [5] *Ibid.*, p. 76.

greater force to Bombay than to other centres. The Tariff Board has obviously tried to avoid giving offence to Bombay mill-owners, and has as far as possible whittled down its criticisms, which in many cases it puts forward with an unnecessarily apologetic air. These criticisms suggest not so much that the Indian cotton industry is badly organized and managed as a whole, as that a strong indictment could be brought against the practices of a considerable proportion of Bombay mill-owners.

In the first place, much over-capitalization, recapitalization at inflated values, and extensions at high prices, took place during the boom period.[1] For instance, the records of thirteen Bombay mills show that between 1918 and 1923 the number of spindles increased by 36·8 per cent. and of looms by 61·9 per cent., whilst paid-up capital increased 196·0 per cent. Nearly thirty of the eighty-three mills shown in the Bombay Mill-owners' Association's annual list can be said to have been affected by the tendency towards over-investment, and a large number must be held to be over-capitalized at present values.[2] Some over-capitalization no doubt occurred in other centres, but the Tariff Board concludes that it was "much more marked in Bombay . . . and that Ahmedabad was comparatively little affected."[3] Naturally those mills which did not increase their capital during the boom are now in the strongest position.[4] Over-capitalization was accompanied by the distribution of enormous profits. From 1919 to 1922 the dividends paid by the Bombay mills represented 40·1, 35·2, 30·0, and 16·4 per cent. respectively on the paid-up capital, which, in the latter year, was some 80 per cent. more than in 1919.[5] Had this excessive distribution not been made, large sums could have been placed to reserve, or used for depreciation.

In the second place the Managing Agent system is open to a number of criticisms.[6] Apart from the faults inherent in the system in general,[7] many accusations of inefficiency and even corruption have been directed against the working of the system in Bombay. The world-wide tendency towards the concentration of the management of a large proportion of an industry into one or two hands has taken the form in Bombay of the grant of the

[1] The boom period occurred between 1919 and 1922, so that figures for 1918 and 1923 illustrate the extent of over-capitalization.

[2] *Tariff Board Report on the Cotton Industry*, p. 77 *et seq.*

[3] Bombay, with less than three times the looms and spindles of Ahmedabad, has almost exactly six times the paid-up capital (*ibid.*, p. 81).

[4] *Ibid.*, p. 81. [5] *Ibid.*, p. 83.

[6] Mr. N. M. Joshi, speaking in the Legislative Assembly in 1925, declared that the cause of the existing trouble in the mills was not the cotton excise duty, nor Japanese competition, but the huge agency commissions, mismanagement, and incompetence of the mill-owners (*Moral and Material Progress of India*, 1925–26, p. 53).

[7] *V.* chap. v, p. 113, and Appendix E., p. 501.

managing agency of a large number of mills to one or two outstanding firms. Thus twenty-three out of the eighty-three Bombay mills shown in the Mill-owners' Association's statements are now controlled by two firms. This represents half of the entire capital of the Bombay mill industry, and about two-sevenths of the looms and spindles, and flotations during the boom period took place in both groups of mills.[1] The system of "commission on production," which tends to stimulate output rather than to insist on quality, is still in force in some Bombay and Ahmedabad mills, and is quite common in up-country centres. In Ahmedabad the "commission on sales" is usual, whilst the "commission on profits" prevails in Bombay and some up-country centres. This latter is the best form, but in Bombay is open to the objection that the commission is calculated before making allowance for depreciation. In many cases, especially in Ahmedabad, the agency tends to be regarded as a "family possession" and normally passes from father to son, irrespective of efficiency.[2]

One glaring fault is that the members of the Boards of Directors of the mills, as a rule, fail to take any close interest in their mills, and very few have any technical qualifications for their position. Out of the 175 directors of mills in Bombay, only eleven had received practical training.[3] The actual managing agents seldom have the requisite technical qualifications, and, indeed, the directorates of the Bombay mills are very largely composed of members of firms of managing agents.[4] Possibly this helps to explain why the training of the technical and supervising staff also tends to be deficient.

Malpractices and shortcomings alleged to be prevalent include the following: (i) Speculative purchases of cotton by the managing agents are passed on to the mill if unsuccessful, but retained by the agents if profitable [5]; (ii) secret commissions are received by the managing agents on purchases and other transactions conducted on behalf of the mill [6]; (iii) the surplus funds of the mills may be invested not with banks but with firms of *shroffs*, who may be identical with the managing agents; (iv) the auditors are frequently relatives of the managing agents; (v) brokers are employed who operate on their own account or who are themselves in possession of cotton, and the managing agents themselves sometimes act as guarantee brokers for the mills they control; (vi) supervision of the purchase of stores is not sufficiently close, leaving room for shady transactions; (vii) the managing agents

[1] *Tariff Board Report on the Cotton Industry*, p. 86.
[2] *Ibid.*, p. 88.
[3] *Ibid.* Of these eleven, four are directors of the same mill, which is one of the most successful.
[4] *Ibid.*, p. 152. [5] *V.* Appendix E., p. 501.
[6] This practice is said to be "exceptional" by the Tariff Board.

are not sufficiently alert, and fail to study the consuming centres in the home market, or the needs of foreign markets.

These faults in organization account for many of the actual defects in production and management. Much greater attention should be paid to diversification of production, combined action should be taken to ensure that the quality of the products is maintained, and fuller records of all sorts should be kept.

Another common defect is that many mills depend for working capital mainly on short term deposits, cash credits, and loans, all of which are apt to be drastically curtailed in difficult times. If the use of trade bills could be extended in the internal market, trade would be greatly facilitated during a depression.

Finally, we come to the causes of the depression that are peculiar to Bombay.

Undoubtedly Bombay's greatest disability in comparison with up-country centres is the high cost of labour. The proportion of the total cost of manufacture (exclusive of the cost of the raw material) attributable to labour has risen from 37·8 per cent. in 1914 to 40 per cent. in 1924, and Bombay is the only cotton-mill centre in which no reduction in wages has occurred since 1921,[1] apart from the discontinuance in 1924 of the yearly bonus of one month's wages which was paid during the boom period.[2] Allowing for the reduction in the hours of labour in 1920 from twelve to ten, the rise in rates of money wages since the pre-war period works out at over 100 per cent.[3] Nevertheless, wages in the cotton industry had risen less than those of skilled labour in general in urban areas in the Bombay Presidency, and are still low in comparison with the cost of living,[4] and the general condition of labour in Bombay is still so miserable that it is quite clear that no reduction in wages should be tolerated. A remedy must clearly be found not by reducing wages, but by increasing efficiency.

For instance, at present the existing high rate of absenteeism and the " badle " system [5] detract seriously from efficiency, by frequently replacing regular workers by inefficient substitutes. If a regular complement (equal, as a rule, to 10 per cent. of the labour force) of trained men were engaged by the mills and used to take the place of absentees, the general level of efficiency would be considerably improved. An extension of the piece-work system to spinners (amongst whom it does not at present prevail) would have a similar effect. At the same time the number of spindles and of looms per worker might be increased. In India

[1] At which date wages were everywhere at their greatest height.
[2] *Tariff Board Report on the Cotton Industry*, p. 109.
[3] Without considering hours, it amounts to from 70 per cent. to 80 per cent. (*ibid.*, p. 110).
[4] *Ibid.*, p. 113.
[5] *V.* chap. v, p. 119.

only 180 spindles as a rule are attended by one operative, as compared with 240 in Japan, although female labour is more extensively employed in Japan. In India only two looms are usually attended by one weaver, as compared with two to three in Japan.[1] In a few cases in India 240 spindles for three to four looms [2] are attended by one operative, and this practice might well be extended, with advantage to employers and operatives alike. Unfortunately, the trade unions have adopted a policy of opposition to reorganization involving a decline in the number of operatives in proportion to machines employed, and it was this attitude that occasioned the great mill strike in Bombay in 1928.[3]

In many other ways the efficiency, position, and standard of life of the operatives might be improved. For instance, at present too much power as regards the recruitment, control, and dismissal of workmen rests with the jobbers (or foremen), who have great opportunities for corruption. Labour should be engaged directly by the officer of the mill in charge of the department.

More welfare work and better housing are necessary to keep the labour force contented, and one outstanding grievance would be removed if the very unpopular system of compelling workers to buy cloth spoilt by defective workmanship was given up. The standardization of wages would also help to remove discontent and prevent workers from moving from mill to mill.

One cause of frequent breakages (and therefore of stoppages) that could easily be remedied is the tendency to spin higher counts of yarn than the quality of the raw cotton warrants, but the machinery in use in India is not, on the whole, unsatisfactory, and must certainly not be classed as one of the causes of the depression.

Apart from high labour costs, Bombay is at a relative disadvantage with regard to local taxation,[4] the cost of fuel and power,[5] the cost of water,[6] the purchase of raw cotton,[7] and proximity to the principal markets. On the other hand, it has an advantage with regard to stores, insurance, and office expenses.

In addition to these factors, all of which are carefully analyzed by the Tariff Board, there is the primary need for more straightforward finance. The Bombay Cotton Exchange has been the

[1] The number of spindles or looms per operative in Lancashire and the United States is considerably greater.

[2] *Tariff Board Report on the Cotton Industry*, pp. 136, 137.

[3] V. *Times*, October 5, 1928.

[4] No economies are proposed by the Tariff Board except that the town duty on raw cotton consumed should be reduced from Rs. 1 to 8 annas per bale.

[5] The price of coal and oil has recently fallen, whilst the Bombay mills have long-term contracts at high rates for the supply of electricity.

[6] The water rate for cotton mills is higher than for ordinary consumers, and should be reduced.

[7] The Tariff Board submits proposals for improving the system of cotton contracts that prevails in Bombay (p. 127 *et seq.*).

scene of many speculative booms and crises which have been extremely detrimental to the industry.

The Tariff Board made a number of detailed recommendations directed towards improving the internal organization of the industry, and a few minor recommendations as to how some of the additional costs of production in Bombay could be reduced, most of which have already been noted above. Its major recommendations were (*a*) that a combined bleaching, dyeing and printing factory should be established at Bombay with Government assistance ; (*b*) that a bounty of one anna per pound should be given on the production of yarns of and above 32*s*. ; (*c*) that the import duty on cotton piece-goods should be raised from 11 to 15 per cent. for three years [1] ; and (*d*) that the import duties on cotton textile machinery and certain mill-stores should be remitted. Thus, although the Board considered that the claims of the Bombay Mill-owners' Association for protection were excessive, it concluded that a case had been made out for some protection against " unfair " Japanese competition, at least until the new Japanese factory regulations came into force. It favoured an all-round increase in duties rather than discrimination against Japan, because, on the one hand, direct penalization of Japanese goods would entail the abrogation of the 1905 most-favoured-nation treaty between India and Japan, whilst, on the other hand, although discrimination could be effected by imperial preference (instead of direct penalization) the Board considered that this important question should be settled on broader grounds than the interests of one particular industry.

The Government of India accepted the proposal that import duties on textile machinery and on certain stores should be remitted, and decided to inquire into the possibility of instituting a bleaching, dyeing, and printing factory. It rejected the other proposals, on the ground that a long-established industry, such as the cotton industry, ought not to need the stimulus of bounties or protective duties. The Government maintained that even including a reasonable return on capital, Japan has an advantage as regards costs of production of not more than 10 per cent., which is covered by the existing revenue duty of 11 per cent.

This decision met with a storm of opposition, especially from Bombay, and the Bombay Mill-owners' Association sent a deputation to the Viceroy in July 1927 to ask for a greater measure of assistance. Eventually (in August 1927) the Government revised its original decision, and brought in a Bill providing not only for

[1] It was calculated that the revenue thus derived would pay for the bounty on higher counts of yarn. The Board decided against raising the import duty on yarn on the ground that this would hit the Indian hand-loom weavers who use mainly imported yarn.

the removal of the import duty on textile machinery and mill stores, but for the imposition (until March 1930) of a duty of 1½ annas per pound (or 5 per cent. *ad valorem*, whichever is the higher) on imported yarn,[1] and for the reduction from 15 to 7½ per cent. of the import duty on artificial silk yarn. The argument is that the existing 11 per cent. import duty on piece-goods provides adequate protection against unfair competition for that branch of the industry, whilst the specific duty will protect the most vulnerable part of the yarn industry. The reduction of the duty on artificial silk yarn is intended to minimize the effect on the hand-loom industry of the duty on cotton yarn, as artificial silk yarn is increasingly used by hand-loom weavers.

In September 1927 this Bill, after considerable opposition, passed both the Legislative Assembly and the Council of State, but it is still too soon to say whether the measure will prove effective, whilst the recent long and serious strike of cotton operatives in Bombay has prevented any possibility of revival during 1929.

With even moderately efficient and honest management the industry could be made very profitable to the shareholders.[2] An instance of what can be accomplished by cautious finance may be quoted. " One mill in Bombay with a capital of Rs. 8 lakhs, of which Rs. 2 lakhs were ordinary shares and Rs. 6 lakhs preference, utilized part of its profits during this period to pay off its preference shares, and has in the last two years paid dividends of 150 per cent. and 130 per cent. respectively." [3]

An examination of the dividends paid by eighty-five cotton mills between 1921 and 1926 [4] shows that thirty-four never failed to pay dividends and seldom paid less than 10 per cent. On the other hand, twenty-three failed to pay dividends in three, four or more years, and a few of the latter paid no dividends at all during this period. This great discrepancy in results must surely be at least partly attributable to variations in the efficiency of organization and management.

The industry, however, should aim not only at good profits, but also at providing good wages and conditions of life and labour to the operatives. This should not be an impossible task if attention is directed towards increasing efficiency rather than towards reducing wages, but it is lamentable that the labour leaders should arouse opposition to schemes intended to promote this end.

[1] *Times*, August 16, 1927. At a price of Rs. 1–14a. per lb. a 5 per cent. *ad valorem* duty works out at 1½ annas, so that this provision protects the lower counts of yarn more than the lighter. In 1922 a duty of 5 per cent. *ad valorem* was imposed on cotton yarn.

[2] Provided that over-capitalization had been remedied.

[3] *Tariff Board Report on the Cotton Industry*, p. 84.

[4] V. *Capital*, which quotes periodically the dividends paid in the major Indian industries over a series of years.

§ 2. THE JUTE INDUSTRY

The great value of Indian jute was first realized in 1838, when the regular export of raw jute to Dundee began. Even then it could only be used for the coarsest goods, and the carelessness in preparation and packing on the part of the Indian cultivators proved a great drawback. During the Crimean War Dundee was unable to obtain its Russian supplies of raw flax and hemp, and Indian jute supplied the gap. The improvements in cultivation and preparation which were then introduced meant that Indian jute permanently supplanted Russian materials.

At this time the bulk of the jute exported was in the raw condition.[1] Bengal had no fuel, no machinery, and no skilled labour, so that large-scale manufacture was out of the question. Conditions were altered after 1854, when the East Indian Railway's demand for coal led to the opening up of the Raniganj coalfield. It was the new fuel possibilities which led to the idea of starting the manufacture by machinery of jute on the spot, so that the banks of the Hooghly were gradually disfigured by the unpicturesque mills which meet the eye along the course of the river above and below Calcutta.

The manufacture of jute, on a large scale, started in India in 1855 at Rishra, near Serampore, when Mr. George Acland brought out a jute-spinning machine from Dundee.

The first power-loom was established in 1859 (at Barnagore, just outside Calcutta) and in the sixties a number of new mills were started.[2] At first the gunny cloths produced were inferior in quality to those of Dundee, and commanded only a local market, for instance in Burma. At the beginning of the seventies there was a great jute boom; new companies were rapidly formed, and the export of manufactured goods rapidly increased. By the eighties there were signs of excessive competition, and the Jute Mills Association was formed to regulate output. About 1894 the depression began to lift and a period of immense prosperity supervened, which was only temporarily affected by the plague which visited Calcutta in 1898–99. At this time Calcutta jute goods began seriously to compete with those of Dundee. The exports of manufactured jute increased both absolutely and relatively to that of raw jute, and the outcry of the Dundee

[1] Small quantities of hand-woven jute were exported from time to time even during the eighteenth century (*v.* J. C. Sinha, *Economic Annals of Bengal*, p. 37). The ancient handicraft was carried on originally on a very small scale, but increased temporarily during the nineteenth century. For a time hand- and power-loom weaving were carried on side by side, but after about 1880 the hand industry declined and by 1908 had practically ceased.

[2] D. R. Wallace, *The Romance of Jute.*

manufacturers strengthened the demand for factory legislation in India.[1]

At the beginning of the twentieth century progress was still more rapid, and by 1908 the output of the Indian mills surpassed that of Dundee.[2] The manufacturers were in the happy position of getting enhanced prices for increasing quantities, and up till 1914 the industry flourished exceedingly.

The outbreak of war coincided with a " bumper " jute harvest, which led to a temporary trade dislocation and fall in prices. Eventually a large war demand developed for sand-bags and other jute manufactures, and although exports were prohibited except under licence (on account of transport difficulties) between 1917 and 1919, they were not actually hindered, as jute was urgently needed for war purposes. An export duty was imposed (for revenue purposes) in 1916, and raised in 1917, but this again did not injure the trade, owing to the monopolistic position of Indian jute. After the cessation of war there was, as in many other industries, first a post-war boom, then a depression, followed by a revival. To-day the demand for Indian jute is as great as ever, and a larger proportion of the total is manufactured for export than before the war.

Jute manufactures may be divided into four main classes: (i) Gunny bags, used for packing rice, wheat, oilseeds, etc., and during the war as sand-bags; (ii) gunny cloth, or " Hessians," used for baling cotton, wool, and other fibres; (iii) coarse carpets and rugs, of the showy and cheap variety; and (iv) cordage. During the war jute was also used as a substitute for Russian flax in the manufacture of tent cloth, tarpaulins, wagon covers, ground sheets, and water buckets.

The jute industry is extremely well organized.[3] The whole industry is highly centralized, being located in quite a small area on the banks of the Hooghly, near Calcutta. Spinning and weaving are included in practically all the jute mills, and in most cases the internal organization is very similar. As we have seen, a Jute Mills Association was founded (in 1884) to control the trade, and recently a Calcutta Jute Dealers' Association has also been formed.[4] Both the Indian Jute Mills Association and the London

[1] *V.* chap. xii, p. 298.

[2] *V.* Table XIV, B., p. 532. The advantages of Calcutta over Dundee were the proximity to the raw material, the absence of social burdens (such as heavy taxation), and the plentiful supply of cheap labour (v. *Studien über die indische Jute Industrie*, by Dr. Delden, 1915). The supply of cheap labour was undoubtedly an advantage to the Calcutta industry early in this century, although it is now desirable to aim at improving the efficiency of labour even if higher wages have to be paid.

[3] " In point of efficient organization, the jute industry is perhaps second to none in India " (P. P. Pillai, *Economic Conditions in India*, p. 175).

[4] *Ibid.*, p. 176.

Jute Association subsidize the distribution of improved varieties of seed to the producers. The industry is still entirely dominated by European [1] management, although rather more than 50 per cent. of the shares are held by Indians. The profits earned by the industry rose to a peak in 1918, 1919, and 1920, and are still much higher than in 1913, in spite of a number of strikes. The average jute mill is on a larger scale than the average cotton mill, and the machinery is up to date and maintained at a high level of efficiency. Some of the jute mills are driven by electricity, which is generated from coal.

The chief problems are the labour problem, difficulties arising out of the seasonal and periodical fluctuations in price, which result in great variations in the area sown, and uncertainty in the demand for manufactured jute, which depends upon the needs of each harvest in each consuming country. In order to cope with these great fluctuations in the jute crop and in the demand for manufactured jute, the peculiar system has been adopted of systematically working only four days a week, thus making it possible at any time to increase production in response to a sudden increase in demand by working one or more extra days per week.

The labour problem has recently become very serious. The jute mill hands are drawn mainly from a distance, very few Bengalis being employed, as they are too prosperous to consent to work in the factories.[2] Hence the jute industry does not obtain full advantage of its situation in the heart of the most populous and advanced districts of India. The result is that the general level of efficiency of the workers is not in accordance with the technical efficiency of the plant, and with the general organization of the industry as a whole.[3] The jute mill managers complain, in common with the managers in most Indian factory industries, of the " unwillingness of their labourers to respond to the stimulus of higher wages." [4] Moreover, the method of recruitment of labour by " sirdars," who thereby obtain a strong financial hold over the workers on the one hand, and upon whom, on the other hand, the mill managers are dependent for their labour supply, militates strongly against progressive management.

It is obvious that a stable, contented labour supply can never be obtained whilst housing, and social conditions generally, remain at their present low level. These conditions are only endured by the workers because they, like the coal-miners, look upon their factory life as merely a temporary evil—a passing

[1] Mostly Scottish.

[2] *V.* chap. v, p. 125.

[3] Nevertheless manufacturing costs are less in India than in Dundee, as is shown by the fact that the prices of raw jute in India and Dundee respectively differ less than the price of manufactured jute goods (*Moral and Material Progress of India*, 1925–26, p. 309).

[4] *Industrial Commission*, § 11.

phase in their existence which will soon be over and forgotten when they return to their own *mulk*.[1] The root of the labour problem seems to be that, although the jute mills earn magnificent dividends,[2] they do not offer sufficiently good wages or working and living conditions to attract an efficient type of worker.

Apart from these difficulties it seems clear that as long as India retains her practically monopolistic position with regard to raw jute, and no cheaper efficient substitute is discovered, the future of the industry may be considered as assured.

§ 3. THE MINOR TEXTILE INDUSTRIES

The minor textile industries of India include the woollen, silk, and hemp industries, none of which is organized on a scale comparable with that of the cotton and jute industries.

The woollen industry comprised, in 1914, some six mills only, employing about 40,000 operatives.[3] Indian-grown wool is mostly of very poor quality, short-stapled and without felting qualities, so that it is only suitable for carding, and the manufacture of blankets, rugs, carpets, felts, and other coarse articles. "A good deal of the wool which comes into the Indian market is dead wool, *i.e.* wool that has been removed from the carcases of slaughtered sheep and not shorn."[4] Scientific sheep-breeding is not carried on. The hill sheep of the north are the best, but only a small number of them are cross-breds producing wool (known as "Bikaner wool") suitable for combing and the manufacture of clothing, and of highly finished goods, such as the famous Kashmir shawls. Colonies of Kashmir weavers carried shawl production into the Punjab during the nineteenth century, but the export market (mainly France) was largely cut off by the Franco-Prussian War and never fully recovered from that set-back, so that many of the weavers took to carpet-weaving or even to agriculture. Blankets, carpets, and other coarse articles are produced in many centres, particularly in the Punjab.

It has been reckoned that Indian sheep produce about 66 million lb. of wool per year, an average only of 2·1 lb. per fleece.[5]

[1] *I.e.* "country" or "home."

[2] An analysis of the dividends given in *Capital* (May 12, 1927) shows that out of the fifty-one jute mills quoted no less than thirty-two have paid over 100 per cent. in one or more years since 1918; no less than twenty-nine have never paid less than 20 per cent. during the same period (and of these no less than ten never paid less than 40 per cent.); and only three have never paid a dividend. Ten others that in certain years have paid no dividend have in some years paid good dividends, or have shown a tendency towards paying better dividends recently.

[3] *V.* Table XIV, C., p. 532.

[4] C. W. E. Cotton, *Handbook of Commercial Information for India*, p. 227.

[5] In Australia 7½ lb. is an average weight, and in the United States the average yield was increased by scientific breeding from 1·85 lb. in 1840 to 6 lb. in 1887, and has since increased still more (*Notes on Wool in India*, by A. H. Silver, 1919).

Raw wool is imported into India, as well as exported, as long-stapled raw wool (from Afghanistan, Tibet, Australia, the Cape, and Persia) is needed by the mills of the United Provinces and the Punjab, principally at Cawnpore and Lucknow.

The rate of expansion of the industry has no doubt been retarded by the limited internal market for woollen goods. Naturally the climate of most parts of India is more suited to cotton than to woollen clothing, and the demand from North India and for warm clothing has, in the past, been satisfied by cheap and coarse hand-woven woollen and cotton blankets and cloths.

The war demand for cloth[1] gave a great stimulus to the industry, and restrictions were placed on the export of raw wool in the interests of manufacturers executing Army clothing contracts.[2]

Hence the number of mills working in British India rose from six (pre-war) to eleven in 1925, in addition to five mills in Indian (Native) States. Three of the mills in British India manufacture all types of woollens and worsteds,[3] whilst the rest manufacture blankets only.[4]

In addition to machine-made woollens, a considerable amount of hand-loom weaving is still carried on, generally with hand-spun yarn. The chief products are felts, blankets, putto, and pashmina.[5] Carpets are also produced at Amritsar, Multan, Jaipur, Bikaner, Agra, Mirzapur, and Ellore, and in many jails. Shawls are produced for local consumption, but the shawl export has now practically ceased.

The Indian silk industry really consists of two separate industries, in which progress is practically independent; namely, seri-culture—or the growing and reeling of silk—and silk-weaving. Both seri-culture, which may be regarded as an agricultural occupation similar to bee-keeping or poultry-farming, and silk-weaving must be numbered amongst the indigenous industries which declined towards the end of the nineteenth century owing to the growing competition of imported reeled silk and machine-woven silk goods. Not only have reeled silk and woven silk goods been turned out extraordinarily cheaply by the factories of France, Italy, and Russia, and of Japan and China, but the methods of silkworm rearing and of silk reeling, and

[1] *I.e.* for greatcoat cloth, serges, putties, flannels, blankets, and hosiery. During the war the Government bought all the products of the Indian mills, and although the latter worked night and day, they could not fully satisfy the demand.

[2] The export of raw wool has only recently regained its pre-war level.

[3] Imported, long-stapled wool is utilized for worsteds.

[4] C. W. E. Cotton, *Handbook of Commercial Information for India*, p. 230.

[5] *I.e.* coarse tweeds.

therefore the quality of the product in India, have been very defective.[1]

In addition to the mulberry silkworm first imported into India some six centuries ago, there are various types of indigenous worms, including the tasar, muga, and eri.[2] Seri-culture is carried on in six main areas: *i.e.* (i) Mysore[3]; (ii) Bengal; (iii) Kashmir and Jamnu and the neighbouring districts of the Punjab (the mulberry silkworm); (iv) Chota Nagpur, Orissa, and parts of the Central Provinces (the tasar worm); (v) Assam (muga and eri worms); and (vi) Prome and one or two other districts of Burma. In Burma a small mulberry silk industry has existed for many centuries, and there is a small export of raw as well as of woven Burmese silk.[4]

Most of the silk is exported either raw or reeled, and owing to bad reeling the tendency has been to an increase in the proportion of raw silk exported,[5] although there has been little change in the total of raw and reeled silk exported since 1913–14. The Indian silk weaver, for his part, depends largely on imports of raw silk from China, and he has been injured not so much by the superior quality of the factory products—indeed he produces first-class and most beautiful woven goods—as by their relative cheapness. Up to 1830 India exported more woven silk goods than she imported, but since about 1840 her silk goods have been gradually ousted from both the internal and external markets, and the export of silk manufactures has tended to decline slightly since the pre-war period.

Much useful research work has been carried out,[6] and many attempts have been made to revive both branches of the industry, but without much success.

The chief silk-weaving centres are Murshidabad, Tanjore, Benares, Surat, Amritsar, Chingleput, Madura, and Mandalay, but only a few power-using mills have been established.[7] The

[1] Indian silk is generally full of knots and loose ends, and is very unequal in strength.

[2] *Industrial Commission*, Appendix G, p. 80.

[3] Two-thirds of India's total production comes from Mysore.

[4] In 1926–27 6,846 lb. of raw silk, valued at Rs. 8,058, were exported from Burma, compared with 1,294,972 lb., valued at Rs. 32,39,518, for the whole of India.

[5] C. W. E. Cotton, *Handbook of Commercial Information for India*, p. 318.

[6] Silk schools have been inaugurated and better reeling machines introduced. For instance, Italian reeling machines were introduced into Kashmir, where the whole industry is a State monopoly. Messrs. Tata & Co. experimented in Mysore, where a superintendent was obtained from Japan and a Government grant aided the introduction of improvements. The Salvation Army brought out experts, planted mulberries, and subsidized silk schools at various centres, and the Bengal Silk Committee carried on cross-breeding experiments with the aid of French experts.

[7] There are now five power-using silk mills in British India: two in Bombay, and one each in Calcutta, Ahmedabad, and Bangalore.

Burmese market for silk goods is large, as all but the poorest classes wear silk, but the Indian, Manchester, and Japanese silk goods are now preferred to those locally made.[1] In 1926–27 Burmese exports of manufactured silks were valued at Rs. 3,086 only (in comparison with Rs. 2,68,497 for the whole of India), whereas manufactured silks imported into Burma were valued at Rs. 53,67,548 (out of Rs. 3,45,09,584 imported into the whole of India).

There is, however, still a good internal demand in India proper for certain superior types of hand-woven silk piece-goods. "Most elaborate patterns are worked out with the aid of dobbie and jacquard harness, and the beautiful silk brocades (known as kincobs), literally interspersed with metallic threads for which Benares and Madura are famous, command appreciation even in the West." [2] These products are woven with imported silk. The conclusion of the Trade Enquiry carried out by the Imperial Institute in 1921 was that Indian raw and reeled silks must be improved in quality if they are to compete with the products of other countries, and that the expansion of the industry, especially of the export trade, is dependent upon its being adequately financed by a responsible body in receipt of Government support, and upon the introduction of modern filatures. European supervision and management seem to be indispensable, as Indian manufacturers of reeled silk pay more attention to quantity than quality of output.[3]

The hemp industry is still at the experimental stage, as although several types of hemp are cultivated in India (of which the best known are sunn hemp, sisal, and Deccan hemp[4]), the attempts to utilize them as substitutes for jute or flax have not yet met with much success.[5]

§ 4. PLANTATION INDUSTRIES [6]

Owing to the peculiar organization and (in most cases) relatively recent origin of the plantation industries,[7] they have not formed an integral part of Indian economic life. Organized on a large scale from the first, the problem of inducing small-scale cultivators to adopt improved methods of production has never arisen. On the other hand, there has been the problem of

[1] The comparatively sober lines of the Burmese silk "fail to appeal to the average Burman as do the brilliant acheik and other cloths made of the gaudy silk thread of commerce. The Burmese hand-weaving of Chinese silk has also declined rapidly" (*Imperial Gazetteer*, vol. ix, p. 145).

[2] *Ibid.*, p. 319.

[3] Imperial Institute Trade Enquiry, *Reports on Jute and Silk* (1921).

[4] Sometimes known as "Bimlipatam Jute."

[5] *V.* C. W. E. Cotton, *op. cit.*, pp. 270, 271, and the *Munitions Handbook*.

[6] *V.* Fig. V, p. 261.

[7] *V.* chap. v, p. 115.

attracting a supply of labour from a distance, and of maintaining it in decency and contentment.

The tea industry is India's premier plantation industry. Although wild tea-plants were found in Assam in the eighteen-twenties, it was doubted whether they really were tea. Lord William Bentinck sent a special committee to China in 1834 to obtain seed and Chinese labour, with the idea of introducing the crop into the hilly districts of Northern India.

Government plantations were accordingly started in Assam on these Chinese foundations, but were sold in 1839 to the Assam Tea Company, Ltd. Meanwhile it was found difficult, if not impossible, to extirpate the native tea-plant in Assam (in order to replace it by the Chinese shrubs), and the experiment was tried successfully of putting the Indian leaf on the market. In the fifties the cultivation of the indigenous tea-plant went ahead rapidly in Assam, Bengal,[1] Southern India,[2] and Ceylon, where a number of tea-gardens were started with European capital. In the sixties unduly rapid expansion resulted in over-speculation and a crisis in 1866, after which slow recovery took place and the cultivation and export of tea expanded steadily. Thus, whereas in the middle of the nineteenth century the United Kingdom obtained the whole of its tea from China, and as late as 1869 obtained only 10,000,000 lb. from India as compared with 101,000,000 lb. from China, at the end of the century it obtained only 24,000,000 lb. from China and 137,000,000 lb. from India.[3]

During the early years of the twentieth century the increased production of tea in India and Ceylon was accompanied by a heavy fall in prices, as the market for tea was not capable of indefinite extension. New markets were sought and found in Russia (up to the outbreak of the war), Canada, the United States, and Australia.[4] Rather larger quantities also were consumed in the inland market, owing to the extension of tea-drinking amongst Indians.[5] Special measures were taken to improve the quality and methods of preparation of Indian tea by the Indian Tea Association, formed in 1899, and the Tea Cess Act of 1903 imposed

[1] In the Cachar and Sychet districts.

[2] In the Wynaad, Nilgiri, and Travancore districts.

[3] *Moral and Material Progress of India*, 1901–2 and 1911–12.

[4] In the latter country Indian tea was given a preference over tea from China and Java.

[5] It is interesting to notice that the introduction of tea-shops in India met with opposition on the score that it induced extravagance, and that tea-drinking was a "vice" almost comparable with the consumption of alcoholic liquors. Somewhat similar opposition arose when tea-drinking was first introduced into England. Mr. Gandhi (*Life and Writings*, p. 114) spoke of Lord Curzon having introduced the fashion of tea-drinking, and said that "that pernicious drug now bids fair to overwhelm the nation. It has already undermined the digestive apparatus of hundreds and thousands of men and women and constitutes an additional tax upon their slender purses."

a small tax on the sale and export of tea, the proceeds being handed to the Tea Association to be utilized in research. Legislation to ensure proper conditions of work for the immigrant labour required on the Assam tea plantations began in 1863, and was extended and consolidated in regulations laid down by the Assam Labouring and Emigration Acts of 1901 and 1915, the latter of which (amongst other reforms designed to improve the conditions of the coolies) abolished recruitment of labour by contractors. Since then a Labour Board has supervised the recruitment of labour under contract for the plantations, and the law regarding breach of contract has been drastically modified and the penal sanction of contracts abolished.[1]

During and just after the war the Indian tea trade was depressed, owing in particular to the loss of the Russian market. The preference granted to tea from within the Empire by the United Kingdom after 1919 helped Indian planters but little, as Ceylon is India's chief competitor. During the last few years the industry has somewhat revived, as the loss of the Russian market has been offset by a great increase in consumption in the United Kingdom.[2] In 1925 India exported no less than 342,000,000 lb., mainly to the United Kingdom, compared with an export of 213,000,000 lb. from Ceylon, 112,000,000 lb. from the Dutch East Indies, and 113,000,000 lb. from China.[3]

As a rule there is a factory for the preparation of the tea for the market in connection with each plantation, the coolies being engaged sometimes in agricultural, sometimes in industrial, labour. In Northern India the plantations are for the greater part in the hands of large Calcutta firms of managing agents, whilst in Southern India most of the plantations are owned and managed by independent firms or individuals.

Although the coffee plant was introduced into India in the sixteenth century, systematic cultivation only began in the eighteen-thirties. The great centre was Mysore and neighbouring districts of Southern India. Cultivation flourished up to 1862, when the deadly borer beetle and leaf blight made their disastrous appearance, which ended in the almost complete collapse of coffee cultivation by 1885. Much of the land which had been under coffee was then planted with tea or cinchona, and since that date the industry has been of relatively small importance.

In Southern India, Burma, and Ceylon rubber and cinchona were introduced at the end of the nineteenth century in the areas devastated by the collapse of coffee plantation. Rubber-growing

[1] *V.* chap. xii, p. 308.

[2] In 1923 the consumption of tea in the United Kingdom had increased by no less than 35 per cent., as compared with 1913 (v. *Memorandum No.* 1, *Stocks of Staple Commodities, London and Cambridge Economic Service*).

[3] *International Year Book of Agricultural Statistics.*

developed rapidly in the early years of this century, but unfortunately, whereas rice and coffee-growing dovetail as regards their "busy seasons," rice and rubber do not, as the busy seasons coincide. Practically the whole of the product is exported. The export rose from negligible proportions at the beginning of the century to 2·6 million lb. in 1913–14, and to a peak of 14 million lb. in 1920–21.[1] Then came the great slump in rubber prices, due to over-production. The "Stevenson plan" of limiting exports was adopted voluntarily by many planters in India, and by legislation in Ceylon and British Malaya, in 1922. Prices revived gradually, but after a minor boom in 1925 again tended to fall, and the announcement in the summer of 1928 that restriction would end on November 1 of that year caused a heavy fall in prices and a serious crisis in the trade. After a while prices tended to revive somewhat, but the future of the industry is still uncertain.[2]

Cinchona is produced (in North Bengal and Southern India) on both Government and private plantations, but the area concerned is small, and the crop suffices for only a small fraction of the Indian market. Java is now the main source of supply for the whole world.

Indigo has been grown and utilized as a dye in India since the earliest times, but first became an important article of export in the eighteenth century, but even then the quantity exported was small in comparison with that which developed during the nineteenth century, under the control, but not the direct management, of European "planters." [3]

In spite of difficulties during the nineteenth century due to the bad relations between the planters and the actual cultivators, the area under indigo, and exports, increased very rapidly up to 1897.[4] In that year a great decline set in, owing to the competition of German synthetic dyes, which had recently been placed on the market. By 1913–14 the area under indigo was only one-tenth of what it had been in 1896, and exports had fallen correspondingly.[5]

During the war the demand for indigo temporarily revived, as German dyes were shut out from the markets of the Allies, but since 1918 German dyes have reappeared and have regained their old supremacy. In 1918 a cess was imposed on exported

[1] This compared with an export of over 200,000,000 lb. from British Malaya.

[2] For an explanation of the Stevenson restriction scheme and a more detailed discussion of the position of the rubber industry, *v.* V. Anstey, *The Trade of the Indian Ocean*, chap. vi.

[3] *Ibid.*, chap. v, for a description of the peculiar organization in the indigo industry.

[4] A slight decline set in even before 1897.

[5] The Javan indigo industry was completely extinguished during the same period.

indigo to provide a fund for research into methods of preparation for the market, as only if the product is improved and standardized, and costs are reduced, can it hope to compete with synthetic dyes. The best indigo is now grown in the north (mainly in Bihar, Orissa, Benares, and Oudh) under European supervision (though not on European plantations). In Madras a large quantity of indigo is grown mainly under Indian control, but is unreliable in quality, and hence tends to undermine the reputation and lower the price even of the best quality grown in the north.

§ 5. MISCELLANEOUS LARGE-SCALE INDUSTRIES

A certain number of factories or large works have recently been established in many industries besides those just described. In many cases processes involving much hard manual labour and drudgery, formerly performed in the home (often by the women), tend to be gradually transferred to specialized establishments, where machinery and power are used. The industries concerned include rice- and flour-milling, sugar pressing and refining, cotton-ginning and pressing, jute pressing, tanning and leather works, and the manufacture of shellac. In other cases the industries are new to India, such as the artificial silk and match industries, and the so-called " key " industries. Modern, large-scale concerns are also found in the paper, printing, brick and tile, cement, and tobacco industries, and in various enterprises (such as gas and electricity works) established by local authorities. All of these may eventually develop into staple branches of manufacture, but lack of space forbids more than a cursory view of the position in a few typical instances.

Rice and flour mills, equipped with modern machinery and plant, have recently begun to supplant the grinding of rice and wheat in hand-mills, which was formerly one of the many heavy tasks entrusted to Indian women. Such mills were originally erected in large centres of population, in connection with the export trade, as in Karachi for wheat, and in Rangoon for rice, but they are now to be found in many towns.

Rangoon, as the chief rice-exporting port of India, is the great centre of the rice-milling industry. There the industry is conducted on a very large scale,[1] with the most up-to-date machinery, but unfortunately with extremely deleterious effects on the nutritive value of the rice. Indeed the " white " rice thus produced has been called a " biological monstrosity," as the

[1] There are in all some 300 rice mills in Burma, each employing not less than twenty hands, which produce a total of 6,000,000 tons of " five parts cargo-rice " per annum. (This is the technical term for the usual grade of rice exported from Burma.)

machine-milling processes remove part of the outer covering and with it much of the vitamins from the rice.[1] The old-fashioned, indigenous methods of preparing the rice produce a much more nutritious food-stuff, although the rice is yellow instead of white.[2]

Attempts to introduce modern sugar-refining mills have recently been made successfully in connection with the corresponding attempts to improve the cultivation of sugar, but the prospects of large-scale refining are naturally limited by and dependent upon improvements in cultivation, and have therefore so far been restricted in extent. Cotton-ginning and cotton and jute pressing, on the other hand, are now mainly performed in mills.

We have already noted[3] that large-scale chrome tanneries were established at the instigation of the Provincial Government in Madras just before the war, and were very greatly stimulated during the war, at which period tanning and leather works were started in Bengal, and much useful research was accomplished by various Provincial Governments.

Belting, straps and bands (for machinery), harness and boots are now produced in Bengal, as well as in the well-known Government leather and harness and saddlery factories at Cawnpore. The latter (which specializes in army boots) employs over 50 per cent. of the total number of persons employed in tanning and leather works throughout India.[4] The cultivation of suitable tanning barks has been encouraged and extended, whilst faulty flaying of hides, branding of cattle, and adulteration and excessive greasing of the hides have been discouraged. If methods of tanning and the quality of the leather goods can be improved, there is every prospect of success for both branches of the industry.

The manufacture of shellac, of which India has a practical monopoly, is also an expanding industry, owing to the new demand for shellac for the manufacture of gramophones, varnishes, lithographic ink, and for electric insulation.[5]

The so-called "key" industries may be defined as those which, although of minor quantitative importance, produce goods

[1] For an account of the processes involved and an explanation of the commercial terms used for rice at its various stages of production, see C. W. E. Cotton, *Handbook of Commercial Information for India*, p. 148.

[2] There are two principal indigenous methods, namely, boiling and husking, or dry husking. According to the former method the rice is parboiled, and expands, then it is dried in the sun, after which the grain shrinks and the loosened husks are removed by pounding in a mortar. According to the latter method the paddy is pounded dry in the mortar until the husks are removed. The latter is the method preferred by Brahmans, as they cannot eat anything which has been touched by the lower castes. These indigenous methods retain all the vitamins, and the husks are used as a cattle fodder and (mixed with cow-dung) as cakes for fuel.

[3] *V.* chap. ix, p. 211.

[4] *Trade Report on Hides and Skins* (1920).

[5] C. W. E. Cotton, *Handbook of Commercial Information for India*, p. 250.

essential for the continuance of production by the great staple industries.[1] These include the manufacture of "accessories" (such as roller skins, pickers, belting, etc.), implements and spare parts necessary in the various machine-using industries,[2] and a group of miscellaneous industries, such as the manufacture of anti-friction metal, ferro-manganese, glass,[3] pottery, refractory bricks, disinfecting fluids, tea-pruning knives,[4] tea-chests, asbestos, boiler composition, glucose, and graphite crucibles.

Artificial silk has recently gained a foothold in India. Courtauld & Company, Ltd., has established an artificial silk factory near Bombay, and imported silk yarn is being more and more utilized by hand-loom weavers in India.

The match industry is of growing importance and has developed rapidly since the imposition of revenue duties, stated to be "non-protective," on matches in 1924.[5] Actually these duties appear to have had a protective effect, and there are now no fewer than thirty-four match factories at work in India, some of the largest being controlled by Swedish and Japanese interests.[6] The Tariff Board investigated the position and potentialities of the industry in 1927–28, and recommended that research work should be undertaken at Dehra Dun, and that the existing duties should be retained for protective purposes.[7] The Government has announced its intention of introducing legislation to this effect.

The paper industry is also of growing importance, four large mills having been established in the nineteenth century, and one since the war. Two new mills are now projected.[8] Paper is at present manufactured from either sabai grass or bamboo. Sabai

[1] *Munitions Handbook*, p. 14. Mr. Pillai remarks on the subject that "the unevenness of India's industrial developments was revealed in its entire nudity during the days of the war; the abject dependence on imported machinery, parts and spares, was then for the first time seriously felt; and under the guidance of the Board of Munitions, the beginnings were laid of the key industries dealing with iron and steel and chemicals" (p. 184).

[2] Bengal engineering firms have made good progress in the production of bolts, nuts, rivets, galvanized articles, enamelled ironware, and electrical and medical porcelain. Machine tools are beginning to be produced in India (*Munitions Handbook*, pp. 14, 21).

[3] No less than five glass factories were established in Bombay during the war, two of which employed Japanese managers, and all of which used "direct-fired" Japanese pot furnaces. These furnaces, however, are extravagant in the consumption of coal. It is suggested that eventually oil may be used as fuel. Lamp-ware and other cheap utensils are the chief products (*Report of the Bombay Department of Industries*, 1917–18, p. 5).

[4] India now produces all the pruning knives needed on her tea plantations.

[5] Duties have also been imposed on undipped splints and veneers, in order to prevent discrimination against the use of Indian materials.

[6] V. *Annual Review of the Trade of India*, 1926–27, p. 54, and *D.O.T. Report on the Conditions and Prospects of British Trade in India*, 1924–25, p. 192. Japanese competition in the import trade, which at one time was serious, has now been eliminated.

[7] *Report of the Tariff Board on the Match Industry*, 1928.

[8] *Report of the Tariff Board on the Paper Industry*, 1925.

grass is neither very abundant nor very cheap, nor is the quality of paper produced suitable for all purposes. Bamboo is only suitable for low-grade paper, but India's bamboo supplies are plentiful and cheap. The Tariff Board carried out an investigation into the prospects of the industry, and concluded that there was no likelihood of the production of paper from sabai grass ever being a success without assistance, except at Saharanpur, and that the production of paper from bamboo would only succeed if the process could be improved—*i.e.* "commercialized." [1] It therefore recommended the grant of a bounty, with the object of stimulating research and thus improving the methods of production. This recommendation was not adopted by the Government, which, however, imposed a specific duty (of one anna per lb.) on certain types of printing and writing paper.[2]

The cement industry, which has developed mainly since 1914, is suffering not so much from the competition of imports as from over-production for the up-country markets. In the up-country markets the ten large companies that are at work enjoy a practical monopoly, owing to high transport costs, but they cannot at present compete in the ports, where the principal demand exists, owing to the high cost of transport. At present, therefore, the up-country markets are flooded with Indian cement, which cannot be sold at a remunerative price, whilst imported cement retains predominance at the ports. The chief difficulties appear to be the high cost of fuel (all the factories being far from the coalfields) and high cost of transport. The necessary raw materials are abundant, and labour can easily be trained to do the work, which does not require the use of complicated machinery.[3] Either over-production for the up-country markets must be prevented, or the cost of production must be lowered so that the ports may be captured as markets. For the latter purpose it would be necessary to reduce costs by some Rs. 4 to 5 per ton.

The brick and tile and the tobacco industries, as also the various local government gas and electricity enterprises, have all increased in importance of recent years, and have every prospect of expansion. The printing industry has already reached considerable dimensions, but the quality of the output is poor, largely owing to the difficulty of procuring artisans with the necessary education and training.

Finally, it may be suggested that bicycle and motor construction may surely be counted amongst India's potential industries. The recent rapid increase in the use of bicycles, private cars, and

[1] The great potentialities of this process were pointed out at the meeting of the British Association in Leeds, in 1927 (*Times*, September 8, 1927).

[2] Bamboo Paper Industry (Protection) Act, 1925.

[3] The quality of the product is said to be equal to that of British cement (*v.* Sir Hugh Keeling's evidence before the Tariff Board).

commercial lorries has already given rise to a comparatively large repairing and fitting industry in the large cities, and there seems no reason why, if the Indian steel industry makes good, actual construction should not also take place within the country. This in its turn should facilitate the establishment of various by-industries, such as the production of rubber and tyres. Here, as in the case of the chemical industries, it would probably be necessary to initiate a number of related industries at one and the same time.

We have now considered both the industrial position as a whole, and the position and problems of each of the principal large-scale industries. The latter analysis fully supports the generalizations previously drawn as to what are the main problems that must be solved if India is to industrialize.[1] The scarcity (and hence high price) of capital and the labour problem stand out as of predominant importance, together with the need for co-ordinated effort, in order that a number of new industries, of great mutual importance, may be simultaneously developed.

It is clear that the process of industrialization will be slow and difficult, unless all classes of the population are willing to co-operate with patience and perseverance, not only with the Government but with each other, in far-reaching schemes which involve not only the introduction of better plant and processes, but also an improvement in the general (as well as technical) education and efficiency of the operatives.

This latter objective can hardly be attained in the absence of a substantial rise in the general standard of life of the operatives, and of the classes from which the latter are obtained. We are driven to the conclusion that one of the best ways by which industrial leaders in India can promote their own and their country's interests is by devoting more thought and attention to the welfare of their workers (both at home and at work) and to their relations with those workers.

[1] *V.* chap. ix.

CHAPTER XII

THE PROTECTION OF INDUSTRIAL LABOUR BY THE STATE AND BY VOLUNTARY ORGANIZATION.

§ 1. INTRODUCTORY, p. 294.

The relation between industrial development on the one hand, and protective legislation and the voluntary organization of labour on the other hand—India's opportunity of benefiting by the experience of other countries—The need of adapting legislation to Eastern conditions.

§ 2. FACTORY LEGISLATION, p. 296.

Early factory legislation in India—The Act of 1911—*International Labour Legislation and the Act of* 1922—*Problems of Indian factory labour.*

§ 3. MINING LEGISLATION, p. 304.

Prospecting licences and mining leases—The Mines Acts of 1901 *and* 1923—*The proposed abolition of women's labour underground.*

§ 4. RECENT INDUSTRIAL LEGISLATION, p. 307.

The influence of the International Labour Organization—Workmen's Compensation—The Workmen's Breach of Contract Acts—Proposed legislation of various types—Control of migration and emigration.

§ 5. THE ORGANIZATION OF INDUSTRIAL LABOUR, p. 314.

Origin of the attempt to organize industrial labour in India—Problems of organization—The Swadeshi agitation and strikes in and after 1905—*The influence of war conditions—Post-war industrial unrest and the formation of Trade Unions—Trade Disputes and Trade Union Legislation—The basis and characteristics of Trade Unionism in India.*

§ 6. VOLUNTARY WELFARE WORK, p. 324.

The work of voluntary associations of social workers—The Industrial Welfare Work of the Mill-owners (e.g. *Works Committees, Factory Welfare Work, Workmen's Institutions*) *and of philanthropists and social workers* (e.g. *the work of the Social Service Leagues, "Servants of India," Seva Sadans, Women's Councils*)—*Conclusions.*

§ 1. INTRODUCTORY

In most countries, at most stages of economic development, the Government—however primitive in form and unlike Western Governments of to-day—has played an intimate part in economic life, and endeavoured to control the working of the economic

organism. But, until the beginning of large-scale organization, Government interference aimed not so much at taking any one class under its wing, as at maintaining a right balance between different groups, and seeing that the members of each performed their duties and received their dues. Similarly voluntary organizations of producers—in so far as they existed at all—were formed not between persons earning approximately equal incomes, or performing similar tasks, but between those interested in the production of similar goods, no matter whether they were learners or past-masters in their art or craft.

When, however, the economic upheaval known as the "industrial revolution" began, it was accompanied by great social and economic dislocation. Inquiries into social conditions were made, evils previously hidden were brought to light, the humanitarian spirit became active, and the result was a new type of Governmental interference, directed towards protecting the working classes, and securing for them certain minimum necessities of life and better working conditions. Producers became divided into classes, distinguished from each other by their relative independence or dependence, different scales of incomes, contrasted opportunities of rising in the world, and widely different standards of living. A large class of permanent wage-earners arose, dependent for their living on employment by those who alone possessed the means of production, and began to attempt to improve their status and earnings by forming associations which could undertake collective bargaining on their behalf. The growth of great industrial and commercial centres in all countries has thus been accompanied by industrial and wage regulation of various types, and by the formation of trade unions.

In India the industrial revolution has been slow in starting and developing, and even to-day only about 4 per cent. of the population is dependent upon the organized industries. Nevertheless a good beginning has been made with industrial legislation, and the organization of trade unions has begun. It can be said that India is relatively advanced in these respects in relation to the stage of economic organization attained and the extent of industrialization, although she is backward in proportion to the size of the population and the magnitude of the problems.

In one respect India is at an advantage in comparison with the West—*i.e.* she has the opportunity of benefiting by the experience of other countries, and ought to be able to avoid some of the social evils which have accompanied industrialization elsewhere. On the other hand, it will be disastrous simply to apply to India methods that have been found effective in Western countries. Such methods should be carefully adapted to Eastern conditions, and the peculiarities of the Indian social system and of the

psychology of the people should never be forgotten. In the sphere of international legislation the need for such adaptation has been fully recognized.[1] The details of these resolutions have been carefully adapted to Eastern conditions, so that India has been able to adapt modifications suitable to her own peculiar organization. This excellent example should be borne in mind whenever proposals are advanced for new social and industrial legislation in India

§ 2. FACTORY LEGISLATION

"The amount of protection given to the labouring class is determined not by the number of labour laws upon the statute books, but by the number of such laws which are properly administered, and by the extent to which their provisions are enforced." [2]

Interest in the conditions of factory workers was first aroused in India not by the humanity of a few enlightened manufacturers, politicians, and better-class inhabitants of industrial towns, as in England, but by the discovery of certain Lancashire cotton manufacturers and merchants, in the eighteen-seventies, that a cotton-mill industry had sprung up in the Bombay Presidency. The fact that it was the self-interest of Lancashire that first stimulated inquiry need not, however, blind us to the honest sympathy that was awakened when inquiries revealed the bad conditions under which factory work in India was carried on. The motives of sympathy for low-paid Indian labour and desire to avoid in India that stage of acute suffering experienced by industrial workers during the period of transition from the domestic to the factory system, increased in relative importance as more light was thrown on Indian conditions and problems by the inquiries that were held, and as political reforms were introduced which tended to lessen the influence of Lancashire opinion on the Government of India.

Moreover, it was realized by many advocates of legislation in India that shorter hours and improved conditions of work would not necessarily result in decreased production and smaller profits, and hence that such regulations might promote, rather than hinder, the development of Indian factory industries.

Following some agitation in the Press and in the House of Commons during the eighteen-seventies for the repeal of Indian import duties and for factory legislation in India, a Commission

[1] India is represented on the Council of the International Labour Organization at Geneva, and has been most active in adopting and executing the resolutions. An Indian branch of the I.L.O. has recently been opened. V. *Asiatic Review*, July 1929, p. 397, "Indian's Interest in the I.L.O.," by P. P. Pillai.

[2] Quoted from the *United States Labour Bulletin*, No. 142, by A. G. Clow, "Indian Factory Law Administration"; *Bulletin of Indian Industries*, No. 8.

was appointed to investigate conditions in Bombay,[1] which in reality included all the more important factories, except jute factories, because at that time modern large-scale production existed only in the textiles. The Commission revealed the facts that the mills worked from sunrise to sunset, there was no fixed weekly holiday, and children were taken on at eight, or sometimes at six or seven years of age. It concluded that the machinery on the whole was not badly protected, and that although the hours were long, the conditions of work were not oppressive, because they were " natural "—that is, intervals for rest were permitted, and the pace was not forced. The Commission recommended that a minimum age should be fixed below which children might not be employed, that working hours for all should be limited to ten, that children's hours should be rather less than those of adults, that one day in seven should be a holiday, and that provision should be made for improved ventilation.

Nothing was done immediately, but the agitation continued both in England and in India, and finally the Indian Factory Act, of 1881, was passed.[2] This Act prohibited the employment of children under seven, limited to nine hours the work of children from seven to twelve years, and included provisions for the prevention of accidents, and for a midday interval and four holidays per month for children.[3] Unfortunately the regulations were not difficult to evade.[4]

The development of the cotton-mill industry was not adversely affected by the Act. Further inquiries were made in 1882 and 1884.[5] Nevertheless, despite considerable sympathy for the extension of legislation in certain quarters in India, on the whole Indian articulate opinion was against it, and the agitation was condemned as a " great conspiracy for stifling Indian manufactures under the guise of philanthropy."

A new Factory Bill was drawn up, and the Lancashire agitation was reinforced by the passing of a resolution at the Berlin International Labour Conference convened by Bismarck in 1890. Before introducing further legislation, however, Government decided to appoint another Commission, *i.e.* the Indian Factory Commission of 1890. The report of this Commission concluded that the development of factory industries was highly beneficial to India, that there was need for further legislative control,

[1] Bombay Factory Commission, 1875.

[2] The Act applied throughout British India to all factories (except ginning mills and other seasonal factories) that used power and employed not less than 100 persons.

[3] No provisions were made as to hours or holidays for adults.

[4] There was, for instance, no method of discovering the ages of the children employed.

[5] It was at this time that the organization of factory workers in Bombay originated (*v.* p. 314, below).

and that as conditions in India were very different from those in England, such legislation should be thought out quite independently.

In the following years the Indian Factories Act of 1891 was passed, and marked a great step forward, as it dealt with women as well as children.[1] The minimum age of employment was raised to nine, children between nine and fourteen years old were not to be employed at night, nor for more than seven hours per day,[2] and if employed for as much as six hours, were to have a rest interval of half an hour. It was also laid down that all children employed should obtain age certificates from recognized doctors.

Women were prohibited from working at night, and their hours were limited to eleven per day, with not less than 1½ hours rest intervals (*i.e.* 12½ hours in all). As seasonal factories were not included under the Act, women continued to work at night in a large number of ginneries and other industrial concerns.

For all workers, including men, a midday stoppage of half an hour and one day's rest in seven were prescribed.

The results of this Act were not as satisfactory as might have been hoped. It was not properly enforced, partly owing to insufficient and inefficient inspection, and partly to the extraordinary difficulties confronting enforcement in India. A large number of women were dismissed from the factories at Ahmedabad and elsewhere, and the wages of those retained were reduced.[3] Moreover continuous budget deficiencies necessitated changes in custom duties which aroused a further agitation on the part of the cotton manufacturers of Lancashire, whilst the rapid development of the Indian jute industry increased the uneasiness of the Dundee jute manufacturers.[4]

The after effects of the terrible plague epidemic of 1896–97,[5] and of the famine of 1899–1900, led to a decline in the demand for the products of the cotton mills, but in spite of everything production continued to expand even during these difficult years.

Conditions of work were adversely affected by the introduction of electric light into factories, which began in Bombay about

[1] This Act included all factories (except ginning mills and other seasonal factories) which used power and employed not less than fifty persons, and gave permission for local governments to extend the provisions to factories employing not less than twenty persons.

[2] Not before 5 A.M. or after 8 P.M., unless there was an approved system of shifts (G. M. Broughton, *Labour in Indian Industries*, p. 156).

[3] This was probably a deliberate protest rather than an economic effect.

[4] The tariffs and countervailing excise imposed on cotton in 1894 and 1896 suited no one. Lancashire objected to the existence of import duties on any terms; whilst Indian manufacturers objected strongly to the countervailing excise. *V.* chap. xiii, p. 346.

[5] The plague caused an exodus from Bombay city which gave the remaining workers, temporarily, a strong bargaining position.

1904–5. Up to this time work could not be carried on except during daylight, which in Bombay, even in the summer, does not last much more than 13½ hours (*i.e.* 12 hours of work and 1½ hours rest intervals). The introduction of artificial (electric) light enabled the mills to extend their hours when trade revived, and they frequently worked as much as 15 or 16 hours per day.[1]

The vigorous agitation carried on by Lancashire and Dundee trade interests was largely responsible for the appointment of the Textile Factories Labour Committee of 1906, and the findings and recommendations of that Committee led to the appointment of a more comprehensive Commission which investigated conditions in factories of every kind throughout British India in 1908.

From both reports the first conclusion that emerged was that the existing legislation was not being rigorously enforced. The law itself was too vague, and was supplemented by Provincial Rules which differed from each other in essential matters. Most of the factory inspectors lacked the necessary special qualifications for the task, and simply had the duty of inspection added to their other duties as assistant collectors, civil surgeons or magistrates, as the case might be. Before the passing of the 1911 Act there were only six full-time inspectors. It was therefore recommended that a unified system should be introduced, and that special factory and medical inspectors should be appointed. Many children under nine years of age continued to be employed in textile factories, and many children under fourteen habitually worked full factory hours.[2]

Apart from disregard for the law, it was very difficult, owing to the extremely incomplete nature of the registration of births in India, to discover the age of children, and it was comparatively easy for children to obtain a false certificate or even to work for a long period without any certificate at all. Often no certificate was demanded for months at a time. Alternately children could obtain the loan of the medical age certificates of older children, or persuade unscrupulous doctors to give them false declarations.

Again, owing to the irregular shift system the children either attended the mill-school in the compound, or worked in the factory, at the discretion of the managers, and it was therefore impossible to tell the number of hours worked in any one day. This was known as the "split set" system. The Commission of 1908 recommended that systematic shifts should be worked and that no schools should be allowed within the factory compound.

Both reports agreed that the conditions of work and physique of the women were superior in many factories to those of

[1] From 5 A.M. to 9 P.M. (*Report of the Textile Factories Labour Committee*, 1906, Cmd. 3617, p. 17.)

[2] *Report of the Indian Factory Labour Committee*. 1908, p. 14.

comparable classes of women engaged in other types of work in India,[1] but that in the ginning mills and other seasonal factories conditions were bad, women were employed at night, and often brought with them their younger children.

The Commissioners of 1908 concluded that "excessive hours" (*i.e.* more than twelve per day, exclusive of rest intervals) were worked frequently in textile and seasonal factories, but that an eight-hour day prevailed in the engineering shops, 10 hours in the jute mills (except in the weaving departments) and 10½ hours in the woollen mills of the United Provinces,[2] but they maintained that a twelve-hour day was not "excessive" for Indian operatives, on account of the easy-going conditions under which that work was carried on. It is undoubtedly true that discipline is less strict in Indian than in English factories, and that Indian operatives not only take a large number of unauthorized holidays (for instance at harvest time), but also take 1½ to 2 hours off for their midday meal, and frequent short rests during working hours. It is a recognized thing for each workroom to have a complement of 10 per cent. to 15 per cent. more workers than are necessary at any one time.[3] It is alleged that this slack method of working suits the Indian, who is incapable of prolonged and intense effort. On the other hand Dr. Nair asserted that the Indian is "lazy" mainly because he works for excessive hours. The result on output of the shorter hours worked in the engineering and jute industries and in certain cotton mills seems to support this view.

The actual evidence produced with regard to the health of the workers was contradictory and inconclusive. From the figures given of the death-rate of factory operatives and of general labourers respectively, it appeared that although the death-rate from phthisis of factory operatives was slightly higher than that of general labourers, their death-rate from "other respiratory diseases" and from "all causes" was appreciably less.[4] On the other hand a comparison of the average weight of prisoners and of factory operatives showed that "factory operatives weigh on the average about 8 to 10 lb. less than the average of the jail population between the ages of twenty and fifty."[5] It was pointed out, however, that the weight of prisoners was probably above that of the general population, as prisoners nearly always increased in weight whilst in prison—a striking comment on the condition of

[1] *Report of the Indian Factory Labour Committee*, 1908, p. 6.
[2] *Ibid.*, 1908, p. 24; and *Report of* 1906, Appendix I.
[3] The report on "Wages and Hours of Labour in the Cotton-mill Industry" (Bombay, 1923), gave the following figures of absenteeism: 10·4 per cent. for all work-people; 9·2 per cent. for men; 14·7 per cent. for women; 9·8 per cent. for time-workers; and 11·2 per cent. for piece-workers.
[4] *Report of the Textile Factories Labour Committee*, 1906, Appendix I, 1908, p. 24.
[5] *Report of the Indian Factory Labour Commission*, 1908, p. 24.

the masses! The majority of the Commission concluded on general grounds that the physique of factory operatives compared favourably with that of agricultural labourers and the coolie class, and that there was no sign of physical deterioration.[1] On the other hand they admitted that the average age of the operatives was very low, and that consequently it appeared as if the older men nearly all gave up the work, and went back to their family holdings.

The Committee of 1906 called attention to the miserable housing and sanitary conditions in industrial centres, but concluded that wages were distinctly higher than those earned by similar workers in other occupations,[2] and left the operatives a considerable surplus for expenditure on alcohol, the excessive consumption of which was increasing and becoming one of the outstanding evils of city life.

Dr. Nair, in his Minority Report to the Commission of 1908, disagreed fundamentally with the conclusion of the majority on the score of injury to the health of the women, and recommended strongly the direct limitation of the hours of work of all workers, including adult males.

The result of the publication and consideration of these two reports was the Indian Factories Act of 1911, which was largely based on Dr. Nair's recommendations. This Act provided that the hours of women and children in non-textile factories should remain unaltered at eleven and seven respectively, but in textile factories—which after all formed the bulk of all Indian factories—children's hours were reduced to six, and no person, male or female, was permitted to work more than twelve hours.[3] This was enforced by the regulation that mechanical and electrical power might not be used in textile factories between 7 P.M. and 5.30 A.M., unless an approved system of shifts was introduced.[4] Night-work was entirely prohibited for women except in ginning mills. All children were obliged to produce certificates of age and fitness before they could be employed. All factories had to stop work completely for at least half an hour every six hours, and much stricter regulations were included with regard to ventilation, lighting, fire escapes, provision of water, fencing of machinery and so on.[5]

[1] Lieut.-Col. MacTaggart wrote a "demi-official" memorandum in support of this view. (*Report of the Indian Factory Labour Commission*, 1908, Appendix B.)

[2] *Ibid.*, p. 22.

[3] Note that the hours of adult males were limited by law in India, at a time when they were not limited by law in England.

[4] The double-shift system is now the practice in only two cotton mills in India (employing only adult males), one in Ahmedabad, one in Bombay (v. *Tariff Board Report on the Cotton Industry*, pp. 63, 70, 145).

[5] These provisions still applied only to factories employing not less than fifty or —if extended by the local (*i.e.* provincial) government—to not less than twenty persons, but the definition of a "factory" was extended to include ginning mills and other seasonal establishments.

Nothing was said in the Act about improving the educational facilities of the factory children. The question was highly controversial, as whilst many people thought that the mill-owners ought to be obliged to provide schools for the " half-timers " (*i.e.* for all children employed) it was feared that if they did so they would be able to take the children from the schools into the mills whenever there was pressure of work. Eventually " public and official opinion began to favour more direct methods " (of promoting primary education) " which resulted in the Acts for compulsory primary education which, beginning with Bombay (1918), have now been passed by most provincial legislatures. The financial difficulties involved have prevented these Acts from having much practical effect." [1]

During the war industrial activity was greatly stimulated, and the number of factories and of persons employed therein increased no less than 25 per cent. between 1914 and 1919, although it declined again rapidly during the difficult period of depression from 1920–21 onwards.[2] In India, as in England, the demand for increased production and exemption from many provisions of the Factory Acts was temporarily claimed and granted.[3] At the same time the number of factory inspectors was actually decreased, and thus the standard of enforcement was greatly lowered.[4] No further change in factory law was introduced until 1921, when the Draft Conventions passed by the International Labour Conference at Washington were introduced into the reformed Indian Legislature, and, after some amendment, became law in 1922.

The Washington Conventions prescribed an eight-hour day for industrial workers, but special provisions were made for Eastern countries. The Act of 1922 raised the age of employment to twelve years; provided that children from twelve to fifteen years must not be employed for more than six hours, in addition to compulsory rest intervals; restricted the work of all adults to eleven per day and sixty per week, with a rest interval of one hour after six hours' work, and a regular weekly holiday. In 1925–26, 59 per cent. of the men and 54 per cent. of the women employed in factories worked fifty-four hours or more per week, 12 per cent. of the men and women worked between forty-eight and fifty-four hours per week, and 29 per cent. of the men and 34 per cent. of the women worked forty-eight hours per week.[5]

[1] A. G. Clow, " Indian Factory Law Administration," *Bulletin*, No. 8, p. 42.

[2] *Ibid.*

[3] The woollen mills, for instance, worked day and night, without ceasing, in order to try to cope with the great war demand.

[4] A. G. Clow, *op. cit.*, p. 42.

[5] *Moral and Material Progress of India*, 1925–26, p. 244. Unfortunately this progress was not maintained in 1926–27—a year of industrial unrest and difficulty (*ibid.*, 1926–27, p. 141).

In the cotton-mill industry the hours actually worked are less than those legally permissible. In 1922–23 the average hours worked were $10\frac{1}{16}$ by men, $9\frac{3}{4}$ by women, and 5 by children.[1] The provision of 1911 that women might work at night in ginning factories was repealed, and no woman may now work in an Indian factory between 7 P.M. and 5.30 A.M.

Power was given to local governments to enable them to fix standards of ventilation and of artificial humidification; and the definition of "factory" was extended to include all power-using factories employing regularly not less than twenty (instead of fifty persons), with power to the local governments to extend it to establishments employing not less than ten persons, whether or not power is used.[2]

The provisions of the 1922 Act apply only to factories and not to all industrial workers, whereas the Washington Conventions were to apply, in other countries, to all organized employment, except strictly agricultural work, including "all construction, reconstruction and maintenance works, as also all transport of passengers or goods by road, rail, sea or inland waterways."[3]

In India, as in other countries, it was foretold that the limitation of hours would result in the unemployment of the classes of workers affected and in a rise in the cost of production, and that although a shortening of hours in the West had been accompanied by an increase in efficiency which counteracted the loss of the last hour's work, this would not occur in India, owing to the inability of Indian factory workers to work harder during the limited working hours.

These pessimistic forebodings have proved unfounded, but there is no doubt that it is even harder in India than in the West to obtain an increase in efficiency sufficient to make up for shorter hours.[4]

The demand for children's labour has not been reduced by the restrictions to which such labour is liable, because in India children mature early and are therefore valuable workers at an age when their wages are still comparatively low.[5] It appears that the Acts have been successful in introducing a comparatively high standard of safety, ventilation and sanitation.

[1] *Report on Hours and Wages in the Bombay Cotton Mill Industry*, 1923.

[2] An amending Bill was passed in 1926, designed to prevent accidents and the employment of children in two mills on the same day, but included no important changes in principle (v. *Moral and Material Progress of India*, 1925–26, p. 118).

[3] G. M. Broughton, *op. cit.*, p. 161.

[4] In some cases, as for instance in the Elgin Mills at Cawnpore, and the Empress Mills, Nagpur, no reduction in output per head has occurred, whilst elsewhere some reduction in output has followed, but a reduction relatively less than the decrease in working hours.

[5] The numbers employed have, of course, been reduced by raising the age of employment, and this has tended to increase the demand for women workers (v. *Moral and Material Progress of India*, 1926–27, p. 141).

Much has been done to improve the administration of the Factory Acts, but in some respects complete compliance has not yet been attained. It has been estimated that "about half the total number of factories get inspected only once, that less than one-third are inspected more than once, while more than 1,000 factories do not receive an inspection visit throughout a whole year. The majority of the managers can therefore bank on being immune from further visits after the annual inspection has taken place." [1] The adequacy of inspection varies greatly from province to province.[2] The number of factories subject to inspection after the passing of the Act of 1922 was 5,144, and the number of persons affected (*i.e.* the average daily number of persons employed) was 1,361,002.[3] The factories subjected to inspection for the first time on account of the extension due to the Act of 1922 were chiefly either "factories dealing with the preparation of agricultural products such as tea and indigo" or small factories which were presumably previously excluded because they did not use power or did not employ as many as fifty persons.[4] The new regulations were brought quickly and successfully into operation and a marked improvement has recently been effected as regards the health of the operatives, sanitary condition of the factories, accidents, and convictions under the Acts. Difficulty, however, is still apparently experienced in preventing the employment of children in more than one factory. By far the largest number of employees are found in the class of textiles (665,590). In no other industry subject to the Factory Acts are as many as 200,000 workers employed, but there are between 100,000 and 200,000 employed in transport and engineering, gins and presses, Government and Local Fund Factories, and in the food, drink, and tobacco industries. Practically the whole of the industries of British India which can be considered to be in any way "organized" or conducted according to modern methods are now inspected under the Factory Acts.

§ 3. MINING LEGISLATION

Mining legislation has been much less extensive than factory legislation. Except in "permanently settled" areas the State

[1] Lady Chatterjee, "Labour Legislation in India," *Asiatic Review*, October 1925, p. 539. By 1926–27 a satisfactory increase in the percentage of factories inspected was recorded.

[2] In 1924 there were only the chief inspector, one senior and two other inspectors to deal with 1,579 factories, employing 590,000 persons (including 82,000 women and 47,000 children) scattered throughout Bengal and Assam. In Bombay, since 1923, there have been six inspectors (the chief inspector, two inspectors and three assistant inspectors), four of whom are Indians. A woman inspector was added to the staff in 1924.

[3] *Statistics of Factories subject to the Indian Factories Act for* 1922 (1924).

[4] *Ibid.*

possesses the right to all minerals found in India, unless there is any " judicial precedent " or " proof of established usage " to the contrary. If an individual or company wants to prospect for minerals or to start mining, a prospecting licence has to be obtained (for which a fee is paid) from the Provincial Government concerned. Since 1899 licences are issued for one year in the first place, and are renewable for two or three years subsequently on certain conditions.

The holder of a prospecting licence has the right to demand a mining lease in the case of minerals and mineral oils, or—in the case of precious stones—he has the right to the first offer of a mining lease if any offer is made. Mining leases are granted by the Provincial Governments for not more than thirty years.[1]

Power to inspect mines and enforce certain conditions therein was first taken by the Mines Act of 1901. This Act gave the Government extensive power to frame rules whenever such employment was attended by " danger to the life, safety or health " of the workers.[2]

Provisions were also made for the establishment of local " Mining Boards," to which all proposed Government mining regulations should be referred before they came into force. Three inspectors were appointed to carry out the Act, the main object of which was to decrease accidents and provide healthier conditions of work. Inspection of mines, unlike factory inspection, was placed under the Central Government.

Attention was attracted to conditions in mines and the efficiency of production by the coal strike of 1920, and the post-war difficulties experienced by the Tata Iron and Steel Company. The Mining Act (IV) of 1923,[3] that was passed in accordance with the recommendations made at Washington, did not lay down a daily limit to hours, nor did it prohibit the employment of women underground, but it provided that children should not be employed in mines under the age of thirteen, that the hours of labour should be limited to sixty per week for surface, and to fifty-four per week for underground workers, and that not more than six days should be worked per week.[4]

[1] If more than 10 sq. miles are involved, the consent of the Government of India has to be obtained. A so-called " dead rent " of Rs. 1 per acre has to be paid for on all such leases, and a royalty has to be paid in proportion to the amount of the mineral raised. For instance, 1 anna per ton is paid for coal, and 8 annas per 40 gallons of mineral oil.

[2] *Moral and Material Progress of India*, 1901–2, p. 239. The definition of a mine included any workings more than 20 ft. below the surface (*ibid.*, 1911–12, p. 270).

[3] Published in the *Labour Gazette*, May 1923.

[4] We have already noted that the Indian miners in many districts would rather not work at all than work only six to eight hours per day, as their object is to cram all their weekly work into as few days as possible, in order to return home for the est of the week (*v.* p. 123, above).

A Resolution moved in the Legislative Assembly for the abolition of the employment of women in mines was rejected on the score that as the work is organized in such a way that the women act as helpers (usually carriers) for the men, such drastic action would involve a complete reorganization of the industry, and would inflict a great hardship on the women who lost their employment. At present, therefore, the Government simply possesses the power to make orders prohibiting the employment of women below ground in mines in special cases.[1]

Although these arguments are the same as those put forward before the passing of the English Mines Act of 1842, the circumstances are so very different in India that they have considerable force.

As Indian mines are near the surface, the conditions under which work is done compare favourably with those in most European mining districts. The seams are thick and the atmosphere is usually good. Gas is uncommon, and the temperature is often more suitable for hand labour below than above ground. " Medical statistics will show that in point of health the colliery population will compare favourably with any community in India.[2] " On the other hand the home conditions and diet of the miners (of both sexes) are most unsatisfactory. It is probably not so much the presence of the women underground, as their absence from the " home "—if the miners' miserable hovel can be dignified by such a title—that is to be deplored. If the women stayed at home and paid more attention to the diet of the men-folk, the latter might drink less and work more efficiently. At present the drink question is extremely serious in mining areas,[3] and the usual diet of the miners (boiled rice and pulses, and scanty vegetables) [4] is entirely unsuited to those engaged in hard, muscular labour. This is undoubtedly one explanation of the low efficiency of Indian miners. There is therefore a strong feeling in some quarters that in spite of the difficulties involved the employment of women in mines should be prohibited. It is suggested that a period of grace should be given during which reorganization might be carried out, in such a way as to facilitate eventual prohibition.[5]

Finally it may be noted that " Boards of Health " have been

[1] Lady Chatterjee in the *Asiatic Review*, October 1925, p. 539. Draft regulations to prohibit the employment of women underground in mines have recently been published (*Gazette of India*, June 16, 1928, and *Indian Trade Journal*, June 21, 1928).

[2] H. H. Macleod, *Asiatic Review*, January 1924, p. 130.

[3] It is said that the miner spends almost half his monthly earnings on drink (*Asiatic Review*, January 1924, " India's Working Classes and their Problems," by K. C. R. Chowdhry).

[4] Milk, fish, meat, ghi, and nitrogenous edibles in general are said to be almost entirely lacking.

[5] *Bombay Labour Gazette*, July 1923, " Employment of Women in Mines."

appointed in mining areas to look after the health of the labour force, and that in Bihar and Orissa an Act was passed in 1920 [1] dealing with housing and sanitation, which makes it possible " to compel owners of mines within the mining settlement area to provide house accommodation, water supply, sanitary arrangements and medical assistance." [2]

§ 4. RECENT INDUSTRIAL LEGISLATION

Industrial unrest, the rise of the labour movement, and the co-operation of India in the International Labour Organization at Geneva have stimulated various proposals for industrial and social legislation. One such proposal has already become law, namely, the provision of compensation by the employers for accidents and industrial diseases. Up till 1923 no compensation was due to workers except in case of death.[3] As early as 1884, when Mr. Lokhande's labour agitation started, the workers demanded legislation of this description. The Workmen's Compensation Act of 1923 [4] recognized the right to compensation in all cases of " personal injury by accident arising out of and in the course of employment " and on the contraction of specified industrial diseases. It covered ten classes of workmen, including all persons employed in factories, mines, docks, certain types of building work and telegraph and telephone linesmen, underground sewage workers, members of fire brigades and most railway workers. Government was given power to add to the list of scheduled industries. The most important classes excluded are agricultural workers and domestic servants. Non-manual workers earning more than Rs. 300 per annum are excluded, except on the railways.[5]

Reports on the working of this Act state that full advantage has not yet been taken of it. The Compensation Commissioner can only take action when an application is made to him under the Act. In England and other countries where labour is well-organized such a method may be adequate, but in India, where labour organization is still weak and the workers ignorant and illiterate, it would be better if the Commissioner had the right to investigate the facts and initiate proceedings.

In accordance with the recommendations of the Washington Conference, a Maternity Benefit Bill was introduced in 1924, but

[1] The Bihar and Orissa Mining Settlements Act (IV), of 1920.
[2] G. M. Broughton, *op. cit.*, p. 166.
[3] " Labour Legislation in India," by Lady Chatterjee, *Asiatic Review*, October 1925.
[4] The Act came into force in July 1924, and was amended in details in 1926.
[5] For a summary of the compensation due see the *Indian Year Book*, 1925, p. 460.

many practical difficulties confront such legislation, and no further steps have yet been taken.[1]

The Workmen's Breach of Contract Act of 1859 made it legal to prosecute a workman who had accepted a monetary advance and signed a contract, if he left his work without a valid reason. This law applied mainly to the labour employed on plantations, particularly in Assam. The employer, at his option, could claim performance of the contract or repayment of the advance, and failure to comply could be punished by fine or rigorous imprisonment.

In 1920 the period within which a complaint of non-performance of contract could be brought forward was limited to three months, and complaints were confined to cases in which the advance made did not exceed Rs. 300, and the time fixed for the performance of the contract did not exceed one year. The magistrate was given the power to refuse to put the Act into operation if he considered the terms of the contract unfair to the workman. Discretion to order either repayment of the advance, or performance of the contract, was given to the magistrate, instead of being left at the option of the complainant, and the magistrate was also given the power to arrange for repayment by instalments, or—in the case of enforced performance of the contract—to fix the period of performance. The period fixed was not to exceed one year. Finally the magistrate was given the power to order rigorous or non-rigorous imprisonment, at his discretion, instead of rigorous imprisonment being compulsory.[2]

Subsequently an inquiry was held on the subject and it was concluded that the penal clauses had become an anachronism and that their repeal—far from making the labour question more difficult for employers—would stimulate recruitment for the tea gardens. Consequently the penal provisions were repealed and the new law came into force on April 1, 1926.

Proposals have also been put forward to oblige employers to pay their employees weekly, instead of monthly, for the enactment of a minimum wage, and for legislation to prevent " Truck." A Weekly Payment Bill was introduced into the Legislative Assembly in 1924, but was subsequently withdrawn, as it found few supporters even amongst the workers, who are accustomed to the existing system and do not appear to consider it a hardship.[3] A resolution proposing a minimum wage was negatived in the

[1] *V.* Dr. Barnes' Report in the *Bombay Labour Gazette*, September 1922; Dr. Curjel's Report in the *Bulletin of Industries and Labour*, No. 31; and Lady Chatterjee's article, " Labour Legislation in India," p. 538, *Asiatic Quarterly*, October 1925.

[2] *Report of the Assam Labour Enquiry Committee*, 1921–22, p. 75; v. *Social Service League*, October, 1921.

[3] V. *Moral and Material Progress of India*, 1925–26, p. 117.

Bengal Legislative Assembly in 1922.[1] No Bill has as yet been introduced with regard to truck, but it is widely felt that the Indian worker ought to be protected against unfair deductions and fines by measures similar to those in force in England.

Lastly[2] it should be noted that since the beginning of the twentieth century legislation has been in force controlling the migration and emigration of Indian coolies, especially of plantation workers. This type of legislation began in connection with the recruitment of workers for the Assam tea plantations in 1863,[3] was extended to the institution of control over indentured emigration abroad, and culminated in the complete abolition of the indentured system in 1922.

The Assam Labour and Emigration Act, 1901 (amended in 1906), laid down regulations for the supervision of coolie labour on the plantations, and prohibited recruiting except by licensed contractors.

Recruitment continued to be difficult, as there was a strong prejudice against the contractors, reinforced by the natural dislike of the penal clauses of the Breach of Contract Law. Hence in 1915 an Act abolished the system of recruitment by contractors, and the place of the latter was taken by a Labour Board, under whose supervision local agents were appointed to recruit labour under contract for the plantations.[4] The Labour Board is also responsible for the enforcement of the rules regulating the hours, wages and conditions of work, and welfare of the coolies.[5]

The regulation of the conditions of recruitment, transport, work and settlement of emigrant Indian coolies in both foreign and British colonies has excited a great deal of attention throughout the world, largely on account of the resentment that has been engendered by the discriminating treatment that has been meted out to the emigrants in various countries. Less attention has been given to the economic than to the political aspect of the problem. It has been estimated that there are about 2½ million Indians settled in the Empire outside India.

After the emancipation of the slaves in British colonies in 1833, unsuccessful attempts were made in Mauritius and the West Indies to attract free immigrants to replace the negroes who now refused to work on the plantations.

The first indentured Indian coolies went in five-year contracts to Mauritius in 1834, followed by a shipload to British Guiana in

[1] R. K. Das, *Labor Movement in India*, p. 42.

[2] Legislation with regard to trade unions and trade disputes is dealt with below, p. 318 *et seq.*

[3] *V.* chap. xi, p. 287.

[4] Soon afterwards, as we have already seen, the Breach of Contract Law was also modified.

[5] These rules are similar to those appertaining to emigrant coolies, *v.* p. 313, below.

1837.[1] The coolies were recruited in India by agents of the planters, and the only measure of control exercised by the Indian Government was that before embarkation the indentured coolies had to appear before a magistrate and satisfy him that they went of their own free will and understood the conditions of their contract. A great outcry in England that a new form of slavery had arisen led to a temporary prohibition of emigration, and to an inquiry into the conditions of recruitment, which revealed many abuses.[2] Emigration under protecting regulations was reopened to Mauritius in 1842, to British Guiana, Jamaica and Trinidad in 1844, subsequently to other West Indian Islands (British and foreign)[3] and was extended to Natal in 1860. A "protector of emigrants" was appointed to supervise recruitment in India, and rules (which varied from area to area) were laid down regulating the length and conditions of contract. As a rule the contract was for five years' work under indentures and five years' work as free labourers, after which the coolie had the right either to a return passage, or to a certain sum of money, or to a piece of land to enable him to settle permanently in his adopted country. The Government of India had, and from time to time exercised, the power to suspend emigration if it considered that the conditions during the passage, on arrival, or at the end of the indentured period, were not satisfactory. By this means the Government obtained control over the treatment of the coolies abroad.[4] Accusations of bad treatment led to fresh inquiries into the whole subject in 1871 and 1882, which resulted in various minor amendments in the system, which were consolidated in 1908. These inquiries revealed the facts that, on the whole, the indentured coolies received good wages and enjoyed reasonable conditions of work, that they were often able to save considerable sums and eventually to settle down as independent cultivators, but that the contracts were enforced by severe penal sanctions and in certain cases the coolies were not well treated after their contracts had expired. On the whole the Report of Lord Crewe's Committee on Emigration from India, 1909, vindicated the working of the system, at least in the West Indies, British Guiana, and Mauritius.[5]

Indian coolies went not only to the Colonies that have already

[1] The immigrants were usually given free food and clothing and Rs. 5 *per mensem*.

[2] *V.* M. C. Ranade, *Essays on Indian Economics*; W. Aspinall, *The British West Indies*; and the *Report of the Committee on Emigration from India*, 1909.

[3] Indentured coolies were permitted to go to the French and Dutch colonies in the sixties and seventies.

[4] Officials were sent from India to inspect the condition of the coolies.

[5] This Committee estimated that between 1842 and 1870 no fewer than 531,000 Indian coolies emigrated under five-year contracts to Mauritius (351,000), British Guiana (79,000), Trinidad (42,000), Jamaica (15,000), other British West Indian Islands (7,000), Natal (6,000), and French Colonies (31,000).

been mentioned, but also to Ceylon (from quite early in the nineteenth century, when the plantation industries were established), the Malay Peninsula,[1] the East Indian Islands, and the Fijis; to the Transvaal (and other South African colonies, as well as Natal), and to East Africa. In some cases they were indentured, in others they went as free labourers, especially to the less distant areas, such as Malaya and East Africa. In Ceylon the coolies were recruited by *kanganis* (*i.e.* ex-coolies from the plantations, sent at the expense of the planters), who were not under the supervision of the protector of emigrants, but they were not bound by long contracts.[2]

In Natal many of the coolies settled as free labourers after expiry of their indentures, and numbers of traders, etc., also went voluntarily until, eventually, Indians surpassed Europeans in numbers.[3] Many Indians percolated through to other parts of South Africa, particularly the Transvaal, especially after the Boer War. By 1921 there were no fewer than 152,000 Indians in the Union of South Africa. Anti-Asiatic legislation, due to the fear of agitation for political and administrative power, and of a lowering of the standard of life of the whites from the economic competition of the Indians, began as early as 1883 in the Transvaal, and in 1896 the famous £3 " head-tax," and £1 " poll-tax," were levied on Asiatics in Natal.[4] The grant of responsible Government in Natal (1893) and the Transvaal (1906) gave a great fillip to Anti-Asiatic legislation. The famous " education test " was evolved in Natal in 1897, but indentured labourers were still permitted to enter the country on condition that they were repatriated after expiry of their contracts. Mr. Gandhi began to agitate against this discriminating treatment in the nineties, but suspended the agitation during the Boer War, during which time he organized medical relief in South Africa. The Transvaal Act of 1907, enforcing registration and proposing to take finger-prints from Asiatics, led to passive resistance in that colony, which resulted in the suspension of the Act. Trouble broke out

[1] Indian coolies began to go to the Straits Settlements early in the nineteenth century when the latter were governed by the Government of India. Even after the Straits Settlements became a Crown Colony (in 1867), the Indian Government controlled emigration up till 1897, when it was set entirely free. At about this time the Federated Malay States began to be opened up, and there was an increasing demand for Tamils for the rubber plantations. Most of the immigrants were indentured at this time, but in 1910 actual long-term indentures were abolished for Indians, although recruitment by agents of the planters and the payment of passages continued. The conditions of work were carefully regulated by a series of Labour Ordinances issued by the Malay Governments.

[2] As a rule legally they could obtain their discharge from an estate by giving one month's notice, but indebtedness often rendered this impossible. In 1922 emigration to Ceylon was placed under the Indian Emigration Acts.

[3] In 1893 there were 38,000 Indians in Natal (24,000 free settlers and 14,000 indentured labourers).

[4] R. K. Das, *Labor Movement in India*, chap. iii.

again in 1908 and 1909, and in the latter year a publicity campaign was organized throughout India by Mr. H. S. L. Polak. At the same time Mr. G. K. Gokale took up the question in the Indian Legislature. In 1913 the Union of South Africa prohibited the immigration of Indians and the migration of Indians from one colony to another. After a vigorous protest from the Viceroy the Gandhi-Smuts Agreement was made (in 1914), which temporarily allayed the agitation and ended the passive resistance movement, by providing that although further indentured immigration should be prohibited, the status and rights of Indians already within the Union should be protected. Feeling, however, rose high on the subject of the treatment of Indians within the Empire, when in 1914 a shipload of emigrants, for whom a special steamer had been chartered direct from India,[1] was prohibited from landing in Canada and was obliged to return to Calcutta. Government feared a political demonstration and arranged to send the returned emigrants direct to the Punjab (from whence they had originally been recruited). A conflict ensued in which several lives were lost.

For the time being further emigration was prevented by the war,[2] and the agitation became latent. Meanwhile a large number of Indians had settled in Kenya, partly as free immigrants (largely traders)[3] and partly as indentured coolies (on three-year contracts), brought in to build the Uganda railway (completed in 1903) and to police the country. In 1921 there were no fewer than 25,000 Indians in Kenya out of a total population of some 2,500,000, as compared with 9,651 Europeans. In 1926 the number of Indians had risen to 26,759, and that of Europeans to 12,529.

After the conclusion of the war restrictive legislation was again threatened in Natal, after much mutual recrimination between the Indian and white communities, who mutually accused each other of violation of the spirit of the Gandhi-Smuts Agreement. Indians were deprived of the municipal franchise, the "Areas Reservation Bill" proposed to confine Indian settlers to certain coastal areas, and compulsory repatriation was advocated.

Naturally feeling ran very high on the subject, and it was asserted that Indians were treated worse within, than outside, the Empire. The British Government denied all power of interference, in view of the resolution passed at the 1918 Imperial War Conference, which stated that each colony had the right to

[1] The Canadian law prohibited Asiatics from entering Canada unless they came direct from India, which in the normal course of events they never did.

[2] Apart from shipping difficulties, emigration—except by licence—was temporarily stopped under the Defence of India Rules.

[3] Indian traders had penetrated East Africa long before it became British territory.

settle for itself the character of its own population and to restrict immigration.

The indignation of the Government of India (which in this case, at least, was entirely at one with Indian opinion) led to the passage of the Indian Emigration Act of 1922, which prohibited (by way of retaliation) the emigration of Indian unskilled workers except to "such countries and on such terms and conditions as the Governor-General in Council may specify."[1] This Act applied to all countries alike, but as there was no objection to the emigration of coolies under proper supervision and conditions to countries where they have been properly treated, negotiations were shortly begun with several Colonial Governments with regard to the reopening of emigration. Rules were issued with regard to the licensing and inspection of persons and accommodation in connection with emigration,[2] and permitting and regulating emigration to Ceylon and British Malaya.[3] The conditions laid down regulate hours, wages,[4] conditions of work, and welfare (including medical, sanitary and housing provisions) and abolish the penal sanction for breach of contract. In this way a minimum standard of life is secured for the coolies.

No other orders were issued until March 1926, when the Legislative Assembly unanimously accepted a Government resolution approving the draft notification of the conditions under which it is proposed to reopen the emigration of unskilled labourers to British Guiana.[5]

In British Malaya there is now a large Indian population (in 1921 there were no fewer than 305,000 Indians, mostly Tamils, out of a total population of 1,300,000 in the Federated Malay States), the coolies being mostly engaged on the rubber plantations. On the whole the Indians have done well, and little friction has been generated by their presence. In the West Indies and British Guiana they have also made successful and law-abiding citizens, and have become more prosperous than their compeers in India. In the West Indies, however, there is now little demand for an increased supply of unskilled labour. Government control of the type now in force is, undoubtedly, essential, as the emigration of unskilled labour is only desirable if it leads to a distinct improvement in the economic position of the emigrants, without in any way lowering the prestige of Indians abroad. Emigration is in no way a solution of the population problem. The numbers affected

[1] This Act did not apply to the emigration of skilled workers, but the Governor-General in Council retains power to prohibit this also, if desirable.

[2] *Gazette of India*, August 5, 1922, and March 10, 1923.

[3] *Ibid.*, March 10, 1923.

[4] Legislation for fixing a *standard* minimum wage has been introduced in Ceylon, and is under consideration in British Malaya.

[5] The conditions were summarized in the *Times*, March 23, 1926.

are, in proportion to the total population, negligible,[1] and unless there is some check on the increase in the population, the few individuals removed are almost immediately replaced. In any case emigration, except under very strict conditions, is likely to lead—as it has led in the past—to complications with Colonial Governments. Under present conditions the emigrants are well supervised and secure at least a minimum of subsistence and welfare.

§ 5. THE ORGANIZATION OF INDUSTRIAL LABOUR

The first " labour leader " in India, and the first attempt at the organization of an association of workers, arose at the time of the controversy on the subject of factory legislation which took place in the early eighties of last century. Mr. Narayan Meghajee Lokhande, who began life as a factory labourer, organized a conference of Bombay factory workers in 1884, and drew up a memorial containing a series of resolutions in favour of a weekly holiday, noontide recess, limitation of working hours, prohibition of undue delay in paying wages, and compensation for accidents.[2] The Indian Factory Commission considered the memorial, but the Government took no action on the Commission's Report. The agitation for factory legislation continued, and the workers, under Mr. Lokhande's leadership, continued to take part in it, presenting, for instance, a petition to the Governor-General in 1889, holding a mass meeting[3] (said to be of more than 10,000 persons) in 1890, and presenting a memorial (demanding a weekly holiday) to the Bombay Mill-owners' Association in 1890. During this same year Mr. Lokhande succeeded in forming the first labour organization in India, namely, the " Bombay Mill-hands' Association,"[4] and in starting a vernacular newspaper called the *Dinabandhu—i.e.* " The Friend of the Poor." Mr. Lokhande rose to a position of considerable influence, and became the Bombay

[1] In the pre-war quinquennium there was an average annual emigration from India (excluding emigrants to Ceylon) of 10,661. During the war (when emigration was prohibited except under licence) the numbers emigrating were very small. In 1922, when emigration to Malaya and Ceylon restarted, 80,701 emigrants left India (including emigrants to Ceylon), and in 1923 the numbers rose to 146,208 (*Statistical Abstract for the British Overseas Dominions and Protectorates*).

[2] V. *The Labor Movement in India*, by R. K. Das (1923), and J. C. Kydd, *History of Factory Legislation in India*, p. 37. There are said to have been no fewer than twenty-five strikes in the Bombay and Madras Presidencies between 1882 and 1890.

[3] It is interesting to note that two women workers spoke at this meeting. Women have taken a considerable part in strikes and labour associations in India.

[4] This Association attempted to organize all workers employed in factories, irrespective of the nature of the industry. It did not refer only to cotton mills. It had no permanent subscribing membership, and was little more than an occasional conference of mill-hands called when disputes arose.

representative chosen to procure evidence for the Factory Commission of 1890.

The elements of a labour movement again appeared at the time of the *Swadeshi* agitation which arose after the partition of Bengal in 1905. A number strikes in various industries occurred at this period, and the strikers were helped by some of the Bengali political leaders. The main weapon of the *Swadeshi* movement was the boycott of British goods, the object being to promote national self-sufficiency, particularly as regards cotton piece-goods. This policy fitted in well with the attempt to improve the conditions of workers in factories. At the same time, owing to the extension of the hours of work in Bombay mills (made possible by the introduction of electricity), an agitation had arisen in support of the Government proposal to restrict the hours of adult male workers. Strikes took place in several mills in Bombay on this account, and a more widespread strike occurred in 1908 in Bombay, after the imprisonment of Mr. Tilak. With the idea of improving working conditions the *Kamagar-Hit-Varthak Sabha* (or *Workers' Welfare Association*) was founded in 1910, and did good work in helping to settle disputes. Serious disputes took place between 1906 and 1909 on the railways, discontent being particularly strong on the Eastern Bengal State Railway.[1]

But these were merely tentative and isolated efforts. The real start of the trade-union movement was made towards the end of the war period, when the lag of wages behind prices caused economic discontent, which was augmented by political agitation and a general feeling of insecurity and unrest.[2]

The movement came to a head in 1919, and a regular epidemic of strikes broke out in 1921 and 1922. During the non-co-operation agitation (of 1921) every means was used of stirring up discontent and encouraging the formation of unions.[3] Political unrest

[1] *Moral and Material Progress of India*, 1911–12, chap. xix, p. 308.

[2] On the political side, recruitment, the Russian Revolution, colonial discrimination against Indians, the various repressive measures of the Government of India—*e.g.* martial law, the Rowlatt Acts, and the Jallianwallabagh incident—the growth of *Swaraj*, the Nationalist movement, and the increasing burden of taxation, all had an unsettling effect. Unrest had been latent before the war, but did not become manifest owing to the illiteracy, lack of discipline, and absence of organization and leadership of the workers, and owing to their patience, resignation, the tradition of subordination, and the possibility of returning to agriculture if conditions became unbearable. (*V.* G. Lal Nanda, "Labour Unrest in India," in the *Indian Journal of Economics*, vol. iii, Part IV, 1922). The outbreak of war accentuated the previous tendency towards unrest, and envy was stimulated by the increased display of wealth by the rich. India's connection with the International Labour Organization has also stimulated trade unionism, if only by causing trade unions to be formed when the nomination of representatives to the Annual Conference becomes due.

[3] "Every mill, every tea-garden and every coal-mine was assailed" (P. N. Gilchrist, *The Payment of Wages and Profit-Sharing*, p. 234).

provided leaders for the labour movement, and strikes met with considerable sympathy from the general public. Strikers were assisted by the Home Rule and Moslem Leagues, and the National Congress at Nagpur, in 1920, announced its sympathy with trade unionism. Unrest has continued to some extent ever since, although the agitation has tended to die down from time to time. Since 1921 official figures have been published of industrial disputes, but are probably incomplete, as "the collection of statistics of industrial disputes is in a rudimentary state in India." [1]

In most cases whenever a strike occurred a trade union was formed, although in many cases these unions did not survive the strikes. Naturally it was the great industrial cities and the large-scale industries that were most seriously affected.[2] Bombay, Calcutta and Madras were the scene of innumerable conflicts, which occurred in a number of miscellaneous industries as well as in the great premier industries of cotton and jute. The cotton industries of Ahmedabad, Sholapur, Broach and Nagpur, the cotton, woollen and leather industries of Cawnpore, the coal and iron districts of Bihar and Bengal, the railway workshops and cement industries of the Punjab and the railways in many centres were all affected.[3] In the cotton industry a large number of local and sectional unions were formed,[4] and an unsuccessful attempt was made to organize a Cotton Trade Federation in Bombay. There was no central jute association, and the only unions of any importance on an all-India basis were the railway, post and telegraph unions.[5] The railway unions have been the best organized, and it is only in the railway and postal unions that "actual workers capable of assuming responsibility for leadership" [6] have appeared. Trade unionism was particularly strong in Ahmedabad, where Mr. Gandhi played a considerable part in the work of organization. On the whole unionism was strongest in Bombay, Ahmedabad and amongst the railway employees.

[1] Mr. Das gives a list of strikes and of the numbers affected in 1919 and 1920 (*Labor Movement in India*, p. 165). *V.* also P. N. Gilchrist, *op. cit.*, p. 260. The official figures of disputes are published quarterly in the *Indian Trade Journal* and monthly in the *Bombay Labour Gazette*. Not by any means are all strikes reported in the Press. *V.* Table XV, p. 533.

[2] *V. The Reports of the Bengal and Bombay Committees on Industrial Disputes*, the *Indian Year Books*, and the publications already mentioned by P. N. Gilchrist and R. K. Das, and an article by G. Lal Vanda, "Labour Unrest in India," in the *Indian Journal of Economics*, vol. iii, Part IV, 1922.

[3] *Indian Year Book*, 1925, p. 451.

[4] For instance, separate unions were formed for the spinners, weavers, folders, sizers, winders, carders, blowers, and framers, in the Ahmedabad cotton industry in 1920, and it was estimated that by the middle of 1921 something like 50 per cent. of all factory workers in the city were organized in unions (R. K. Das, *Labor Movement in India*, p. 65).

[5] P. N. Gilchrist, *The Payment of Wages and Profit-Sharing*, p. 252.

[6] *Times*, October 22, 1924, "Indian Trade Unionism."

It is impossible to give accurate figures as to the number of trade unions and of trade-union members. Mr. N. M. Joshi, the nominated representative of Labour in the Legislative Assembly, declared in the Assembly in 1921 that there were between fifty and one hundred unions with a membership of several hundreds of thousands. On the same occasion he was challenged to name twenty unions.[1] Mr. Joshi was probably fairly correct as to the number of unions that at one time or another had been formed, but his challenger was nearer the truth as to the number of existing unions. No full inquiry has been carried out on the subject, but an analysis made of unionism in Bengal between 1920 and 1924 is instructive.[2] No fewer than seventy-three unions are known to have existed since 1920, but in five cases allegations of defalcation and misappropriation of funds were made ; in six cases the unions functioned only for strike purposes ; in twenty-seven cases the only information extant was with regard to the " creative act " ; in six cases the unions were formed just before nominations to the Geneva International Labour Conference or to Provincial Legislative Councils were due ; and in only eight cases were annual reports published. " In practically no case," says Mr. Gilchrist, " is there a regular list of members and regular subscription books." [3]

The causes of unrest were investigated by committees in Bengal and Bombay. The Bengal Committee on Industrial Unrest of 1921 analyzed the facts and features of 137 strikes. It reported that in many cases the immediate causes were non-economic, and noted in particular the large number of " trivial complaints which in normal times would never have resulted in strikes." [4] Mr. Gilchrist lists no fewer than thirty examples of non-economic causes—apart from the politically caused *hartals* [5] of 1920–22—noted by the Committee, some of which were certainly of a most trivial nature. For instance, strikes were called in nearly a dozen collieries, because " the simple Asansol miners were persuaded that the elephants of a travelling show were the

[1] *Times*, October 22, 1924, " Indian Trade Unionism." The delegates of the British Trades Union Congress who visited India in 1927 estimated the membership of Indian trade unions at 200,000.

[2] P. N. Gilchrist, *op. cit.*, p. 285.

[3] *Op. cit.*, p. 285. Mr. Gilchrist also quotes (p. 263) from an interesting article entitled " The So-Called Labour Unions," written by a sympathiser with the labour cause in *The Railway Workman*, May 15, 1922. The author asserts that only three to four Labour Unions have a definite roll of subscribing members, and that very few are " representative " of the supposed members, many of the committee being self-elected. He speaks of the self-appointed leaders obtaining " recognition " from the employers, and of unions which have a president, but no membership ! Several presidents of non-existent unions may meet together and call their meeting a " Labour Congress."

[4] P. N. Gilchrist, *op. cit.*, p. 261.

[5] A *hartal* is a " mourning festival." All shops are shut and work ceases. *Hartals* were proclaimed from time to time for political reasons—for instance, during the Prince of Wales' visit to India.

vanguard of Mr. Gandhi's army." [1] Recently (in 1928) objections to reorganization aiming at increased output per head, and involving a reduction in the numbers employed in particular processes, have been a fruitful cause of dispute, on the score that " speeding-up " and unemployment will result.[2]

The Bombay Industrial Disputes Committee, 1922, distinguished six main characteristics of Indian strikes: *i.e.* the frequency of the strike without notice; the absence of clearly defined grievances before striking; the multiplicity and extravagance of the claims put forward after a strike had begun; the absence of any effective trade-union organization (except perhaps in Ahmedabad) which could formulate the claims of the strikers and secure respect for any settlement; the increasing solidarity of the employers and employees respectively; and the capacity of the operatives to remain on strike for considerable periods despite the lack of any visible financial support.[3] It issued a warning against the assumption of an attitude of hostility towards trade unions which had any claim to be representative of the workers concerned, and supported the immediate utilization of genuine trade unions as channels of communication between the parties to a dispute. Both Committees favoured the institution of Works Committees, and of Conciliation Courts to deal with disputes. The Bombay Committee also made recommendations with regard to welfare work and the compulsory registration of trade unions.

In Madras a Labour Department was established in 1919–20, and a Committee inquired into the causes of unrest in 1920–21. The Labour Commissioner spent a large part of his time in settling disputes and attempting to create a better feeling between the employers and factory workers, but he also had the duties of administering the Factory Acts, attempting to improve the position of the depressed classes, and controlling the criminal tribes settlements. In 1921–22 he succeeded in forming a Workers' Welfare Committee which included representatives of the management and of the workers, and in 1922–23 this excellent example led to the institution of Welfare Committees in several factories.[4]

At this time legislation along the lines of the British Industrial Courts Act of 1919 seemed to be impracticable to the Central

[1] P. N. Gilchrist, *op. cit.*, p. 261. [2] *V.* chap. ix, p. 230.

[3] It has been said that in one sense the Indian industrial worker is " the least dependent in the world. He is the only man who lays down his tools at his own will, remaining away for a long period, and resumes his place whenever he chooses. In the vast majority of cases he can live, although on a smaller scale, without resorting to the factory at all. Only in Bombay is there growing up a landless class wholly dependent on the factories " (*Times*, May 26, 1928, " Labour in India"). The point is that an alternative living—poor though it be—can be obtained on the family holding.

[4] *Annual Reports on the Administration of the Madras Presidency.*

Government.[1] The Provincial Governments were of the same opinion, but drew attention to the potentialities of Works Committees, and arrangements were made for examining the whole question.[2] Meanwhile the labour movement gathered strength and eventually Government came to the opinion that " the growth of trade unions in this country is likely . . . to render legislative measures for the investigation and settlement of trade disputes at once more necessary and more easy of application." [3] A Bill " to make provision for Enabling the Investigation and Settlement of Trade Disputes " was drawn up by the Government of India, and has since become law. The Act provides for the establishment of Courts of Inquiry and Boards of Conciliation.[4]

The success of this type of legislation will depend in the first place on improved organization amongst the workers. As long as no leaders exist who have power to speak for the workers, and can secure that the terms of an agreement will be carried out, conciliation and collective bargaining can play no great part in industrial life. Trade unionism, as it is understood in the West, presupposes the conglomeration of workers in close contact with each other in industrial centres and the existence of a " proletariat." These conditions have not yet been completely fulfilled in India. It is true that workers have been massed together in industrial centres and there brought into close contact with each other, but no large permanent class of wage-earners entirely divorced from the means of production, and therefore dependent upon wages, has yet arisen. Indian factory hands still mainly look on their industrial life not as a permanency, but as merely a passing phase. Moreover, the fact that the workers are recruited from a number of different provinces or districts, and are separated from each other by caste, religion and language, means that it is exceptionally difficult to discover any common basis for co-operation between them or to build up a feeling of class-consciousness.[5]

No definite proposals have so far been put forward to encourage the establishment of Works Committees. Such committees have already been introduced voluntarily in several industries; for instance, by Messrs. C. T. Allen of Cawnpore,[6] by Messrs. Tata

[1] See covering letters accompanying the Trade Disputes Bill. Mr. Gilchrist reproduces these letters and the Bill in Appendix B of his book.

[2] *Bulletin of Indian Industries and Labour*, No. 23, " Conciliation and Arbitration."

[3] *V.* covering letter accompanying the Trade Disputes Bill.

[4] V. *Asiatic Review*, October 1925, " Labour Legislation for India," by Lady Chatterjee; *Times*, August 9, 1928, February 12, 1929, and June 22, 1929.

[5] The situation is similar to that in the United States, where also it has been found extremely difficult to found strong labour organizations amongst the immigrants employed in industries.

[6] This was the first Works Committee established. *V.* "Report of the Second Conference of the Directors of Industries," *Bulletin of Indian Industries and Labour*, No. 5.

Sons, Ltd. (at their Iron and Steel Works, Jamshedpur) in 1921, by Messrs. Currimbhoy Ebrahim and Company, also in 1921,[1] by the Bombay, Baroda and Central India Railway in 1920, and by several Madras firms. These committees include representatives of the employers and of the employees, and certain neutral members,[2] but when success has been achieved, it has been mainly due to the energy of the employers and the domination of the committee by them.

Meanwhile a Bill was prepared in 1921 to provide for the registration of trade unions, which, with slight modifications, was passed in 1926, and came into force on June 1, 1927.[3]

The controversy as to the terms of the proposed legislation kept throughout to the well-beaten paths that have been followed in England. Advanced politicians and leaders, such as Mr. N. M. Joshi, demanded the full privileges attained by British trade unions in 1906 and 1913. But as there has recently been a reaction in England against the grant of unconditional immunity from tort to trade unions, and against the privileged conditions under which trade unions have been permitted to raise political funds and to exercise peaceful picketing, whilst it is obvious that Indian unions are to an even greater extent at the mercy of their leaders, who are less representative of the mass of the workers than in England, the Bill—as passed—fell short of Mr. Joshi's proposals. Registration is voluntary. Registered trade unions are required to confine their expenditure to definite trade-union objects, to submit their accounts to regular audit, and to provide for a proportion (*i.e.* 50 per cent.) of actual workers on their executive. A separate fund is to be formed from optional contributions to be utilized for political objects, on the basis of "contracting in." In return registered unions are to receive a substantial measure of protection from criminal and civil liability. Until the passage of this Act the officials of a union who induced workmen to break their contracts in furtherance of a trade dispute were liable to be sued in the civil courts and might, in certain circumstances, be liable to criminal prosecution. Under the Act no civil suit can be brought against a registered trade union in respect of any act on the ground only that such an act induces breach of contract and interference with trade, whilst no official is to be liable to punishment under the conspiracy section of the Indian Penal Code.

[1] An account of the Works Committees of Messrs. Currimbhoy Ebrahim and Company is given in the *Social Service Quarterly*, January 1922.

[2] *V.* R. K. Das, *Labor Movement in India*, pp. 77, 78, and P. N. Gilchrist, *Payment of Wages and Profit-Sharing*, p. 290, and the *Report of the Bombay Industrial Disputes Committee.*

[3] *Moral and Material Progress of India*, 1925–26, p. 116 *et seq.*, and 1926–27, p. 139.

What is aimed at in India is to give to trade unions a status and form that will give them free scope to develop along lines suitable to the country and prevailing conditions, whilst the law with regard to registration aims at distinguishing between *bona-fide* and spurious organizations, and at protecting the workers in any industry against the machinations of agitators and self-interested outsiders.

After 1922 the economic causes of unrest began to subside. Prices began to settle down and scales of wages had been revised in accordance with the increased cost of living. At the same time the political agitation lost in strength, and the trade depression put the employers in a stronger bargaining position, as they no longer had the same fear of temporary stoppages of work. For some years the " strike fever " declined, although sporadic outbreaks and strikes occurred, such as the great strike in the Bombay cotton-mill industry in 1925,[1] but in 1928 and 1929 a number of prolonged and serious strikes, accompanied by riots, have occurred, and are said to have been fomented by communist propaganda.[2]

The basis of the organization of the unions that have been formed has varied considerably. Craft unions have been formed, for instance, in the textile industries, and industrial unions on the railways. The Bombay Mill-hands' Association and the Workers' Welfare Association (Bombay) aim at organizing workers, no matter what their occupation.[3]

Sympathetic strikes, merging into general strikes, have been called on several occasions.[4] An interesting feature is that women have, from the first, taken part in such movements, despite their traditional " lowly " status in India.[5]

Attempts to co-ordinate trade unionism have been made from the beginning, but except amongst railway and post-office workers have not yet met with great success. In January 1926 a Bombay

[1] For an account of the strike from the labour point of view see *The Labour Magazine*, December 1925, " The Crisis in the Bombay Textile Industry," by H. W. Lee. *V.* Table XV, p. 533.

[2] V. *Times*, May 26, June 14, and July 30, 1928. An Indian Communist Party was openly established in 1924 (v. *Times*, May 3, 1928).

[3] R. K. Das, *Labor Movement in India*, p. 49.

[4] *E.g.* the General Strike in January and February, 1920, in Bombay; the General Strike of cotton operatives in Ahmedabad in 1923; and the General Strike in cotton mills in Bombay city in 1924 and 1925. These strikes were not, of course, quite " general," but they partook of the nature of a " general " strike in so far as they were organized on a much broader basis than that of one or even of several separate trade unions (*Indian Year Book*, 1925, p. 454).

[5] It has already been mentioned that two women spoke at a mill-hands' meeting in 1889 (*v.* the strike described in the *Bombay Labour Gazette* for September 1925). The resolution passed at the 1925 Trade Union Congress in favour of the employment of more women in the factory inspectorate illustrates the attitude towards women adopted by male trade unionists. Several organizers of the agitation on behalf of Indians in Africa were women.

Textile Labour Union was formed, but it is too early yet to judge whether it will succeed in acting as a strong co-ordinating body.[1] Attempts have been made to form co-ordinating bodies in each presidency city. Thus in Madras a Central Labour Board has been formed; in Bombay two would-be co-ordinating bodies exist, *i.e.* the Bombay Central Labour Board and the Bombay Central Labour Federation,[2] and a similar central organization has been proposed for Bengal.[3] Finally, we come to the attempt to co-ordinate the movement in the All-India Trade Union Congress founded in 1920. Despite its high-sounding title this congress has so far had the support of only a very modest number of unions and only one or two reports have been issued.[4] The congress has been supported by trade unions, trade gilds, various associations which are not technically classed as unions, and "sympathizers of labour," and its proceedings have been coloured throughout by this composite basis.

The questions discussed at the various annual congresses have covered a wide range of subjects, including hours, wages, industrial disputes, conciliation, housing, medical aid, old-age pensions and maternity benefits, social insurance, the provision of crèches in factories, the prohibition of underground work in mines for women, training for railwaymen, welfare work, industrial and trade-union legislation of all descriptions, the prohibition of "truck," representation at and the work of the International Labour Conferences, temperance, the right to work, the abolition of war, and the grant of assistance during the Russian famine. Although the first congress was held in 1920, the organization was not put on at all a sound basis until Mr. Ginwala assumed the secretaryship in 1924. From this time onwards the collection of information about labour unions, the preparation of a constitution for the congress, and propaganda work, were pushed forward. When the congress met in 1925 thirty unions had affiliated to the congress—namely, eight from Bengal, one from Bihar and Orissa, nine from Bombay, three from the Central Provinces and Berar, four from Madras, two from the Punjab, one from Sind, and two from the United Provinces.[5]

[1] This union sent an interesting memorandum to the Tariff Board appointed to inquire into the depression in the Bombay cotton industry, published in vol. iii, Nos. 3 and 4, of the *All-India Trade Union Bulletin*, September and October 1926.

[2] A certain number of trade unions and gilds belong to each of these (v. *Labour Gazette*, September 1925, and R. K. Das, *Labor Movement in India*, p. 38).

[3] *Report of the Trade Union Congress*, 1925.

[4] *Report and Constitution of the All-India Trade Union Congress*, 1925 *et seq.*

[5] The following list of unions taken from the report gives some idea of what are the most important unions in existence:

Bengal: The Bengal Jute Workers' Association, Bhatpura; The B.N. Railway Indian Labour Union, Kidderpore, Calcutta; The B.N. Railway Indian Labour Union, Kharagpur; The Employees' Association, Calcutta; The Hosiery Workmen's Association, Calcutta; The Indian Seamen's Union, Calcutta; The

During 1924 a draft constitution for the congress[1] and a questionnaire seeking information about labour unions were prepared and circulated, and it was decided to undertake the publication of a Trade Union Bulletin.[2] A representative was sent to the International Workers' Educational Congress at Oxford in August 1924, and it was decided that fraternal delegates should be sent to the British, Irish, and Scottish Trade Union Congresses. The British Trade Union Congress was invited to send a fraternal delegate to the All-Indian Congress. The question of the better representation of the working classes on the Central and Provincial Legislatures, on local bodies, and at the International Labour Conference was vigorously pushed. Despite these wide activities, however, the weak financial position of the congress, and the poor attendance at a special meeting of the executive committee of the congress called for June 1924,[3] afford evidence that much spade-work has still to be done before the congress is on anything like a sound basis. It is interesting to notice that, whereas the president of the first congress was Mr. Lala Lajpat Rai,[4] a politically-minded leader who attempted to form a labour party in India, the president in 1925 said "that labour organization should not directly side with any particular party. The labour movement in this country being in its infancy, it may not prove beneficial to it to lose the sympathy of any political party." This and the attitude assumed with regard to temperance and other social questions illustrate the general tone of the congress, which still maintains a "philanthropic" as opposed to a strictly "labour" flavour.[5] The truth is that the

Port Trust Employees' Union, Calcutta; The Press Employees' Association, Calcutta.

Bihar and Orissa: The Labour Association, Jamshedpur.

Bombay: The B.B. and C.I. Railway and Employees' Union; The Bombay Port Trust Employees' Union; The Bombay Presidency Postmen's Union; The Bombay Telegraph Workmen's Union; The Central Labour Board; The G.I.P. Railway Staff Union; The G.I.P. Railway Workmen's Union; The Girni Kamgar Mahamandal, Bombay; The Saloon-keepers, Hamamkhana Owners and Barbers' Association, Bombay; The Victoria Owners and Drivers' Union.

Central Provinces and Berar: The B.N. Railway Indian Labour Union, Nagpur; The Labour League, Nagpur; The Mechanical Engineers' Association.

Madras: The Cordite Factory Labour Union; The M.S.M. Railway Employees' Union; The S.I. Railway Labour Board; The S.I. Railway Labour Union.

The Punjab: The Punjab Press Workers' Association, Lahore; The Tanga Workers' Union, Lahore.

Sind: The N.W. Railway Union, Karachi.

United Provinces: The B.N.W. Railwaymen's Association, Gorakhpur; The Oudh and Rohilkhand Railway Union, Lucknow.

[1] The Constitution as agreed upon was printed in the *Report of the All-India Trade Union Congress*, 1925.

[2] The first *Bulletin* was issued in July 1924.

[3] *Annual Report of the Trade Union Congress*, 1925, pp. 20, 21.

[4] *V.* obituary notice, "Lala Lajpat Rai," *Times*, November 19, 1928.

[5] *V.* the description of the functions of the Textile Labour Union of Ahmedabad, given in the *Social Service Quarterly*, January 1926, p. 106.

movement cannot be compared with Western trade unionism. It can hardly be considered as really representing working-class feeling. This makes it in one way difficult to deal with, although in another way the absence of " working-class economics "—such as a belief in ca'canny and of class-hatred for its own sake—is an advantage.[1] In the political sphere the congress aims at adult suffrage, and supports the election (instead of the nomination) of representatives of labour in the Legislative Assemblies of the Imperial and Provincial Governments, and to the Annual Conference of the International Labour Organization.

The gravity and urgency of the various " problems of labour " in India have recently been recognized by the appointment of a Royal Commission to inquire into all aspects of the question.[2]

In conclusion it can be suggested that the organization of labour on a sound and representative basis is as much to be desired from the point of view of the promotion of more rapid industrialization and in the best interests of the employers of labour as it is from the point of view of the working classes themselves.

§ 6. VOLUNTARY WELFARE WORK

It is difficult to give any clear and comprehensive idea of the heterogeneous activities of the various voluntary movements which aim at raising the standard of life of the workers.[3] The following brief review of that work will necessarily be incomplete, and will consist of little more than the bare mention of the functions of some of the more important and more highly organized voluntary associations of social workers.

It is only natural that work of this description should be most advanced in the larger urban centres, and that therefore it is largely concerned with the promotion of better conditions of life amongst industrial workers. Similar work is, in some cases, also carried on in rural centres, but the absence of any large body of middle- or upper-class rural dwellers makes this rare, and quantitatively negligible. From our point of view, attention will be concentrated upon attempts to introduce physical and economic rather than definitely moral or intellectual improvements—except in so far as the two types of reform are inseparable—so

[1] It has been said that the Indian worker fights for small concessions and more humane treatment (*v.* G. Lal Nanda, " Labour Unrest in India," *Indian Journal of Economics*, vol. iii, part iv, 1922).

[2] V. *Times*, January 29, 1929 (" The Indian Assembly "), February 5, 1929 (" Indian Labour Problems "), and May 24, 1929 (" Indian Labour ").

[3] All these movements have been closely associated with attempts to promote public health, sanitation, and town improvements, and it is difficult, if not impossible, to distinguish between the efforts to promote physical, environmental, economic, intellectual, and moral well-being (*v.* chap. iv).

that we shall be dealing mainly with what may be called "industrial welfare work"—namely, with the work of various organizations which attempt to "minister to the needs of industrial employees outside working hours." [1]

Apart from the workers' own efforts to improve their conditions by means of trade unions, such work is carried on both by employers and philanthropists. A number of the Indian mill-owners have instituted housing schemes, established schools for "half-timers," provided medical aid, and taken other measures for the welfare of their employees,[2] and recognize fully the beneficial results of such welfare work on the efficiency and morale of the workers. Employers have shown themselves not unwilling to co-operate in the welfare schemes of philanthropic and other bodies,[3] nor have they invariably been unwilling to recognize and work with the trade unions, whilst, as we have already seen,[4] in several cases, works committees, consisting of representatives of employers and workers, have been formed to discuss factory matters other than wages and hours.

The Buckingham and Carnatic Mills, Madras (employing some 10,000 workers), have set an example as to what may be accomplished by employers by means of welfare work, their educational work having been particularly successful.[5] They also maintain a working-men's institute and library, a crèche and a kitchen for the use of the employees.

In the Bombay Presidency welfare work is well developed at Ahmedabad and Sholapur, as well as in Bombay City. A detailed account of the work done is given in the Provincial Reports of Inspectors of Factories.

Schools have also been founded by employers in the Giridih colliery district and on one or two tea plantations.[6]

Workmen's institutes with the most varied functions have

[1] "Organizations for the Promotion of Industrial Welfare Work," by G. M. Broughton, *Social Service Quarterly*, January 1923. The term "Welfare Work" is used in a more general and less technical sense in India than in England. In the latter country it is confined to work carried on actually in the factories, as an integral part of the internal organization of any business, aiming primarily at dealing with the "human factor" in industry, considered as one of the factors of production. In India the term includes all attempts to ameliorate the general conditions of life of the workers.

[2] *V.* chap. iv, p. 88.

[3] It has been said that "the post-war employer in India, at least in the big and well-organized industrial concerns, is as enlightened and as sympathetic as, and in many cases more so than, his brother employers in the West" (*Report on Wages and Hours in the Cotton Industry*, 1925).

[4] *V.* p. 319, above.

[5] J. C. Kydd, *Factory Legislation in India*, 1920, chap. vi. It has been estimated that only 17 per cent. of all half-timers in India are under instruction. In Bombay, however, so few half-timers (less than 1,000) are now employed that factory schools have almost ceased to exist (*Social Service Quarterly*, January 1926).

[6] *Ibid.*, October 1918, pp. 72, 73.

been founded by certain millowners.[1] For five years two of these institutes in Bombay, although supported by the mill-owners, were conducted under the supervision of the Bombay Social Service League, but in 1924 the work was handed over to the agents of the respective groups of mills, as the agents desired to run the institutes under their own management and supervision. " These two institutes furnish useful examples of what is being done by enlightened employers. Members of these institutes have the benefit of reading-rooms and libraries. A day school is also maintained for half-timers and a night school for adults. A mill doctor is engaged to attend to the health of the employees, and in the case of the Tata Institute a woman doctor looks after the women. Employees are encouraged to deposit savings in the savings banks specially started for them. Loans can be obtained through the co-operative credit societies. Stores on co-operative lines have also been started and have been largely patronised by the employees." [2]

The most outstanding of more definitely philanthropic societies are the Social Service Leagues that have been founded in Bombay, Calcutta, Madras and Delhi (and in Ceylon and Mombasa). The oldest and most important of these is the Bombay Social Service League, which was founded in 1910 under the auspices of the Servants of India Society. A few words may, therefore, first of all be said about the latter.

The Servants of India Society was founded in 1905 by the late Mr. G. K. Gokhale, with its headquarters at Poona, " to train national missionaries for the service of India and to promote by all constitutional means the true interests of the Indian people." The society has branches in Bombay, Madras, the United Provinces and the Central Provinces, and has an imposing list of social, educational, political, and philanthropic functions.[3]

The Bombay Social Service League, under the guidance of its gifted secretary, Mr. N. M. Joshi (now labour representative in the Legislative Assembly), conducts the following activities: (i) The promotion of mass education (night schools, libraries, and magic-lantern lectures); (ii) Boy scouts' corps and boys' clubs; (iii) The promotion of public health (in urban and rural areas); (iv) Work amongst women; (v) The supervision of the work of the police-court agent; (vi) Prison preaching; (vii) The spread of the co-operative movement; (viii) The securing of compensation for accidents to workmen; (ix) Recreation and sports for the working classes; (x) Social work at the Parel and Madanpura

[1] The outstanding instances are the Currimbhoy-Ebrahim and Tata Workmen's Institutes in Bombay.

[2] G. M. Broughton in the *Social Service Quarterly*, January 1923.

[3] *Indian Year Book*, 1920, p. 537.

Settlements; (xi) Work at the Bombay Working Men's Institute, and (xii) Propaganda work through the "Social Service Quarterly" and other means.[1]

Since 1919 an All-India Social Service League Conference has been held annually.[2] The subjects discussed included fundamental questions such as charity organization, vigilance and rescue work, work amongst criminal tribes, tuberculosis, the training of daïs, the education and care of defective children, and so on. It may be noted that since 1922 an annual All-Indian Industrial Welfare Conference has also been held.[3]

Special mention may also be made of the social work of various associations which aim at improving the conditions of women and children, such as the Seva Sadan Societies in Poona and Bombay, and the Women's Institutes of Bengal. The former conduct social, medical and educational work amongst women and children, and train social workers. The Poona Seva Sadan was started by Mrs. Ramabai Ranade, Mr. G. K. Devadhar, and others in 1909, with the main object of making women self-reliant and training them for missionary work (including educational and medical work) in backward areas and districts. The movement for the founding of women's institutes was started in 1913 in Bengal by Mrs. Dutt.[4] There are now no fewer than 250 such "Mahila Samitis" in the villages and smaller towns of Bengal, by which educational and public health work is undertaken, and a training is given in farm and garden work and in cottage industries. The extension of such work to other provinces is strongly supported by the Royal Commission on Agriculture in India.

We have already noticed the recent attempt to co-ordinate women's social work by forming Women's Councils similar to those founded in other countries under the auspices of the International Council of Women.[5] The first to be founded was the Bombay Presidency Women's Council in 1918.[6] To this council a large number of existing women's associations have been affiliated.[7] In addition an *Indo-British Social Welfare League* has recently been established.[8]

Any further account of the welfare work done by other

[1] *Thirteenth Annual Report* (1924).

[2] V. *Social Service Quarterly*, November 1923 and January 1926, p. 104.

[3] *Ibid.*

[4] V. *Educational Supplement of the Times*, January 26 and February 2, 1929.

[5] *V.* chap. iv, p. 89.

[6] Councils have now been founded in Calcutta, Delhi, Lahore, and an All-India Council is in process of formation.

[7] These include the University Women's Association, League of Mercy, Social Service League, Girls' Friendly Society, Trained Nurses' Association, Girl Guides, Seva Sadan, Y.W.C.A., National Indian Ladies' Association, Salvation Army, etc. (*Fifth Annual Report of the Bombay Presidency Women's Council*).

[8] V. *Times*, April 3, May 11, and June 4, 1929.

voluntary agencies would be both lengthy and unnecessary; "unnecessary" because in most cases it would be but a repetition of what has already been said, for—as can be seen from the above description—in India the work done is not yet as a rule highly specialized, but a great many functions are undertaken by each association. Enough has been said to indicate what a great awakening there has recently been of the social conscience of the upper and middle classes. Nevertheless an entirely false impression would be given were it assumed that social service and labour movements in India have as yet attained anything like the importance that they possess in the West. It must never be forgotten that, apart from the co-operative movement, they are still almost entirely confined to the largest urban areas, and that only the merest fringe of the population has as yet been touched thereby. Qualitatively invaluable, the work done is still quantitatively negligible. The great problem of reaching the masses of the people remains unsolved, and to speak of trade unionism and social reform in this connection is as yet a mere anachronism. The work described above is valuable more as an indication of what may be, rather than of what has actually been accomplished. It does, however, tend to prove that there is nothing inherently impossible in the attempt to organize the working classes and improve their conditions of life, but that the problem is one of organization and propaganda, which calls for the devoted and inconspicuous life-service of a large body of workers of all classes.

CHAPTER XIII

THE TREND OF FOREIGN TRADE AND OF COMMERCIAL POLICY.

§ 1. THE CHARACTERISTICS AND TENDENCIES OF INDIA'S FOREIGN TRADE, p. 329.

The trend of foreign trade during the nineteenth century; between 1900 *and* 1914*; during the war; since* 1918*—Present-day trade, and the changes that have recently occurred in its nature and direction—Causes of the decline of British trade with India—Conclusions—The trade in specie, land-frontier trade and coastal trade.*

§ 2. COMMERCIAL AND TARIFF POLICY, p. 345.

Commercial policy in the nineteenth century; the Free Trade era; the return to revenue duties in 1894*—War-time fiscal measures—Tariff changes after the war—The six tariff schedules—Fiscal autonomy—The Indian Fiscal Commission, and the adoption of "Discriminating Protection"—The work of the Tariff Board—Minor tariff changes, the countervailing excise, Imperial Preference, and export duties—Commercial Intelligence; the Indian Trade Commissioner; other measures to promote trade.*

§ 3. COMMERCIAL POLICY AND THE FUTURE, p. 359.

The tariff controversy and conditions in India—India's economic goal—The disadvantages of extreme dependence upon agriculture—The free trade argument; the argument for protection of infant industries—Conclusion that protection does not offer India a royal road to industrialization—The importance of revenue from tariffs, and the need for increased expenditure upon industrial development.

§ 1. THE CHARACTERISTICS AND TENDENCIES OF INDIA'S FOREIGN TRADE

It is in the sphere of foreign trade that the changes in Indian economic life, that may be summed up under the term "economic transition," have been most far-reaching and fundamental.[1] Foreign traders began to take part in India's overseas trade in the sixteenth century, but it was not until after the English East India Company had been ejected from the East Indian Archipelago by the Dutch that direct trade between India and the West began to replace the former "roundabout" trade.[2] At the

[1] *V.* chap. i, p. 5.

[2] By "roundabout" trade is meant the system whereby European traders took specie (and some goods) to India, which they exchanged for India's manufactures (especially cotton goods), taking the latter to the East Indian Islands, where they procured the spices (and "China goods") urgently demanded in Europe.

end of the seventeenth and during the eighteenth centuries the European demand for Indian exports increased considerably, although it was checked by England's mercantilist policy,[1] but it was in the nineteenth century that those more far-reaching changes began—owing to the industrial revolution in England and, later, to improvements in transport and communications (within and without India)—which effected a complete revolution in both the size [2] and nature of India's foreign trade.

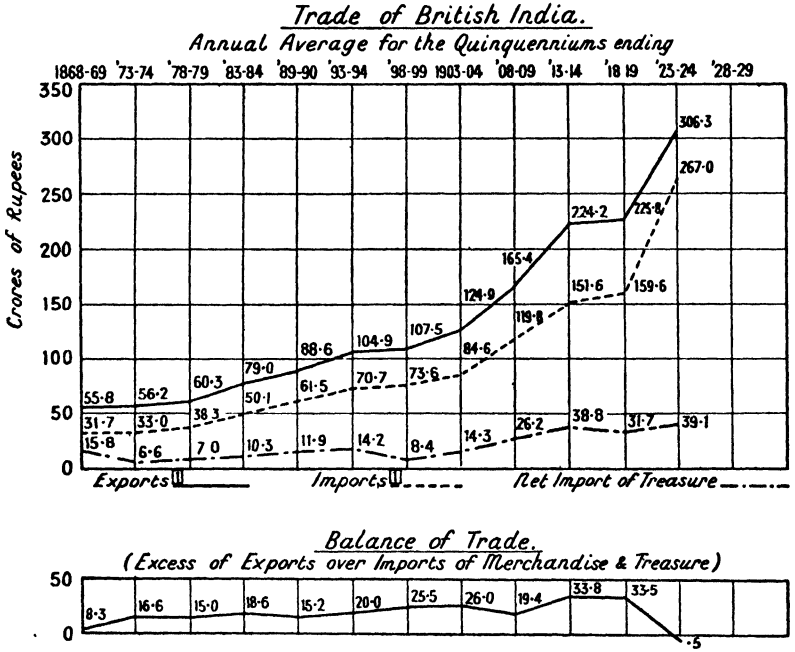


FIG. VI.—Trade of British India since 1864–65.

[1] The figures of exports and imports include Government stores and re-exports, but exclude treasure.

The general trend of India's foreign trade during the nineteenth century is well known, and will here be traced in the barest outline. It is less generally recognized that this trend has been reversed since the beginning of the twentieth century, and it will therefore be necessary to deal in more detail with this latter period.

At the beginning of the nineteenth century India's chief exports were "specialities," such as indigo and saltpetre, and manufactures of fine quality and workmanship, such as cotton and silk piece-goods. In return she imported specie, woollens, "novelties," and a certain number of miscellaneous manufactures.

[1] P. A. Thomas, *Mercantilism and the East India Trade.*
[2] *V.* Fig. VI, p. 330.

The English cotton-mill industry was, however, already firmly established, and after two or three decades Lancashire cotton goods had entirely ousted Indian from their former European markets, and had begun to invade the Indian and Far Eastern markets. During the nineteenth century a number of other factory products, one after another, were introduced into India, where they undercut indigenous goods.

So far the primary factor was the industrial revolution in England, together with the cheapening and improvement of communications which accompanied the early phase of that revolution. But India's foreign trade was still more fundamentally affected by the changes in production in India itself, which occurred during the latter part of the nineteenth century, mainly owing to the construction of the Indian railways,[1] the introduction of steamships, and the opening of the Suez Canal. The specialized, localized production of foodcrops, plantation products, and raw materials for sale and export began to assume important and ever-increasing proportions. Rice had been exported in small quantities since very early times, but it now became a staple item of world trade. The export of wheat on a large scale was made possible by the opening of the Suez Canal (in 1869), and by the eighteen-eighties it frequently headed the list of exports. The export of tea, coffee, raw hides and skins and oilseeds also increased rapidly.

Meanwhile the growing export of raw cotton and jute replaced the former export of manufactured goods. The Lancashire cotton famine of the sixties gave a tremendous fillip to the export of Indian cotton to England, and threatened for a time the newly established Bombay cotton-mill industry.[2] This latter industry subsequently revived and made rapid progress, but the quantity of raw cotton exported continued to increase, as the loss of the English markets was counterbalanced by the discovery of new markets on the Continent and in Japan.

The export of raw jute began on a large scale after the Crimean War, which cut off Dundee's former supply of Russian flax and hemp,[3] although towards the end of the century the export of manufactured jute increased even more rapidly.

Bullion and specie, as ever, continued to be an important import,[4] but otherwise at the end of the nineteenth century all

[1] *V.* chap. vi.

[2] The Bombay industry was temporarily paralysed, owing to the high price of raw cotton.

[3] *V.* chap. xi, p. 279.

[4] For many centuries India has normally imported a large quantity of both gold and silver. It has become proverbial to speak of India as "the sink of the precious metals," and it is often asserted that a large proportion of India's net import of bullion and specie has been turned into "senseless hoards." There is reason to think that the size of these "hoards" (which undoubtedly do exist) may

the most important items were manufactured goods. These consisted primarily of cotton manufactures, machinery, millwork, other metal products of all sorts and descriptions, and miscellaneous manufactures. The main exceptions to this general rule were the increased imports of sugar from Mauritius, Germany and Austria, and of petroleum—chiefly for lighting purposes—from the United States and Russia. Thus by the end of the nineteenth century India had become an exporter of foodstuffs, raw materials and plantation products, whilst she depended upon imports for a large part of her clothing and for an immense range of miscellaneous manufactures. The volume of her overseas trade had vastly increased,[1] but from having been a seller of artistic manufactures and much sought after specialities, she had become a source of foodstuffs and raw materials for the materially more advanced countries of the West.[2]

The articulate classes feared that India would be kept permanently in what they considered to be an inferior, dependent position, concentrating on the primary stages of production, and began to agitate for a policy that should restore the balance between agriculture and industry, and render India less dependent on foreign supplies of clothing and other industrial necessities. It was alleged that the undesirable features of Indian trade were due to the political connection with Great Britain, which had led to the adoption of an economic policy deliberately designed to render India a convenient source of foodstuffs and raw materials and a market for Western manufactures.

These allegations contain some truth with regard to the policy pursued during the nineteenth century, as the extension to India of England's free-trade principles, and the influence of Lancashire opinion upon tariff policy, undoubtedly contributed towards the changes described above. But towards the end of the century a great change took place in the attitude and policy of both the Home and the Indian Governments. With increasing knowledge of the country and its peoples, a much keener sense of responsibility developed for the " moral and material progress " of India. This was shown both by the constitutional and administrative reforms, and by the measures taken to prevent and relieve

have been exaggerated, and that India has really needed a large proportion of the gold and silver imported for use in the industrial arts and as a medium of exchange (*v.* P. P. Pillai, *Economic Conditions in India*, pp. 270–272, 300). The East India Company always had difficulty in finding merchandise that had a ready sale in India, and was obliged to pay in coin or bullion for the excess of imports of merchandise from India. This normal excess of exports over imports of merchandise has continued until the present day, as also the part payment therefor by means of bullion and specie.

[1] *V.* Fig. VI, p. 330, and Tables XVI and XVII, pp. 534–537.

[2] India's two new factory industries (the cotton and jute mill industries) had not at this time advanced sufficiently to alter the general trend of trade.

famine, which led to the extension of railway construction and of irrigation works. By the end of the century anything in the nature of the direct exploitation of India's resources for the benefit of British interests would have been strongly repudiated, but—in the absence of a strong, constructive economic policy—the general trend of commercial development remained unaltered.

The first fourteen years of the twentieth century were marked by great prosperity, and a great increase in, but little change in the nature of, India's foreign trade.[1] Both imports and exports expanded steadily and rapidly, although the total quantity and value of exports continued, as ever, greatly to exceed those of imports.[2]

This normal excess of exports is due to the fact that India had, and still has, to make considerable payments abroad for which no visible return is made. These payments include interest on account of the capital loaned to, or invested in India; payments for shipping[3] and other commercial services (such as insurance and brokerage) rendered to traders in India, and payments on Government account due to the political connection with England.[4] Whether or not India receives full value in return for these payments is discussed separately in Appendix G.[5]

It was during these pre-war years that, although India continued to do far more trade with the United Kingdom than with any other country,[6] the United States and Japan first became important factors in Indian trade. Trade with Central Europe also increased by leaps and bounds—a development that caused serious misgivings, as it tended to stimulate India's exports of raw materials and foodstuffs, in return for which she imported low-priced manufactures of a type which she herself might well have produced.[7]

The course of trade during the war need not be traced in any detail,[8] as we are concerned more with the permanent changes caused by the war than with the actual fluctuations.

After a temporary check to trade on the outbreak of war, the

[1] Some allowance must be made for the rise in the general level of prices at this time, but trade expansion greatly exceeded any increase which can thus be accounted for.

[2] This is what is called India's "favourable" balance of trade, the term "favourable" being understood in a purely technical sense, as indicating merely the fact of an excess of exports over imports, not any advantage to India.

[3] It should be noticed that the declared value of imports includes, but that of exports excludes, freightage.

[4] *E.g.* India Office expenses, furlough allowances, pensions, gratuities, etc.

[5] Appendix G, p. 509. "The Drain to England."

[6] *V.* Fig. VII, p. 334.

[7] India sent rice, oilseeds, and raw cotton to Germany and Austria, taking beet sugar and a large variety of cheap manufactures (including hardware and cotton piece-goods) in return.

[8] S. G. Panandikar, *Some Aspects of the Economic Consequences of the War for India.*

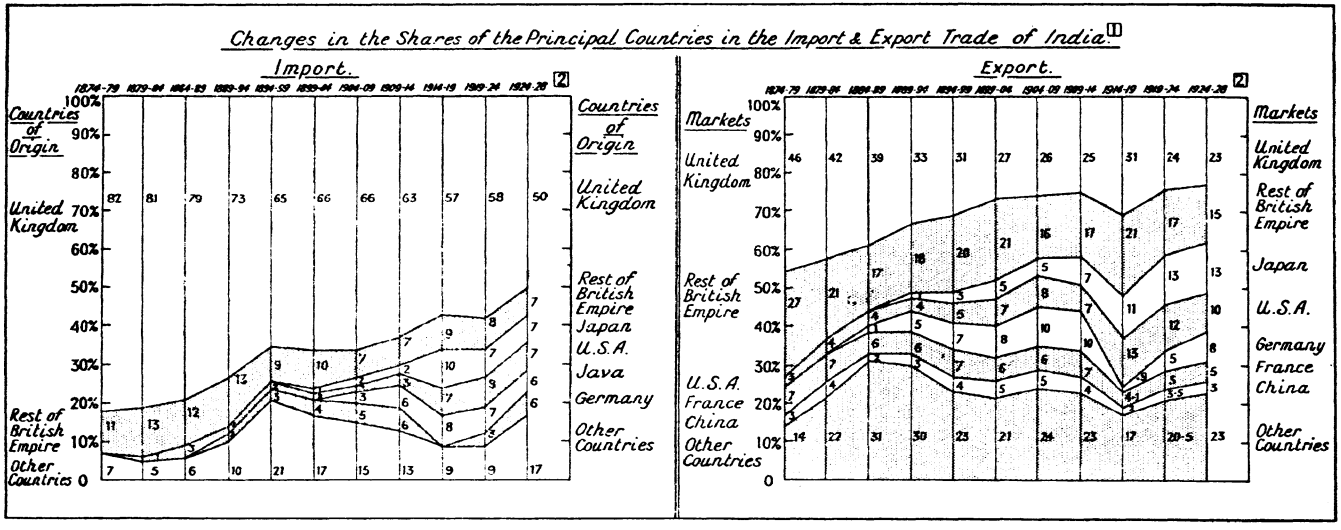


FIG. VII.—Changes in the Direction of Indian Trade.

[1] This table is based on the trade in private merchandise (excluding specie and Government stores, but including re-exports) of British India, but in fact represents the bulk of the trade of India as a whole, as ports in British India conduct by far the greater part of India's foreign trade. Quinquennial averages are given. Egypt is included throughout in "other countries." China excludes Hong-Kong, whose trade is included with the "Rest of British Empire."

[2] This is the average for four years only.

elimination of trade with enemy countries was soon counterbalanced to some extent by the war demand for Indian products.[1] The urgent need for certain goods, combined with the increasing dearth of tonnage, necessitated drastic regulation and control, which emanated first from the British and later from the Indian Government.[2] The objects of control were to prevent foodstuffs and munitions from "leaking" to the enemy, to stimulate the production and export of goods needed for war purposes, to prevent the export of goods (such as coal)[3] urgently needed in India, and to restrict imports in general in order to economize shipping and stimulate industrial production in India. After the conclusion of the war control was gradually abandoned, at different times for different articles.

The results of war conditions were that in 1914–15 the volume[4] of both imports and exports fell heavily, whilst in 1915–16 and 1916–17, although the volume of exports increased again in relation to 1914–15, that of imports continued to decline. After that the volume of both exports and imports declined progressively (although exports remained relatively great) until the conclusion of the war. Internal trade, as gauged from the returns of rail- and river-borne traffic, the increased railway earnings and the increase in the number of new joint-stock companies registered, was, however, extraordinarily active, especially from 1916 onwards. The great stimulus given to Indian industries is shown by the fact that whereas in 1913–14 "manufactured articles" formed 23·1 per cent. of the value of all exports, in 1917–18 they formed no less than 31 per cent.[5] After 1918 this latter percentage declined, but not to its pre-war level, so that in 1926–27 the figure was 28·3 per cent. This indicates that there has been a permanent tendency towards the export of a larger quantity and proportion of manufactured articles.[6]

The year 1918–19 was one of great commercial instability. The

[1] Especially for jute, cotton piece-goods, iron and steel goods, wolfram, mica, saltpetre and wheat (*v.* chap. ix).

[2] The British Government enforced economy of shipping, and permitted only certified goods to be brought to Europe. A special controller was appointed to purchase certain much needed goods in India. In 1916 the Indian Government assumed complete control over internal and external transport and over foreign trade, under the Export and Import of Goods Act (1916).

[3] *V.* chap. x, p. 236.

[4] The change in the volume of trade was estimated by revaluing imports and exports on the basis of the previous year's prices (*Annual Review of the Trade of India*). *V.* Fig. VIII, p. 336.

[5] Note also the practically universal rise in the price of industrial as compared with Government and municipal securities (*Annual Review of the Trade of India*, 1917–18).

[6] It should be realized that some of the goods classed as "manufactured" are not finished goods, but are only partially manufactured. But as the basis of classification has not been altered, it can be concluded that there has been a change in the direction indicated.

dramatic rise in the exchange value of the rupee[1] upset calculations as to forward commercial transactions, and in the autumn of 1918 there was a widespread failure of the monsoon, and a virulent epidemic of influenza. The Armistice heightened the

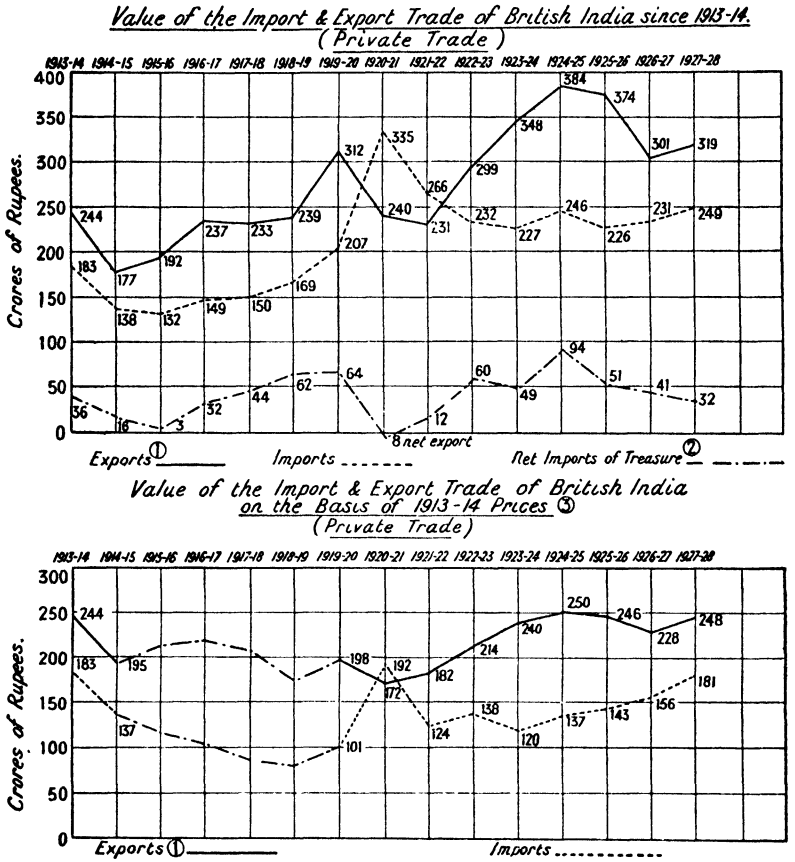


FIG. VIII.—Import and Export Trade of British India since 1913–14.

(1) Excluding re-exports. (2) On Government and private account.
(3) Official estimates have not been published for the years 1915–16 to 1918–19. Those given on the chart are provisional approximation.

existing tendency towards speculation (initiated by the rise in the exchange value of the rupee), but the post-war "boom" in 1919–20 tended to maintain the volume of trade. In March 1920 the tide turned in India (as elsewhere). Prices began to fall, exchange tended downwards, exports fell and a slump supervened. Statistically there was a time-lag, and the full violence of the slump was not visible until late in 1921. The value and volume

[1] *V.* chap. xv, p. 423.

of total trade were actually greater in 1920–21 than in 1919–20, as a large mass of imports for which forward orders had been given before the slump continued to arrive for some time after the depression had begun. Thus in 1920–21 and again in 1921–22 the normal balance of trade was reversed. Imports of merchandise actually exceeded exports, in value, and there was actually a net export of treasure in 1920–21.[1] Large stocks of imports (especially of cotton piece-goods) ordered at tip-top prices, just before the slump (when exchange was highest), began to accumulate at the ports, as merchants saw no chance of disposing of them (now that prices and exchange had fallen) at anything like remunerative prices. Many Indian importers refused to take delivery, repudiated their liabilities, and dishonoured their drafts.[2] It was estimated that importers thus defaulted to a value of thirty million pounds in 1921.

The crisis was tided over by the concerted efforts of European bankers and of British shippers, importers and merchants, who "carried" the unwanted commodities. On the whole the Indian commercial and financial system stood the strain well. But it was long before the accumulated stocks could be cleared, and the prevailing political unrest (which culminated in the "non-co-operation movement" which instituted a boycott of British goods) aggravated the situation. Moreover India's chief markets all lacked purchasing power, and it was realized that trade must suffer until exchange had been stabilized, and a settlement reached with regard to reparations and indebtedness in Europe.

Better harvests and some decline in the price of imports stimulated some revival in trade after 1921–22 (the nadir of the depression), especially in the export trade, but the total volume of trade has only just regained its pre-war level.[3]

At the present day India is still dependent on imports for a large amount of her clothing (although for a smaller amount than before the war), the bulk of her machinery, many iron and steel goods, and a large number of other industrial necessities. She still imports large (and increasing) quantities of liquid fuel (in spite of the increased production of oil in Burma, almost all of which is consumed in India), and of sugar. But the interesting point to notice is that in so far as any change has occurred in the nature of her imports, that change has been in a direction contrary to that of the nineteenth century. Thus in 1926–27 only 72·8 per

[1] *V.* Figs. VI and VIII, pp. 330, 338. In 1922–23 conditions returned to the normal as far as the balance of trade was concerned. Exports were affected by a bad monsoon in 1920, which reduced the surplus of foodstuffs available for export in 1921–22, and accounted for the import of 400,000 tons of Australian wheat in 1921.

[2] Their defence was that the Government had guaranteed to maintain exchange at 2*s*. (*v.* chap. xv, p. 424).

[3] *V.* Fig. VIII, p. 338.

cent. of the total were manufactured goods, as compared with 76·6 per cent. before the war. The manufactured imports now consist largely of articles that cannot be produced (in any quantity) in India, such as the higher counts of yarn, the finest quality machine-made piece-goods, much of the machinery, millwork, railway plant and rolling stock, and many types of metal manufactures.[1] Where Indian products compete with imported goods, the former have (in most cases) gained at the expense of the latter, whether or not protective duties have been imposed. For instance the products of the Indian cotton-mill industry and of the Indian iron and steel industry have both made great headway in comparison with imported goods. The chief non-manufactured imports—mineral oil and sugar—do not undercut indigenous products, but are necessary to supplement them.

The outstanding change in the export trade is the considerable increase in the export of manufactured goods.[2] There has been a marked increase in the export of manufactured (as compared with raw) jute, hides and skins, wool, metals and products obtained from vegetable oilseeds. Exports of paraffin wax, micanite, and monazite have also risen to considerable proportions.

Cotton twist and yarn, indigo, and raw and manufactured silk are the chief articles of which the export has declined. Indian cotton twist and yarn have suffered from Japanese competition in foreign markets, indigo from the competition of synthetic dyes, and silk (raw and manufactured) on account of its unreliable quality. Exports of opium have fallen heavily owing to the deliberate limitation of the trade with China.[3] In each of these cases some special factor has been at work, and it can be said that on the whole India's staple exports have little difficulty in finding ready and expanding markets, whilst manufactured exports have made considerable headway, in spite of the fact that most of India's large-scale industries [4] depend mainly on the home market. Nevertheless certain features of the export trade are still unsatisfactory. A number of articles (such as raw hides and skins) [5] are exported raw that might well be manufactured or prepared in India. The export of others, such as unprepared oilseeds, is to be deplored, as it deprives India of a much-needed

[1] The impossibility of producing many of these goods, at short notice, in India, was clearly demonstrated during the war, when India either had to manage without such goods, or to obtain them from new sources—for instance, Japan and the United States.

[2] *V.* Table XVII, pp. 536, 537.

[3] *V.* chap. xiv, p. 378.

[4] For instance, the cotton, iron and steel, chemical, hides and skins, and cement industries.

[5] Large exports of hides and skins usually indicate a bad harvest, which entails the slaughter of animals that cannot be fed.

article of diet (vegetable oil) and of a valuable cattle food and fertilizer.

On the other hand it is a mistake to deplore [1] the fact that India normally exports large quantities of foodstuffs.[2] Urban dwellers argue that the export of foodstuffs causes unnecessarily high prices in unfavourable years, and that even in good years it is the middleman, rather than the cultivator, who benefits. Agriculturists reply that, although exports form a small proportion of the total crop, to prohibit them would deprive the cultivators of their most profitable market, without appreciably increasing the total supply retained within the country. Cultivators would therefore tend to reduce the area under foodstuffs, growing cotton and other commercial crops in their stead. At present the profit on export in good years helps the cultivator over bad years, and although the middleman benefits from exports, some (at least) of the extra profit percolates through to the ryot, whilst consumers benefit from the encouragement given to the growth of food-crops. For these reasons it is beneficial to permit exportation in normal years. If free competition prevailed, it would also be unnecessary to control exports even in years of scarcity, as the crop would be diverted to the afflicted areas. As it is, the prevailing system whereby advances are made by small dealers to the cultivators, and by exporters or larger dealers to the smaller dealers, tends to maintain exports even in a bad year, and shows the wisdom of the policy pursued by the Government of prohibiting, or at least controlling, exports in years of scarcity.[3]

The case for the export of wheat has been particularly strong, as in the past wheat has been the natural food of the people in limited areas only, and it has paid India best to export it, and to consume the cheaper but no less satisfying foodstuffs, such as rice and the millets. Recently, however, the internal consumption of wheat has become more extensive, and the surplus available for export has been reduced.[4] As is shown in the following table, India now tends to consume a larger proportion of her principal food-crops than before the war. As the population has not increased correspondingly during these years, this may be taken to indicate a rise in the standard of life of the masses, and it

[1] It has been suggested that the export of foodstuffs should be entirely prohibited, on the score that all India's food products are needed within the country (E. L. Price, *Indian Legislative Economics*).

[2] In a good year India produces some seventy to eighty million tons of cereals, and exports about four million tons (*i.e.* two million tons of rice, one million tons of wheat, and one million tons of miscellaneous grains). The rice exported comes mainly from Burma, and is easily diverted to the mainland in a year of scarcity.

[3] For instance, as was done between 1918 and 1922.

[4] In fact, in some years India has actually imported wheat. The first considerable import occurred in 1921. Small quantities have been imported in two or three subsequent years.

appears that economic forces suffice, without Governmental interference, to retain crops within the country when the consumers are in a position to pay prices that are profitable to producers.

Percentage of Exports to Total Production.[1]

Crops.	Pre-War Average.	War Average.	Average of the years 1921–22 to 1925–26.	1926–27
Rice	9	5	6·6	7
Wheat	14	9	5·2	2[2]
Linseed	73	63	77·8	47
Rape and Mustard Seed .	23	8	19.8	10
Sesamum . . .	25	8	6·2	5
Groundnuts . . .	35	12	25·6	16
Tea[3]	96	89	95·8	91

It should be noted that the proportion of such crops exported fell heavily during the war, and that although it has risen again since it has not regained the pre-war level. It may be tentatively concluded that India will continue to have a considerable exportable surplus of such crops for many years to come, but that the surplus will tend to decrease. There has been no comparable decline in the proportion of raw materials (such as cotton[4] and jute[5]) and of plantation products exported, and undoubtedly India is in a strong commercial position because she can supply just those crops that are in great demand in the industrial West, in Japan[6] and in certain other markets.

The direction of India's trade has recently been changed more fundamentally than its nature.[7] Between 1900 and 1914 the most notable features were the increased trade with Germany, Austria-Hungary, Japan and the United States, and the decreased trade with China[8] and Russia. Since 1914 the most important features have been the accelerated increase in the shares of Japan

[1] Compiled from the Annual Reviews of the Trade of India.

[2] In 1926–27 the wheat harvest was exceptionally poor in India.

[3] Tea is obviously not in the same category as the food-crops, as it is not commonly consumed in India, but is added for comparative purposes.

[4] The percentage of raw cotton exported was 56 pre-war, 66 for the years 1921–22 to 1925–26, and 64 in 1926–27. It fell to only 46 per cent. in 1927–28, partly on account of a great fall in demand from Japan—owing to the financial crisis in that country—and partly owing to a lack of adjustment between Indian and American prices.

[5] The percentage of raw jute exported was 51 pre-war, 50 for the years 1921–22 to 1925–26, and 37 in 1926–27. Here there has been a decline (except in 1921–22) only because more of the jute is exported after manufacture.

[6] Japan is the principal market for Indian cotton.

[7] *V.* Fig. VII, p. 334.

[8] The extent of the decline of India's trade with China is not shown in Fig. VII, p. 334, because trade with Hong-Kong is included in the trade with the "Rest of the British Empire."

and the United States in India's trade, the decline in the shares of the United Kingdom,[1] China, Hong-Kong, and France, and the war-time decline, but subsequent revival, of trade with Germany. To-day the principal suppliers of goods to India are the United Kingdom (despite the relative decline),[2] the United States, Japan, Germany, France and Italy, whilst India finds her best markets in the United Kingdom, the United States, Germany, Japan, and France.

From the point of view of the promotion of self-sufficiency and industrial development, India's trade with different countries is of very unequal value. Her trade with the United Kingdom is particularly " desirable " in this respect. The great bulk of British goods imported do not compete with Indian products, and are essential to India's industrial development. Where they do compete with Indian products, the latter have progressively gained at the expense of the former. Moreover many Indian products are now assisted either by revenue or by actually protective duties.[3] India's exports to the United Kingdom do not include the main subsistence crops,[4] nor, to any great extent, raw materials that could with advantage be manufactured before export. The United Kingdom is the one country that imports large quantities of tanned Indian hides and skins,[5] and is the chief importer of Indian vegetable oil. No preference is given to goods not manufactured before export.

India's trade with the rest of the Empire is mostly highly " desirable " from the same point of view, but is, unfortunately, very limited in extent. To the Dominions she sends a relatively large proportion of manufactures (chiefly cotton and jute goods), tea, and some rice, indigo and vegetable oils. In return she takes manufactures, such as motors (from Canada), railway plant (from Australia and Canada), and coal (from South Africa and Australia). To the tropical colonies (such as Ceylon, British Malaya, and Kenya) she sends rice, cotton piece-goods and jute goods, taking certain " specialities " (principally raw material, such as Uganda cotton) in return. India's trade with Java is similar in type to that with British tropical colonies, except that she imports therefrom enormous quantities of sugar, needed to supplement her own inadequate supply.

The type of trade conducted with the United States is in the main like that with the Dominions. The principal goods

[1] The share of the United Kingdom has tended to decline since the end of the nineteenth century, but since 1914 the tendency has become much more marked.

[2] India is still the best market in the world for British goods.

[3] *V.* § 2, below.

[4] Such as rice, little of which goes to the United Kingdom. Wheat is the chief foodstuff sent to the United Kingdom.

[5] In 1926–27 no less than 93 per cent. of the total quantity of tanned hides and 81 per cent. of the tanned skins exported went to the United Kingdom.

imported—mineral oil,[1] machinery, motor-cars, iron and steel goods, hardware and tobacco—are (with the exception of tobacco) all urgently needed to forward industrial expansion, but there is a tendency for Indian produce, especially jute, and hides and skins, to be preferred in the raw condition.

Continental Europe, especially Germany, sends mainly cheap miscellaneous manufactures, many of which India herself could readily produce, whilst it takes in return a large quantity of rice,[2] raw cotton, raw jute, untanned hides and skins, and oilseeds. Definite preference is given to unmanufactured articles.

The bulk of India's exports to Japan (usually over 80 per cent.) consists of raw cotton, whereas her imports are manufactured goods, mainly competitive in character. The outcry against unfair Japanese competition has been one of the features of the recent history of commerce in India, but it should not be overlooked that the total value of India's exports to Japan considerably surpasses the value of her imports. So long as India cannot herself utilize the whole of her cotton crop, she must find a market for the surplus, and Japan is a most valuable market.[3] On the other hand it may prove desirable to protect certain types of cotton manufactures which Japanese competition threatens to undercut, if this can be done without spoiling the market for raw cotton.

The decline in the sale of British goods in India may be accounted for partly by their relative dearness, and partly by the more pushing methods adopted by German, Japanese, and American traders.

Just before the war, German traders made strenuous efforts to conquer the Indian market by introducing miscellaneous manufactures suited to the tastes of the masses of India at a price, and on terms, with which the English could not compete.[4] The

[1] In 1926–27 India obtained 70 per cent. of her imports of kerosene oil and the bulk of her imports of lubricating oil from the United States, and 77 per cent. of her imports of fuel oil from Persia (*Moral and Material Progress of India*, 1926–27, p. 197).

[2] In Europe rice is partly consumed as a food, and partly utilized in the manufacture of spirits and starch.

[3] Recently Japan has begun to import a larger proportion of raw cotton from America (*v.* chap. xi, p. 271). A considerable quantity of Burmese rice used to be exported to Japan, but Japan has now put an embargo on this trade (*Indian Trade Journal*, April 5, 1928, p. 63, and *Times*, October 26, 1928). In 1927–28 there was a great decline in Japan's imports from India, especially imports of raw cotton, on account of the severe financial crisis in Japan, and of a temporary maladjustment between Indian and American cotton prices.

[4] The German traders not only sold cheaper, but also gave easier credit facilities and took more trouble to study the tastes of their customers. For instance, whilst English merchants quoted f.o.b. Germans quoted c.i.f. prices, to save their customers the trouble of calculation of freightage, etc. (*Report on the Conditions and Prospects of British Trade in India*, 1919, p. 10).

quality of the German goods was not comparable with that of English goods, but durability is little regarded in the Indian market.[1]

During the war both American and Japanese firms opened branches and agencies in India, and attempted to get into closer touch with the consuming classes. Direct shipping services were instituted from New York, Boston, San Francisco, and Japan, and commercial travellers were sent to obtain orders. These latter studied the Indian market very closely, and paid great attention to advertisement.[2]

The Japanese took on the mantle of the Germans and introduced a vast variety of marvellously cheap, but incredibly meretricious, manufactures. Whereas according to the 1911 Census there were only thirty-two male Japanese in India, in 1919 there were said to be between two and three thousand. Japanese agents are good at learning the vernaculars, and depots, which combine the purchase of raw cotton with the marketing of Japanese goods of every sort and description, have been established all over the country.

English and Indian traders have been greatly alarmed by the advent of these new competitors, and have begun to realize that they must revise their traditional business methods. A number of Indian industrial firms have opened branch depots in foreign cities, such as New York and Manchester,[3] whilst many British firms now maintain resident agents in India.

In a number of trades there is now a distinct tendency towards the establishment of more direct contact between foreign producers and bazaar dealers, and towards the elimination of the (native) middlemen in the export trade, but the improved methods of distribution and advertisement have as yet been adopted by only a minority of Indian firms. There is a real danger that Indian merchants will be hard hit if they do not make an effort to adopt

[1] The destructive climate, which rots most goods in a very short while, and the depredations of insects, etc., often necessitate an annual renewal of roofs, clothing, and other household and personal goods, whatever the quality of the goods when new. Consequently cheap and showy goods command an exceptionally ready sale. Even when it would pay better, in the long run, to buy better goods and tools, or to construct better houses and other buildings, it is customary to prefer the cheaper article. "If half the work and material which to-day are expended on the renewal and repair of *katchcha*"—*i.e.* anything of a make-shift or temporary character—"were to be devoted to the erection of permanent buildings and equipment, an annual saving of crores of rupees would be available for development" (*Round Table*, June 1925, p. 536). This is one striking example of uneconomic expenditure. The excuse that "my house has fallen down" takes turns with the alleged death of a relative with Bombay servants when asking for leave to go to their "own country" for a short visit.

[2] *Report on the Conditions and Prospects of British Trade in India*, 1919, p. 13.

[3] *Ibid.*

improved methods, especially as regards advertisement,[1] which at present they almost entirely neglect.[2]

From this description of Indian trade at the present day, and of the changes that have recently occurred, it appears that since the end of the nineteenth century the general trend has been reversed, although the change in this respect has not yet altered fundamentally the general character of that trade. It is no longer true to say that India tends to become increasingly dependent upon exports of primary products, and imports of manufactures that might well be produced within the country. The corresponding change in the commercial policy of the Government of India, and its effects, will be discussed in the following section.[3]

In order to complete this picture of India's trade, a few words must be added with regard to the trade in specie, land frontier trade, and coasting trade.

We have already seen that India normally has a considerable net import of treasure.[4] Before the war the (quinquennial) average net import of treasure amounted to Rs. 38·8 crores. The war-average amounted to Rs. 3·17 crores only, owing to the difficulty experienced towards the end of the period in obtaining bullion at any price. During the commercial crisis from 1920 to 1922, when (as we have seen) the normal balance of trade was reversed, there was even a small net export of treasure.[5] The result was that for several years India was " starved " of gold and silver, and hence (after the balance of trade had returned to normal) net imports rose to record figures, up to a peak of Rs. 94·0 crores in 1924–25. Since then arrears of demand appear to have been met, and net imports have fallen to about the pre-war level.[6]

The returns of India's trade across the northern land frontier were very incomplete during the nineteenth century, but the total recorded rose from Rs. 14·5 crores in 1900–01 to Rs. 33 crores in 1924–25. Since then comparable figures have not been available owing to a change in methods of registration. Imports consist

[1] Indian goods are hardly advertised at all and the only occasions on which they are displayed to advantage are at the periodic fairs. Little attention is paid by Indians to the selection of a site from the point of view of advertisement, and, as a rule, premises are hopelessly cramped and no attempt is made to arrange even retail stores—much less manufacturing premises—so as to " catch the eye " and draw attention to the variety and quality of the goods. Apart from the lack of adequate accommodation, this can be accounted for by the almost universal lack of capital, the continued prevalence of bargaining over the policy of a " fixed price," and the general lack of education, which naturally prevents the written word from carrying weight.

[2] It may be suggested that the Indian Trade Commissioner could help Indian exporters very considerably if given a larger staff and better equipment in general.

[3] § 2, below.

[4] P. 331, above.

[5] *V.* Fig. VIII, p. 336.

[6] *I.e.* Rs. 32·2 crores in 1927–28.

mainly of grain and pulse, metals and metal manufactures, provisions, fruits, vegetables and nuts, raw silk and wool, and live animals. India's principal exports are cotton goods (largely re-exports), metals and metal manufactures, sugar, tea, salt and spices. Usually the total is about 5 per cent. of the sea-borne trade.

The coasting trade between various Indian ports, including that between Burma and the mainland, is registered separately from the foreign, overseas trade.[1]

Its total value amounted to Rs. 118·6 crores in 1913–14, but at the present day figures are available only for the trade between Burma and the mainland. The value of the latter rose from Rs. 20·1 crores (pre-war quinquennial average) to Rs. 47·8 crores in 1927–28, and consists mainly of the exchange of Burmese oil, rice, and timber, for the coal, jute and jute goods (of Bengal), cotton piece-goods (of Bombay and Madras) and iron and steel goods (of Bihar).

§ 2. COMMERCIAL AND TARIFF POLICY

That the economic policy of the Government of India during the second half of the nineteenth century was based upon the *laissez-faire* principles then prevailing in England, has already been noted.[2] But even when these principles were most firmly upheld, their application to India was limited by the necessity of undertaking certain functions which grew out of the Government's famine policy, and by the urgent need for revenue. The effect of building railways and irrigation works on production and trade has already been discussed,[3] but the tariff and one or two other lines of definitely commercial policy remain to be described.

After the Mutiny the great need for revenue necessitated the imposition of moderate import duties and the retention of low export duties, but as the financial position improved these were gradually repealed or reduced. Owing largely to the agitation in Lancashire, in 1882 an almost completely "free trade" tariff was introduced, whereby low export duties were levied on a small number of articles only, including arms and ammunition, tobacco, salt and liquors,[4] with the object of raising revenue and (in some cases) checking and controlling consumption. Most export duties were repealed,[5] and the remaining import duties were counterbalanced by excise duties on the articles concerned.

[1] This is not, of course, "foreign trade" at all, but it appears convenient to consider the subject shortly at this point.

[2] *V.* p. 210, above.

[3] *V.* chap. vi, p. 146, and vii, p. 164.

[4] Petroleum was added to the list in 1888.

[5] By the end of the nineteenth century the only remaining export duty was on rice.

"Free trade" was maintained until 1894, when financial considerations[1] made some additional taxation essential, and a general import duty of 5 per cent. was imposed.[2] At first cotton goods (yarns and manufactures) were retained on the free list, but it was soon realized that their omission meant that it would be impossible to raise the requisite revenue. Hence in December 1894 an import duty of 5 per cent. was imposed on both cotton piece-goods and yarn. This caused a great outcry in Lancashire, where the new policy was looked upon as a great blow to its staple industry. In consequence, the notorious "countervailing cotton excise" of 5 per cent. was imposed upon all Indian mill-made yarn of a quality of twenty counts and upwards. But this did not satisfy either Lancashire or India. Lancashire merchants argued that the Indian consumer could not afford to buy cotton goods (wherever produced) at the higher level of prices, whilst Indian producers said that their industry had been heavily penalized. Hence in 1896 the duty on cotton piece-goods was reduced from 5 per cent. to 3½ per cent., the excise on Indian mill-woven cloth was also lowered to 3½ per cent., Indian hand-woven cloth was entirely exempted from the excise, cotton yarn was admitted free, and the excise on yarn removed. This meant that coarse indigenous cloth was exempt from any duty, whilst the imported piece-goods and Indian mill products were alike taxed at 3½ per cent. The removal of the tax on imported yarns was as much in the interest of the Indian weavers as of the Lancashire exporters, as Indian hand-weavers utilized imported yarns for all their finer products. Apart from the imposition of a countervailing duty on bounty-fed sugar in 1899, and a few quite minor tariff amendments in the first decade of the twentieth century,[3] the tariff system remained essentially unchanged from this time onwards, until two years after the outbreak of the war. The principles underlying the system were that a low general import duty should be levied for the sake of revenue, exemptions or reductions being made for urgently needed goods, and that higher duties should be levied on articles such as liquor and tobacco, the import of which it was desired to restrict or which were thought to be able to stand heavier taxation.

[1] In particular the progressive decline in the exchange value of the rupee (*v.* chaps. xiv, p. 393, and xv, p. 410).

[2] Railway materials and machinery were admitted free, and only 1 per cent. was levied on iron and steel goods.

[3] The duties on liquors, tobacco, silver bullion, and petroleum were raised in 1910, in order to obtain revenue in place of that lost through the decline in exports of opium to China (*v.* chap. xiv, p. 378). The tobacco duties were lowered again in 1911, as the yield proved disappointing. The duty on bounty-fed beet sugar was raised in 1902, but was subsequently abolished for one country after another as a result of the Brussels Sugar Convention of 1903, which resulted in the abolition of the bounty system by the chief sugar-beet exporting countries.

A slightly more constructive commercial policy than that previously in force was adopted under Lord Curzon at the beginning of the twentieth century. He introduced closer relations between the Government and the commercial world, and a special Department of Commerce and Industry was established in 1905, to which were handed most of the existing Government functions with regard to industry and commerce.[1]

During the war the interests of Indian traders were subordinated to war-time necessities, but the pressing need for revenue resulted in fiscal measures which eventually transformed the whole system.

Whilst it was believed that the war would be a matter of a few months only, no permanent financial changes were made, but after a time it was realized that more drastic steps must be taken to increase revenue. Hence in 1916 the general import duty was raised from 5 per cent. to 7½ per cent., the cotton duties and excise remaining unaltered at 3½ per cent. In addition the list of duty-free articles was reduced, the duty on sugar and the special duties on excisable goods were raised, and export duties were imposed on tea and jute. In 1917 the duty on imported cotton piece-goods was raised from 3½ per cent. to 7½ per cent., and the export duty on jute was doubled.

It was at this point that the first real change in policy appeared, as the countervailing excise was left at 3½ per cent. In 1919 an export duty was also levied on raw hides and skins. This duty introduced two new principles, as on the one hand the duty was intended to protect the Indian tanning industry (not only to provide revenue), and on the other it introduced a measure of imperial preference, as a two-thirds rebate was given on hides and skins exported to, and tanned within, the Empire.[2]

The real financial strain occurred after the crisis of 1920 and during the subsequent depression. In 1921 the general import rate, including the duty on the import of cotton piece-goods, was again raised, namely, from 7½ per cent. to 11 per cent., whilst the cotton excise remained unaltered at 3½ per cent., as it did until its suspension in 1925. The duties on sugar and on various luxuries were increased still more, *i.e.* to 15 per cent. and 20 per cent. respectively. A further increase in the general import rate

[1] These included the collection and publication of statistics and information, and the supervision of industrial legislation (such as the Factory and Mining Acts) and of commercial administration (including the post office, railways, telegraphs, ports, shipping, tariffs, etc.). The Railway Board and Customs Department, which were constituted on a more independent basis in 1905, were placed under the general supervision and control of this department, but since the reforms have been made entirely independent.

[2] The Imperial rebate was withdrawn in 1923, when the export duty was reduced from 10 per cent. to 5 per cent., as it injured England's entrepôt trade, without substantially assisting India's tanning industry.

up to 15 per cent. occurred in 1922, but this time the duty on imported cotton goods was left at 11 per cent. At the same time a duty of 5 per cent. was imposed on imported yarn (which had been imported free since 1896), the duty on sugar was raised from 15 per cent. to 25 per cent., that on various luxuries was raised from 20 per cent. to 30 per cent., whilst certain other minor increases (*e.g.* on the duties on matches and kerosene oil), both in import duties and in the excise, were introduced.

Thus in 1922 there was a series of six classes of goods upon which different rates of import duties were levied.[1]

First there was a class of goods admitted free of duty, either because it was held to be injurious to increase the prices, or because smuggling could not be prevented.[2]

Secondly, there was a class of goods liable to duties at special rates, supposed to be non-protective, including sugar[3] and saccharine, fish, liquors of all sorts, salt[4] (unless for manufacturing processes), tobacco, coal, coke and patent fuel, mineral oils, cotton yarns and twist (5 per cent. *ad valorem*), cotton piece-goods (11 per cent. *ad valorem*), certain arms, ammunition and military stores, and matches.

Thirdly, there was a class of goods taxed at 2½ per cent., including grain and pulse and certain types of machinery.

Fourthly, a tax of 10 per cent. was levied on certain types of iron and steel goods, including rails, railway plant, and rolling stock.

Fifthly, a general rate of 15 per cent. was levied on a large number of goods, and was meant to apply to the import of most goods except luxuries and those urgently needed. This class included most articles of food and drink (except those already mentioned), animal, vegetable, and certain mineral oils, raw textiles (except those already mentioned), all iron and steel goods (except those specified under the 10 per cent. schedule), and a mass of manufactured articles such as apparel, arms, ammunition and military stores, chemicals and drugs, cutlery, hardware,

[1] *V.* Schedules in the Statistical Abstract. These duties remain substantially unchanged at the present time, except for articles on which protective duties have recently been levied, and for a few quite minor alterations. *V.* p. 354, below.

[2] This class of free goods includes salt for use in manufacturing processes; certain raw materials, such as raw skins and hides, most metallic dyes, cut and uncut precious stones, raw cotton, wool and wool-tops, manures, paper-making materials, and various manufactured goods, such as certain articles of apparel (for instance, uniforms), certain army ammunition and military stores, agricultural implements, dairy appliances and certain machines worked by manual or animal power (for instance, water-lifts, sugar mills, and oil-presses). Indian coins and gold and silver coins and bullion are also on the free list. The duty on silver bullion was removed in 1920, in accordance with the recommendations of the Currency Committee of that year.

[3] At various rates according to quality.

[4] The import duty on salt is determined by the rate fixed for the excise levied on indigenous salt produced by private enterprise.

implements and instruments, dyes, furniture, glass and earthenware, leather goods, machinery " not otherwise specified," and yarns and textile fabrics " not otherwise specified."

Finally, a 30 per cent. duty was levied on " luxuries " such as motor-cars and other vehicles, confectionery, certain cutlery, hardware and metal goods (including clocks and watches) and rich yarns and fabrics.

Meanwhile the policy of imposing export duties and cesses on goods in great demand abroad, with the double object of raising revenue and assisting particular industries and trades, had been extended. By 1922 there were export duties on raw and manufactured jute, raw hides and skins, rice, and on tea. In addition small cesses were levied, with the object of devoting the proceeds to improving the production and distribution of the articles taxed, on tea, raw and manufactured jute, and lac. Finally, in 1923, when the Central Cotton Committee was formed, a cess of 4 annas per bale (of 400 lb.) was imposed on all cotton exported or consumed in an Indian mill.[1]

These relatively high import duties greatly increased the revenue obtained from customs, which before the war brought in an average of Rs. 10 crores only, but in 1923–24 brought in no less than Rs. 38·98 crores.[2] They also undoubtedly had a protective effect, in certain cases.

Although the tariff schedules just described still remain in force, substantially unchanged, it is since 1921 that there has been a *volte-face* in fiscal policy, which has involved the imposition of definitely protective duties during the last few years.

In 1916 the idea was to leave the cotton taxes unaltered until the whole question of protection in general, and the countervailing cotton excise in particular, could be reconsidered after the conclusion of the war.[3] The Joint Select Committee, appointed to consider certain aspects of the " Government of India Bill " in 1919, did not hesitate to recommend the grant of fiscal autonomy to India, as it was recognized that nothing was more likely to endanger good relations between India and Great Britain than a belief that Indian fiscal policy was dictated from Whitehall. Following a resolution demanding full fiscal autonomy, moved in the Council of State in 1921, the Secretary of State sent a despatch dated June 30, 1921, in which he definitely accepted the principle. Shortly after this the Government of India announced the appointment of the Indian Fiscal Commission.

The terms of reference gave the Commission power " to

[1] This cess has recently been reduced to 2 annas per bale.

[2] *V.* chap. xiv, p. 388.

[3] Lord Hardinge made a statement to this effect in 1916 (v. *Round Table*, March 1923, p. 370).

examine the Tariff policy of the Government of India including Imperial Preference . . . and to make recommendations."

In reviewing economic conditions in India the Commission concluded that industrial development had not been commensurate with the size, population, and natural resources of the country. The body of the report did little more than review the recent course of industrial and commercial development and trace recent modifications of policy, no detailed examination of the costs of production and probable effects of the imposition of a duty on particular industries being attempted.[1]

The Majority Report of the Commission recommended a rather vague policy of protection, which should be applied " with discrimination " to certain selected industries.[2]

The selection of industries and actual detailed recommendations were to be left to a Tariff Board, which was to be appointed to investigate the claims of particular industries to protection, and to watch the effects of the duties which should be imposed.

The Commission unanimously condemned the existing cotton excise, even though it concluded that as a matter of fact it had probably hindered the development of the cotton-mill industry but little. It has, indeed, been truly said that the cotton excise is " more an insult than an injury,"[3] and it has, naturally, provoked all the more widespread and bitter resentment.

Next, the Fiscal Commission recommended " conditional Imperial Preference," *i.e.* that a certain degree of preference should be granted as a free gift to the United Kingdom, but that it should only be conceded to other parts of the Empire by mutual agreement, whereby equivalent concessions were made to India.

The Commission also recommended that certain stipulations (*i.e.* that the companies should be incorporated and registered in India with rupee capital, that there should be a reasonable number of Indian directors on the board and that reasonable facilities should be offered for the training of Indian apprentices at Government expense) should be made whenever the Government granted any kind of monopoly or concession, gave any subsidy or bounty, or granted a licence to act as a " public utility " company. This

[1] For opinions on the Fiscal Report see *Round Table*, March 1923; the *Economic Journal*, March 1923; *Asiatic Review*, April 1923 and October 1923.

[2] Five members appended a Minute of Dissent recommending rapid industrialization by means of protection. They feared that the procedure recommended would involve great delay, and that it and the conditions laid down would, in practice, mean that protection would be reserved for industries which do not compete with British interests. The Tariff Board has not given grounds for the latter fears, but suspicion is the inevitable inheritance of the unwise policy pursued in the past.

[3] Dr. Gilbert Slater, *Asiatic Review*, March 1923, p. 265.

recommendation was immediately adopted by the Government.[1] The recent decision of the Indian Stores Department to call for rupee tenders for Government contracts also tends to encourage companies domiciled in India, but it is realized that India still needs the assistance of foreign capital if she is to develop her magnificent resources to the best advantage.[2]

The principles underlying the Commission's tariff proposals were that raw materials and machinery should be admitted free and semi-manufactured goods at low rates; that export duties should be levied, as at present, in order to aid research and improved organization; and that protective duties should only be levied on industries which fulfilled the three conditions that: (i) India possesses natural advantages for the industry; (ii) The industry must be one that is unlikely to develop without initial protection; and (iii) The industry must be one which is likely, eventually, to be able to produce at a profit without Governmental aid.

Finally, the Commission insisted that the burden laid on the consumer by the protective duties should be restricted to the minimum necessary to attain the desired object, that "difficulties in the shape of shipping rebates, or unfair advantages like dumping, depreciated exchanges, bounty-fed imports from abroad, be investigated and, where possible, removed," and that duties should be charged on Government purchase as well as on imports on private account.[3]

On the whole the report was well received, although articulate Indian opinion tended to consider it unnecessarily cautious. The consumers as a body in India are not articulate and no body exists representing their opinion as such, but it may be noted that, when their attention is aroused, they object strongly to measures which consider industrial interests first, and the price-level and agricultural interests a bad second.[4] The Government of India

[1] *D.O.T. Report on the Prospects and Conditions of British Trade in India*, 1922–23, p. 100. Similar conditions are laid down before financial assistance is given to industries under the Provincial "State Aid to Industry" Acts (*v.* chap. x, p. 222). For a discussion on this subject, v. *Proceedings of the Indian Economic Association*, 1923, p. 6 *et seq.*

[2] There has been widespread opposition to the free entry of foreign capital into India on the score that it results in monopolistic powers for foreign promoters, who have thereby been enabled to exploit the country, and have preferred foreign to indigenous supervisory and technical labour, and that it results in a drain of profits out of India. A special Committee was appointed to investigate the whole matter, and reported in 1925 that the entry of foreign capital is favourable (on the whole) to Indian interests and, in fact, essential for progress (v. *Report of the External Capital Committee*, 1925; *D.O.T. Report on the Conditions and Prospects of British Trade in India*, 1924–25, p. 70; and *Proceedings of the Indian Economic Association*, 1923, p. 6).

[3] This recommendation has been put into force.

[4] *V.* debate in the Legislative Assembly in 1924 on the proposal (which was defeated) to impose protective duties on agricultural machinery (*v.* chap. vii, p. 178).

agreed with the major proposals, but emphasized the fact that revenue considerations must be kept in the forefront. The Commission's neglect of revenue considerations must be considered its weakest point. The majority report lightly recommended the abolition of the export duty on tea, and of import duties on machinery, coal, hides and skins, etc., involving a loss of almost Rs. 3 crores, without troubling to make proposals for raising the necessary revenue by other means.[1] In view of the urgent need for Governmental assistance for " nation-building " objects, much more attention ought to have been paid to this aspect of the subject.

On July 10, 1923, the Legislative Assembly passed a resolution appointing a Tariff Board in accordance with the recommendations of the Fiscal Commission, and adopting a policy of discriminating protection.[2]

The steel industry, together with a number of industries using steel as raw material, was the first to be investigated by the Tariff Board. We have already seen that the Government adopted its proposals for protective tariffs, and for the grant of bounties, in the Steel Industry (Protection) Act of 1924, and that it subsequently became necessary to consider the grant of additional aid, which was given in the form of bounties, until the duties were all revised and placed on a new basis, in 1927.[3] At this latter date the bounties were abolished, and preference was given to British goods. The protection thus granted undoubtedly helped the industry through a period of exceptional difficulty, and it is hoped that by 1934 (when the present duties expire) it will not need further Governmental assistance.

The Tariff Board has received and investigated applications for protection from a number of other industries, including the paper and paper pulp, cement, magnesium chloride, cotton mill, match, coal, mineral oil, and plywood and tea chest industries. It has also investigated separately the claims for the continuance (after 1927) of the supplementary protection granted to a number of industries which utilize steel as a raw material, and in every such case[4] has decided to discontinue supplementary protection.

Of the industries claiming protection (apart from the steel and

[1] *Fiscal Commission, Minute of Dissent*, p. 187.

[2] Resolution of the Government of India (Department of Commerce), No. 378, July 10, 1923.

[3] *V.* chap. x, p. 245 *et seq.*, above.

[4] *E.g.* in the case of the wire and wire-nail, galvanized hardware, railway wagon and underframes, and shipbuilding industries. *V.* the Reports of the Tariff Board on each of these industries; the *Indian Trade Journal*, July 22, 1926 (Wire and Wire Nails); *ibid.*, March 1, 1928 (Railway Wagon and Wire Industries), and *ibid.*, July 8, 1926 (Galvanized Hardware). For an explanation of the position and claims of the shipbuilding industry (*i.e.* the construction of ships for inland navigation) v. *Moral and Material Progress of India*, 1926–27, p. 190.

allied industries) only the cotton mill, coal, and mineral oil industries are at present large and important industries, and—as already seen [1]—the Tariff Board concluded that protection was not justified for either the coal or mineral oil industries, and only a very minor measure of increased protection was granted to the cotton mill industry. The other industries are all at an early stage of development. The Tariff Board was unable to recommend protection for the cement industry (which is suffering mainly from over-production for the inland market),[2] or for the magnesium chloride industry (which, it concluded, did not possess the requisite natural advantages). It recommended a bounty on research for the paper and paper pulp industry, but the Government preferred to impose protective duties on certain types of paper.[3] It upheld the claim of the match industry for protection, and recommended converting the existing "revenue" duty, of Rs.1. 8a. 0p. per gross, on matches into a "protective" duty,[4] because at present consumers tend to prefer imported matches even at the same prices, and the Government has accepted this decision. The Government has also decided to protect the plywood and tea chest industry, although in rather a different way from that recommended by the Tariff Board.[5]

In addition to these applications for protective duties, the Board has received a number of applications for a reduction of present duties on articles used as raw material by certain Indian industries, in order that the products of the latter may compete on equal terms with imported finished goods.[6] Many of these claims have not yet been investigated, but suitable tariff modifications have already been introduced in certain cases. For instance the 15 per cent. duty on imported sulphur has been removed,[7] and the Government has accepted some of the Board's recommendations for equalizing conditions of production for the Indian belting industry, although it has chosen to impose a duty on the finished article, rather than to reduce the duty on the raw

[1] *V.* chap. x, pp. 239, 242, and chap. xi, p. 277.

[2] *V.* chap. xi, p. 292, and *Gazette of India*, August 1, 1925.

[3] *Indian Trade Journal*, October 1, 1925; May 26, 1927; July 7, 1927; and September 29, 1927.

[4] The import duty therefore remains the same as it has been for the last five years. The point is that the duty was introduced in order to produce revenue, but in fact had a protective effect, so that the revenue declined. If the object of the duty had been to produce revenue, the Government would have had to reduce it. Now that it has been decided to protect the industry, the duty can be retained. V. *Report of the Tariff Board on the Match Industry*, and *Times*, September 1, 1928.

[5] *Report of the Tariff Board on the Plywood and Tea Chest Industry*, and the *Indian Trade Journal*, February 23, 1928.

[6] See the list of such applications, made in 1925 to the Tariff Board, in the *Gazette of India*, March 28, 1925.

[7] V. *Report of the Tariff Board on the Removal of the Import Duty on Sulphur*, 1924.

materials.[1] The Tariff Board upheld the claim of the Indian Galvanizing Company for the removal of the 15 per cent. duty on imported spelter (*i.e.* commercial, or refined zinc),[2] but in 1927, when the matter came up for consideration by the Government, it was decided only to remove the duty on unwrought zinc.[3]

Several industries are at present under consideration by the Tariff Board, including a number of chemical industries, which claim protection,[4] and a number of industries utilizing chemicals as raw materials, which desire the removal of the existing 15 per cent. duty on imports.[5]

It thus appears that after four years of protection only a small number of industries have substantiated claims for protection, whilst quite a number have asked for the reduction of the existing revenue duties on imported materials utilized by them.[6] It is interesting to note that the Burma Chamber of Commerce considers the present relatively high range of duties adverse to Burmese interests, and has protested against the export duties on rice and raw hides and skins, and against the protective duty on steel, which is said to penalize Burma for the benefit of Bengal and Bihar.[7] The natural conclusion is that India has not yet attained a stage of development at which she can benefit from any extensive application of protection, except at a very heavy cost to consumers in general. Before discussing this topic further, it is convenient to refer to one or two recent minor tariff modifications, and to mention some other measures by which the Government has attempted to stimulate and assist commercial development.

In 1924 certain implements used by agriculturists were added to the list of duty-free articles, whilst in 1925 the 2½ per cent. duty on imported grain and pulse was removed, the duty on

[1] V. *Report of the Tariff Board on the Camel Hair, Cotton, and Canvas Ply Belting Industry*, 1927, and the *Indian Trade Journal*, February 16, 1928.

[2] V. *Report of the Tariff Board on the Removal of the Duty on Spelter and the Enhancement of the Duty on Imported Galvanized Hardware*, 1926; the *Indian Trade Journal*, July 8, 1926; and the Indian Budget, 1927–28.

[3] *Indian Trade Journal*, July 26, 1928.

[4] These are the sulphuric acid, hydrochloric acid, nitric acid, magnesium sulphate, ferrous sulphate, potash aluminium, aluminium sulphate, sodium sulphate, zinc chloride, copper sulphate, and Glauber's salt industries.

[5] *Indian Trade Journal*, July 26, 1928.

[6] It may here be suggested that although on the whole the methods of the Tariff Board are to be commended, it is questionable whether it is always within its competence to get at the true facts. As a rule it is entirely dependent upon the evidence of one or two firms, and hence may be unable to estimate the influence of particular customs or types of organization (such as the Managing Agent system). These difficulties appear to have hampered the inquiry into the mineral oil industry, and the Board admitted that it was hard to obtain the necessary evidence with regard to costs and competition in the engineering industry owing to the keen internal competition and consequent fear of revealing technical and financial secrets to rivals.

[7] *Times*, October 26, 1928, "Burma and India."

imported motor spirit was reduced, and the duties on healds, reeds, and shuttles (mainly used in power-loom weaving) were reduced (to 2½ per cent.) In 1926 no important changes were made, but in 1927 the import duty on motors was reduced from 30 per cent. to 20 per cent., that on tyres from 20 per cent. to 15 per cent., the export duty on tea was abolished,[1] the duty on imported rubber seeds and stumps was removed, and the stamp duty on cheques and bills of exchange payable on demand was repealed. The duty on imports of unmanufactured tobacco was increased from Rs.1 to Rs.1. 8a. 0p. per lb. Few changes were made in 1928 or in 1929, but it was remarked in the former year that the reduction of the duty on motor-cars and commercial vehicles had resulted in an increase of 16 per cent. and 35 per cent. respectively in imports. It will be noted that practically all these changes were in the direction of a reduction of duties.

We have already noticed, in another connection,[2] that the countervailing excise on cotton mill piece-goods was suspended in 1925, and repealed in 1926. A few more words of explanation are necessary on this point.

The question of removing the countervailing excise was raised from time to time after Lord Hardinge had announced (in 1916) that it would be considered after the war. In 1924 the Legislative Assembly passed a resolution demanding the abolition of the excise " at the earliest possible moment," and Sir Charles Innes (Minister of Finance) said that " there was not a British subject in India who did not regret the existence of a duty which, while doing little harm to India's cotton industry, had undoubtedly done political harm to the Government." [3] He went on to point out that the Government's pledge had not yet been honoured solely on account of financial embarrassments, and that the series of Budget deficits had coincided with a period of unparalleled prosperity in the cotton mill industry.[4] The subsequent depression in the cotton mill industry [5] led to a deputation of the mill-owners of Bombay and Ahmedabad asking for the abolition of the excise, and resulted in its suspension in the autumn of 1925. In the Finance Act of 1926 it was definitely abolished.

Little has yet been done to give effect to the recommendations of the Indian Fiscal Commission with regard to " conditional Imperial Preference." The only steps taken have been the

[1] Compensatory taxation was levied on the tea industry, by altering the basis of assessment for income-tax.

[2] Chap. xi, p. 263.

[3] *Times*, September 25, 1924.

[4] The burden of the excise on the cotton mill industry was light, as the excise had been left at 3½ per cent. when the import duties on cotton goods had been raised (*v.* p. 247, above). The revenue obtained from the cotton excise amounted to a little more than Rs. 2 crores per annum in 1920–21 and 1921–22.

[5] *V.* chap. xi, p. 263.

preference granted in 1919 to raw hides and skins tanned within the Empire, but withdrawn in 1928,[1] and the grant of preference to British steel goods.

The economic argument in favour of Imperial Preference is that the preferred countries are benefited by the extension of their markets, whilst the importing country eventually obtains its imports at the lower (*i.e.* preferential) rate. Against these advantages has to be placed the eventual loss of revenue owing to the replacement of goods paying the higher by goods paying the lower rates, and the temporary loss to the importing country of part of the price paid by consumers during the period when the preferred countries are pocketing the additional return on the sale of their goods at prices fixed in accordance with the price of imports that are not preferred.[2] An indirect advantage is the promotion of direct shipping and trade between the countries to which preference applies. The net balance of advantage depends upon the particular circumstances. As a rule preference is of much greater advantage to exporters of manufactures than to exporters of primary goods, as the latter are usually admitted free by importing countries. India has little to gain from the receipt of preferential treatment, as the bulk of her exports already obtain free admission to foreign markets.[3]

The advantages which India can offer to the rest of the Empire from preference are also strictly limited. A preference on manufactures would severely injure either the pockets of consumers or the Government revenue.

Trade with the Dominions might possibly be promoted, as Indian cotton piece-goods, jute goods, and tea might gain from preference, whilst the sale of Colonial coal, motors, railway plant, and manufactures might benefit in return, but here political motives affect the situation. Great distrust and bitterness have been caused in India by the treatment accorded to Indian emigrants, and it is also feared that the adoption of a preferential system might be prejudicial to India's hard-won fiscal autonomy. For these political reasons alone, any far-reaching policy of Imperial Preference appears, at present, to be entirely out of the question.[4]

[1] *V.* p. 347, above. [2] *Report of the Indian Fiscal Commission*, 1921–22, p. 127.

[3] India's foodstuffs and raw materials are generally admitted free, and her jute and cotton goods are admitted free or at very low rates by most importing countries. Even plantation products stand to gain little from preference, as is shown by the disappointing results of the preference granted in 1919 by the United Kingdom to such goods as tea, tobacco, and coffee (*Annual Review of the Trade of India*, 1926–27, p. 8). The value of the imperial preference on tea was largely discounted by the fact that India's greatest competitor (*i.e.* Ceylon) also received the preference. For Indian tobacco the advantage was counterbalanced by the adoption of specific duties which discriminated against the comparatively cheap Indian types. In the coffee industry there was little chance of increased production.

[4] *Economic Journal*, March 1923, "The Indian Fiscal Commission," by F. Lavington.

Thus it may be concluded that on the whole India has little to offer and less to gain from Imperial Preference, but much to lose or risk.

In order to get over India's bargaining weakness, owing to the predominance of exports of foodstuffs and raw materials, the extension of export duties on raw materials has at various times been suggested and even attempted, but such export tariffs always appear to react to the hurt of the exporting country.[1]

The Fiscal Commission concluded rightly that, except in the case of a monopoly, an export duty taxes the producer instead of the consumer, and was therefore entirely indefensible. In addition it tends to cause irritation in importing countries.

The other means by which trade has recently been promoted may be described in a few words.

A special "Commercial Intelligence Department" has been established, within the "Commerce Department," to collect statistics and information, and to act as a link between the Government and the business world.[2] Trade inquiries are answered, and since 1918 an Indian Trade Commissioner, and Trade Commissioner's Office, have been established in London.

The function of the Indian Trade Commissioner is to promote the interests of Indian exporters in the United Kingdom and on the Continent, in the same way that the interests of English exporters to India are promoted by the Indian section of the Department of Overseas Trade.[3] He helps Indian merchants who are seeking openings in the markets of Europe (and of America); provides information (with regard to technical developments in methods and processes) for manufacturers in India; and watches all movements in Europe and America with regard both to changes in Government policy and in the organization of trade abroad, that are likely to affect Indian trade either favourably or adversely.[4]

The Commissioner assists Indian firms by effecting introductions between Indian producers and possible purchasers of Indian goods, by supplying information with regard to markets and foreign competition in relation to particular products, and by undertaking special inquiries in response to inquiries from Indian firms. He is a member of a large number of commercial committees—such as the Imperial Shipping Committee, the Imperial

[1] For instance, the imposition of an export duty on saltpetre in 1860 stimulated production in other countries, and was only removed (in 1867) after the Indian industry had been permanently injured.

[2] In 1914 an independent "Director of Statistics" was appointed, but for economy's sake the post was abolished in 1922.

[3] *V.* Annual *D.O.T. Reports on the Prospects and Conditions of British Trade in India.*

[4] *Reports on the Work of the Indian Trade Commissioner* published in 1920, 1922, 1924, 1926, and 1928.

Economic Committee, the Advisory Council of the Board of Trade, the Advisory Committee of the Department of Overseas Trade, and the Empire Cotton Growing Corporation Executive Committee [1] —and by this means is able to support and promote Indian interests.

He also has duties in connection with "Commercial Publicity" in general, as opposed to his duties towards individual Indian manufacturers and traders. Thus he took part in the organization of the Indian section of the British Empire Exhibition, and of the British Industries Fair (1926); he takes part in Empire Products Exhibitions and other movements intended to advertise Imperial products, and he writes for the Press and assists in the preparation of Indian and Empire numbers and supplements for various periodicals. In 1926 a special "Trade Publicity Officer" was appointed to assist the Commissioner,[2] and a further increase in staff is under consideration.[3] It has been suggested that (when the necessary funds are forthcoming) similar appointments should be made in other countries. An "Indian Chamber of Commerce" has recently been founded in London, with the object of promoting Indian trade abroad, and it is said that a membership of over one hundred has already been secured, and that practically every Indian firm trading in this country has joined.[4]

Finally, it may be mentioned that the Government has attempted to deal with the question of the far too prevalent adulteration of Indian produce,[5] but has concluded that the matter can best be dealt with by voluntary agency. Both the Provincial Governments and a number of voluntary trade associations have taken measures to solve this and allied marketing problems.[6] The most hopeful line of advance would appear to be the widespread imitation of the policy adopted by cotton merchants, of setting up a central committee to organize and co-ordinate the trade as a whole. The "Central Cotton Committee" has been hailed as a "masterpiece of co-ordinated activity, financially and administratively self-contained," [7] and

[1] There is now a special Indian Sub-committee of the Empire Cotton Growing Corporation.

[2] *Moral and Material Progress of India*, 1926–27, p. 209. This appointment has since been made permanent.

[3] A large central building for Indian affairs of every description is under construction in Aldwych, and should facilitate the exchange of information and ideas, and co-operation, between merchants trading in or with India.

[4] *Times*, June 23, 1928, "Indian Trade Abroad."

[5] *Indian Year Book*, 1923, p. 300.

[6] For instance, Acts were passed in Bengal and Burma in 1917 to prevent the adulteration of ghi, and the Bombay Cotton Transport Act has done much to maintain the quality of cotton marketed in the Presidency (*Moral and Material Progress of India*, 1926–27, p. 131). It is hardly possible to over-emphasize the part that might be played by the Co-operative movement in improving the marketing of Indian produce.

[7] *Times Trade and Engineering Supplement*, February 20, 1926.

it has been suggested that the same system might be introduced into the jute, wheat, sugar, rice, oilseeds, and other trades.

The better marketing of Indian produce may also be assisted in the future by imperial co-operation, which was initiated in this sphere in 1926 by the establishment of the Empire Marketing Board (in the United Kingdom), supported by an annual Government grant. This body aims at stimulating the marketing of home and imperial produce by making grants for the promotion of research, economic investigations, publicity, and education, and although so far it has dealt mainly with the staple products of the self-governing Dominions, in the future its efforts will be extended to the products of all parts of the Empire.[1]

§ 3. COMMERCIAL POLICY AND THE FUTURE

We have now reviewed the recent course of Indian trade, noting in particular the effects of the war on the size, nature, and direction of trade, and the revolution in commercial policy. It can no longer with truth be said that India is becoming more and more dependent upon exports of primary products and imports of industrial necessities, that the British connection prevents the expansion of Indian industries, nor that the Government ignores Indian interests and desires in formulating commercial policy. Nevertheless it must be admitted that the progressively more constructive commercial policy adopted has been gradually forced by circumstances upon the Government, rather than deliberately adopted as the logical consequence of definite principles and ideals, and that the economic problem of India has not, even yet, been faced as a whole, and hence has lacked coherency and co-ordination,[2] and has, above all, been seriously handicapped by financial stringency. The latter defect has prevented full advantage from being reaped from the measures taken to strengthen the bonds between Government and the commercial community, although these have been conceived along the right lines, whilst the policy of "discriminating protection" has, so far, proved at best a partial success. The question now arises whether or not the tariff policy pursued is really appropriate to India's circumstances and needs.

In the first place it should not be forgotten that the conditions under which "discriminating protection" have been applied have

[1] *V.* V. Anstey, *The Trade of the Indian Ocean*, chap. viii, p. 212.

[2] *The Majority Report of the Fiscal Commission* says (p. 71): "It is clear that the mere imposition of protective duties . . . will not by itself produce that full industrial development which we desire," and that considerations of national economics rather than of economics of individual industries should predominate in all such cases. The Report proceeds to advocate supplementary measures concerned with education, technical training, increased mobility of labour, and railway rates.

been extremely unfavourable, owing to world-wide disturbances and dislocations, affecting trade; the financial difficulties to which reference has already been made; and psychological difficulties due to political mistrust of the Government.

Secondly, the appropriateness of "discriminating protection" depends not only upon theoretical considerations, but also upon what ideal is held, as to India's ultimate economic goal, and upon the actual conditions under which the policy is to be applied.

Articulate Indian opinion is practically unanimous that India's economic goal should be "all-round" development; *i.e.* a better balance between agriculture and industry, involving (presumably) greater self-sufficiency.[1]

The existing extreme dependence upon agriculture undoubtedly has great disadvantages. There is the danger of dependence on outside resources in times of war—whether military or economic—and the fact that economic dependence aggravates political dependence. The great predominance of agriculture tends towards economic conservatism, prevents the adoption of improved methods of production, hinders the development of social freedom and of mobility of labour, and prevents any rapid improvement in efficiency. Industrial occupations increase the openings for varied types of ability and character, and extend the resources of a country.[2] They lead to more extensive and closer contact between individuals, and ideas, and hence produce a higher level of intelligence amongst the masses. If alternative occupations existed in India, the idea of choosing the most advantageous

[1] India's present lop-sided economic development—the overwhelming predominance of agriculture, comparative insignificance of industry, backwardness of the basic industries of coal, and of iron and steel, dependence on the export of foodstuffs and raw materials, and on the import of manufactures—has been unanimously deplored ever since young India began to take an interest in economic matters.

[2] It has been argued, on the contrary, that an increase in industrial employment would not extend India's resources fundamentally, as it would not increase the volume of foodstuffs. In connection with this argument it has been pointed out that during the famines of the nineteenth century weavers were often the first to feel the pinch and to apply for relief, as when the harvest fails the ryots immediately reduce their purchases of cloth. Although this did actually occur, it was due to the fact that the weavers were dependent for the sale of their goods on the very cultivators whose crops had just failed, or on a neighbouring industrial area which itself was dependent for the sale of its products in the afflicted area. If the weavers worked for a wider market—such as a large or remote city area, or for export—a local failure of the harvest would not seriously affect their sales (or wages, as the case might be). Hence, if alternative occupations were open either to the ryots themselves, during a period of scarcity, or to a large proportion of the total population at all times, the distress of an afflicted area would be greatly reduced (v. *Moral and Material Progress of India*, 1911–12, p. 272). If on the death of a ryot, instead of subdividing the land amongst the sons (each of whom tried to eke out an existence on a miserably small holding), it became the custom for one son to carry on the cultivation of the holding, whilst the others took up some industrial occupation, the economic position of the family would undoubtedly be greatly improved.

would more readily develop, and the economic motive would gain in strength. In this way the progressive subdivision of holdings, the clinging (at any cost) to the hereditary holding and the consequent increase in indebtedness, and tendency to fall permanently into the clutches of the money-lender and thus lose even the semblance of independence, which to-day are the usual accompaniments of agricultural life in India, might at last be ended.[1]

There are, therefore, strong reasons for aiming at a better balance between agriculture and industry, and for promoting greater self-sufficiency. If this ideal were definitely adopted, the difficulties of putting it into practice squarely faced,[2] and the limited power of the Government to attain the desired end admitted, it would be easier to judge the adequacy and relative importance of the various reforms suggested in the sphere of commercial policy. It must not be lightly assumed either that the desired end can be attained simply by fiscal protection,[3] or that the ideal of self-sufficiency implies that foreign trade should be reduced to a minimum.

A free-trade policy is based upon the ideal of international co-operation and national specialization. The argument is that labour and capital will be most profitably employed if each country concentrates upon lines of production in which it has a comparative advantage, and exchanges its own surplus "specialities" for the surplus "specialities" of other countries. It is argued that a materially backward country can gain more by free contact and exchange with countries at a "higher" stage of development than by fostering or artificially stimulating particular industries, and that protection not only tends to divert labour and capital from more to less profitable employments, but also to subsidize inefficient management and injure the general public

[1] There is no doubt that it is the contrast between India's obvious industrial potentialities and her actual industrial achievements that has led to the whole-hearted adoption of List's view, in India, "that there is a certain stage in the normal development of a nation during which protective tariffs are essential, in order to assist it in passing from the condition in which it is too exclusively agricultural into that in which there is a right proportion between manufacturing industries and agriculture; and that without fiscal protection the struggling infant industries will be killed by the competition . . . of more developed countries" (*Asiatic Review*, April 1923, "Protection for India," by Dr. Gilbert Slater).

[2] The difficulties are much greater in India than they have been, for instance, in the United States. The latter country did not have to deal with an overwhelmingly large population of superstitious, illiterate, caste-bound peasants, who accepted fatalistically the extremely low standard of life to which they had long been accustomed. The United States is herself well aware of the difficulties that would be created if she were invaded by a horde of workers with a standard of life lower than that of the average American! In addition, India's fuel and power resources are actually, as well as relatively to population, inferior.

[3] In the past protective tariffs have been singled out as symbolic of a policy directed towards the ideal described above, and an entirely false importance has often been attached to this one aspect of economic policy.

through higher prices.[1] In addition there is the danger of increasing political corruption and intrigue, and enabling the growth of profiteering trusts and monopolies.

On the other hand the ideal of national self-sufficiency is usually associated with a policy of protective tariffs,[2] and it is argued not only that certain non-economic considerations are at stake, but also that a measure of protection to infant industries may, in the long run, result in greater wealth than would ever be attained under a free-trade system. This argument is held to be peculiarly relevant in India, which has a comparative advantage mainly as regards certain foodstuffs and raw materials, and is so closely associated with England—a country at a more advanced stage of material development—that under conditions of free exchange she may never realize her industrial potentialities.

The difficulty is that protective tariffs can appreciably accelerate industrial development, without a crushing burden on consumers, only if they are applied at a time when the industries concerned have reached a stage at which an advantage over competing imports will give the necessary fillip to carry them over the period of adolescence.

The results of the inquiries and work of the Tariff Board lead one to the conclusion that, with one or two exceptions, Indian industries have not yet reached this stage, and that protection will not prove a royal road to industrialization. On the other hand, revenue is of the utmost importance.

The financial effects of the changes since 1914 in the tariff system of India have so far been much greater than their protective effects.[3] As customs have now become a main source of revenue, any substantial reduction in general import duties can hardly be expected in the near future.

The conclusion is that India's tariff system should aim primarily at revenue (and only in specific and extremely limited cases at protection) and that industrialization (and greater self-sufficiency) can best be promoted by increased expenditure upon research, industrial and technical training, the collection and

[1] Protection in India obviously tends to benefit the small class engaged in large-scale industrial production, at the expense of consumers as a whole. The policy has been advocated almost exclusively by the commercial and industrial classes, who are quite willing that consumers should pay the price.

[2] In India the passionate demand for protection has clearly been based on the almost unanimous desire to promote self-sufficency and all-round development. *V.* P. A. Wadia, "The True Basis of Protection in India" (*Economic Journal*, June 1924); and the *Proceedings of the Indian Economic Association*, 1923, p. 5.

[3] *V.* chap. xiv, p. 388. Even the bounties granted to the steel and allied industries did not form a direct burden on State revenue, as they were more than counterbalanced by the higher duties on imports (v. chap. x, p. 247). There was, however, a net loss to consumers in general on account of the increase in prices due to protection (v. *Second Report of the Tariff Board on the Steel Industry*, pp. 151–153).

distribution of information, the promotion of improved methods of marketing, and upon the improvement of transport and communications. Fiscal autonomy should, however, be fully conceded, and every means should be taken to remove the fear that commercial policy may be dictated to India with half an eye on Lancashire, in order that the energies of Indian politicians should not be side-tracked into the comparatively unimportant sphere of tariff policy, and that—by clearing the issue—the whole question may be regarded with an unjaundiced eye.

CHAPTER XIV

THE FINANCIAL SYSTEM AND FINANCIAL DEVELOPMENTS

§ 1. INTRODUCTORY, p. 364.

The influence of financial structure and policy on general economic development—The special financial difficulties of India—Plan of the chapter.

§ 2. FINANCIAL CONTROL, p. 366.

Control of the Indian Budget, 1860–1921—*The Relations between Central and Provincial Finance prior to the Reforms—The financial changes necessitated by the Reforms—Subjects retained under Central control—The "reserved" and "transferred" provincial subjects—Control over the Imperial and Provincial Budgets since* 1921.

§ 3. THE RESOURCES AND EXPENDITURE OF THE GOVERNMENT, p. 373.

The chief items of Revenue and Expenditure in the nineteenth century and up till 1920–21—*Revenue: Land revenue, opium, taxation, commercial undertakings, miscellaneous receipts, and exchange—Expenditure: Debt services, military services, collection of revenue, commercial services, civil services, famine relief and insurance, provincial adjustments—The new form of accounts since the Reforms—A comparison between revenue and expenditure in* 1925–26 *and* 1913–14.

§ 4. RECENT DEVELOPMENTS IN THE FINANCIAL POSITION AND POLICY OF THE GOVERNMENT, p. 393.

Financial landmarks in the nineteenth and early twentieth centuries—Lord Curzon's financial policy—War and post-war finance—The provincial contributions—The financial outlook.

§ 5. SUMMARY AND CONCLUSIONS, p. 399.

Financial stringency as an important factor in India's arrested economic development—The recent improvement in resources—Retrenchment, or productive expenditure?—Possible reforms.

§ 1. INTRODUCTORY

"A man without credit is like a bird without wings; if he soars he falls to the ground and dies." [1]

THE financial resources and expenditure of Government, and the machinery by which commercial dealings are transacted, obviously affect intimately the rate and direction of economic

[1] Eastern proverb.

development as a whole. The policy of any Government depends upon the financial resources which it has, or might have, at its disposal, and private, as well as public enterprise depends upon the adequacy (or the reverse) of the machinery of exchange, and of the facilities for mobilizing and increasing capital and credit. A sketch must therefore be given of the structure and development of the Indian financial and monetary systems, and of their relations to general economic development. The present chapter will deal with financial structure and policy, and their results, and the following one with India's banking and currency systems.

The task of an alien Government in raising and expending public funds is never an enviable one, and is particularly difficult in a country like India, where the maintenance of law and order is threatened by any reform which interferes with social or religious customs and institutions, and where almost any reform involves some such interference. Hence the financial policy followed by the British Government in India has necessarily been based primarily on that in existence before the introduction of British rule, whilst financial stringency has hindered seriously the pursuit of a constructive social or economic policy.[1] The Government has experienced extraordinary difficulty in raising the revenue necessary to maintain the type of administration introduced, from a population consisting mainly of poverty-stricken cultivators, without either oppressing the masses, or offending the political classes, beyond endurance.

The taxation of luxuries in India affects such a small proportion of the population that—apart altogether from the danger of provoking opposition—it is impossible to obtain, by this means, any large portion of the total revenue. Equally restricted is the revenue that can be obtained from direct taxation of the rich, whilst if the latter (which by its nature can neither be postponed, avoided or shifted) is extended to all classes, it must necessarily prove oppressive in a country as poor as India. On the other hand the masses can only be reached by indirect taxation if the latter is levied on primary necessities—such as salt—as the majority of the population is mainly self-sufficing, whilst in this case it obviously tends to be almost as burdensome as direct taxation. In practice the indirect taxation of necessities, together with land revenue—which (whether or not classed as "taxation") is derived partly from actual cultivators and partly from those who lease land—have (until the turn of the century, since when the commercial services have begun to contribute largely towards net revenue) provided the bulk of the State

[1] A Native Government would not have attempted to introduce a "Western" administrative system, and it could have obtained its officials more cheaply, although they would undoubtedly have been less efficient and more corrupt.

revenues. Dependence upon land revenue has involved the additional difficulty that—owing to the uncertain rainfall—India's financial resources have been peculiarly liable to violent annual fluctuations, and tend to decline heavily [1] just when there is the greatest need for revenue for the prevention and relief of famine conditions. It is only quite recently that means have been found for surmounting some of these difficulties.

In the following pages financial control will first be considered, followed by an explanation of the main resources and expenditure of the Government, and of recent changes in their relative importance. Thirdly, a chronological account will be given of financial conditions and policy since the end of the nineteenth century, leading up to a summary of the general trend of recent financial development, of its effects on general economic development, and of the outlook at the present day.

§ 2. FINANCIAL CONTROL

The skeleton of the administrative and financial system introduced into India after the Mutiny remained in force essentially unaltered until 1921, when the changes involved by the Reforms of 1919 came into force. The Act of 1858 provided that the financial as well as all other branches of administration should be in the hands of the Governor-General-in-Council, subject to the ultimate control of the Secretary of State, acting in association with the Council of India. The Governor-General was appointed by the Crown, and had the duty of nominating the members of his Executive Council. In the work of legislation the Governor-General-in-Council was assisted by a legislative assembly, but the latter had at first no control over finance, and until 1892 consisted entirely of nominated members.[2]

From the time of the presentation of the first Indian Budget in a modern form in 1860, down to 1892, no discussion was permitted on the financial statement in the Legislature, and it was not even compulsory to present the Budget.[3] The Act of 1892 gave the members of the Legislature the right to discuss the Budget, but not to move any motion or to " divide " upon it.

After discussion by the Indian Legislature the Budget was submitted to the Secretary of State and then presented by him to the British Parliament, but the occasion was a purely formal

[1] Land revenue is usually remitted or postponed in areas afflicted by scarcity.

[2] The Indian Councils Act, 1892, provided that " recommendations " should be made for the non-official members. These were always adopted, " and thus introduced the elective principle into the constitution of the councils, whilst scrupulously avoiding the name of election " (Sir C. Ilbert, *The Government of India*, p. 107).

[3] During the years 1873 to 1876 the Budget was not presented to the Legislative Council.

one and no vote was taken on individual items, owing to the fact that the expenses of the India Office and the salary of the Secretary of State for India were charged to the Indian, and not to the British, revenues. As new expenditure of any importance required the sanction of the Secretary of State (in Council), in practice ultimate financial control lay with this latter authority.

This position was modified by the Indian Councils Act of 1909, which introduced a definitely elective element into the Central and Provincial Legislative Councils,[1] and divided the items of revenue and expenditure into two classes, giving the Imperial Indian Legislature power to move resolutions (in the form of recommendations) and to vote thereon, with regard to all items in the class denoted "open for discussion."[2] There was still no obligation on the Government to take action in accordance with these resolutions, and ultimate control remained, as before, in the hands of the Secretary of State for India. This system lasted until the introduction of the Reforms in 1921.

The Reforms have introduced, for the first time, a measure of representative (not democratic) financial control, but as this has been accomplished by entrusting increased powers and functions to the Provincial Governments, it is necessary, in order to understand the nature of the change, to break off at this point and consider the relations between the Central and Provincial Governments prior to the Reforms.

After the Mutiny, although the Provincial Governments carried on the greater part of the administration of the country, the smallest details of expenditure required the sanction of the Central Government. This entailed constant bickerings between the Central and Provincial Governments and tiresome interference by the Central Government with provincial administration, whilst it encouraged provincial extravagance, as those who demanded increased revenue were not responsible for raising it.

This led Lord Mayo to introduce (in 1870) his scheme of decentralization,[3] according to which certain services were handed over to the provinces, for which they were to be entirely responsible.

[1] After this date there was an elective majority in the Provincial Legislative Councils, but there was an official majority on the Imperial Legislative Council until the introduction of the Reforms of 1919. The policy of nominating Indian members to the Imperial and Provincial Executive Councils was also adopted in 1909.

[2] The chief items *excluded* from discussion were: *Revenue*: customs, assessed taxes (*i.e.* income-tax), tributes, stamps, and fees. *Expenditure*: debt services, railways, provincial expenditure, pensions, special defence and military works, assignments and compensations and political expenditure. All other important items were "open for discussion" (C. N. Vakil, *Financial Developments in Modern India*, p. 6).

[3] Financial decentralization was, of course, simply part of a larger scheme of administrative decentralization.

The provincial revenue consisted partly of the departmental receipts on account of these services, and partly of an annual grant from the Central Government. After 1877 [1] these grants were made on a quinquennial, instead of on an annual basis, and instead of a fixed grant from the Central Government the provinces were given the receipts from certain defined sources (called the "assigned revenues") with the idea of giving them greater responsibility and hence a motive for greater economy and efficiency. The final balance between provincial revenue and expenditure was effected by an "adjusting assignment" whereby any deviation from what had been estimated, whether a surplus or a deficit, was equally shared between the Provincial and Imperial Governments.[2] After 1882–83 certain sources of revenue were shared between the provinces and the Central Government, in order to give the Central Government a share in the increased revenue obtained by administrative improvements introduced by the Provincial Governments.[3]

In most cases the provinces retained for their own use the following revenues: (1) The whole of the provincial rates; (2) the whole of the receipts from the law courts, jails, police, education, medical services, local marine services, scientific departments, pension contributions, minor irrigation works, certain State railway lines and major irrigation works, buildings and roads, stationery department, etc.; (3) three-quarters of the stamp revenue; (4) one-half of the revenue from assessed taxes, forests and registration; (5) a varying proportion of the land revenue (usually one-quarter); (6) one-quarter of the excise (except in Bengal and Burma, where the provinces retained one-half.)[4] The provinces had not the power to alter taxation, or the rules under which the revenues were administered, without the consent of the Central Government.

On the expenditure side the Provincial Governments were, in most cases, responsible for: (i) All expenditure in connection with the services (enumerated above) from which they received the whole or a share of the revenue; (ii) part of the cost of collection; (iii) expenditure on famine relief; (iv) certain political and miscellaneous charges.[5]

The Central Government itself collected the revenue from the salt department, post office, telegraphs, railways, certain army

[1] Exactly similar contracts were not introduced into every province in 1877. The contracts differed in details and some were made later than 1877 (*v.* C. N. Vakil, *Financial Developments in Modern India*, pp. 28, 29). The five-yearly agreements between the Central and Provincial Governments were known as the "Provincial Settlements."

[2] *V.* B. R. Ambedhar, *The Evolution of Provincial Finance in British India*, p. 83.

[3] The Provincial Governments collected all the revenue from the services whose revenue they retained entirely, or partially, for their own use.

[4] *Moral and Material Progress of India*, 1901–2, p. 126. [5] *Ibid.*

receipts, and the payments due from certain provinces, (*e.g.* Coorg, Ajmer, North-West Frontier, etc.); and exercised direct control over expenditure on the army, Indian marine, certain military roads, railways, telegraphs, the mint, and the post office. It was also responsible for all political expenditure, and for the finances of the provinces from which an annual payment was due.[1] Any balances that the provinces could accumulate were carried over to their credit, but were liable to be called upon by the Central Government in an emergency, whilst entire responsibility by law rested with the Government of India.[2]

This system suffered from grave defects. As the " Provincial Settlements " were subject to periodic revisal, there could be no continuity of provincial finance. Repeated controversies occurred between the Central and Provincial Governments, and extravagance was still encouraged, as although the provinces stood to gain by economy during the early years of a settlement, there was a tendency towards hasty and wasteful expenditure at the end, in order to avoid a reduction of their resources at the next settlement. Minor reforms were therefore introduced in 1904, and again in 1912 (at which time the settlements were fixed permanently),[3] giving rather more independence and responsibility to the Provincial Governments, but the latter still had no borrowing powers, and could not impose additional taxation without sanction from the Central Government.

It can thus be seen that until the introduction of the reforms the " power of the purse " rested, in India, mainly with the Central Government, as " decentralization " had meant the decentralization of administration, rather than of power. Nevertheless it would be ridiculous to conclude that this power was wielded at the sweet will of a certain number of financial autocrats. Actually the power of the latter was very strictly limited by factors altogether beyond their control, including the fundamental need to maintain order, and to avoid arousing violent opposition. In practice, conservatism was the only possible financial principle, and it has been said that the Government's financial policy has been framed in complete accord with a dictum of Lord Cromer, that it is of supreme importance for an alien Government to keep the burden of taxation in subject countries light.

The main changes made by the reforms of 1919, which were put into force in 1921, were the redistribution, without over-lapping,

[1] *Moral and Material Progress of India*, 1901–2, pp. 125, 126.

[2] *V.* B. R. Ambedkar, *The Evolution of Provincial Finance in British India*, p. 157.

[3] At this time it was agreed that the Central Government should give financial aid to the provinces only in times of widespread famine, whilst the provinces should be called upon to contribute towards Imperial finances only in times of war or financial crisis (*Moral and Material Progress of India*, 1911–12, p. 146).

of all administrative functions between the Central and Provincial Governments, and the division of provincial matters into " reserved " and " transferred " subjects, in order to hand over the latter to the control of ministers dependent upon, and responsible to, the elected representatives of the people in the Provincial Legislatures. This was meant to be a first step towards responsible parliamentary government, and it was hoped that gradually more and more subjects might be transferred.

The subjects under central control include defence, political matters, railways, posts and telegraphs, customs, income-tax, the salt tax, currency, the public debt, mines, the central police, the collection of statistics and records, commerce and industry (with certain exceptions) and all other matters not included in the list of provincial subjects.[1] The reserved provincial subjects include irrigation, land revenue,[2] famine relief, forests (except in Bombay), the administration of justice and police, certain industrial matters (including control over factories, labour disputes, etc.), and a number of miscellaneous minor matters.

The transferred provincial subjects include local self-government; medical administration, public health and sanitation; education; roads, tramways, etc.; agriculture and fisheries;[3] co-operation; excise; and a number of minor miscellaneous matters.[4]

[1] A complete list is to be found in the *Indian Year Book*, 1920, p. 661 *et seq.* The cotton excise was also a central subject until its suspension and repeal.

[2] Under the reforms of 1919, not only is land revenue a reserved subject, but the rate of assessment is not fixed for the province as a whole and included in the financial statements like the rate of excise or any other tax, but depends entirely on the decisions of the executive in each province. On resettlement in any district the settlement officer makes proposals as to rate of assessment, reclassification of the villages, etc., and these are sent first to the chief administrative official in the area, and then sent by him with his comments to the Executive Council. The proposals never come before the Legislative Council at all. If a Legislative Council desired to alter land revenue rates, all it could do would be to pass a recommendation to that effect and send it to the Executive Council. It has been pertinently pointed out that the exclusion of land revenue from the province of the Provincial Legislatures practically removes 40 to 50 per cent. of the net provincial revenue from any sort of representative control (B. R. Ambedkar, *Evolution of Provincial Finance*, pp. 228, 229). The object of reserving land revenue is to prevent rural interests from being swamped by urban interests as long as the electoral power is still predominantly in the hands of the urban population. The subject is, therefore, not likely to be transferred until the electorate includes a satisfactory representation of rural interests. The first breach in this system has just been made by the Punjab Land Revenue Act (*Times*, February 26, 1929, " Punjab Land Revenue "), which defines by statute the powers of the Government in assessing land revenue, fixes the maximum demand at one-quarter of the net assets, provides that an assessment shall remain in force for forty years, and limits the rate of enhancement at resettlement. It is possible that similar measures may be adopted in Bombay, as a result of the Bardoli Inquiry, which arose out of protests against the proposed 25 per cent. enhancement in the rates of assessment (v. *Times*, May 8 and July 17, 1929).

[3] Fisheries have not been transferred in Assam.

[4] For a complete list see *Indian Year Book*, 1920, p. 661 *et seq.* Some adjustments and transfers between the reserved and transferred provincial subjects have taken place since the introduction of the Reforms.

Under the reformed constitution the Imperial Budget has to be passed by the two Chambers of the Central Legislature, *i.e.* the Legislative Assembly and the Council of State, both of which have an elected majority. Proposals for expenditure are subject to discussion and are votable, with the important exceptions of debt charges, salaries and pensions, expenditure prescribed by law, and political, defence and ecclesiastical expenditure, which are, therefore, still entirely under the control of the executive.[1] Moreover, the control of the Legislature over the Finance Bill is limited by the power of certification possessed by the Governor-General-in-Council.[2] All financial proposals emanate from the executive (*i.e.* the Governor-General-in-Council), which consists entirely of nominated members, and is therefore not responsible to the Central Legislature.

In the provinces financial proposals relating to debt charges, certain salaries and pensions, and expenditure prescribed by law, do not have even to be submitted to the Provincial Legislature. These payments are comparable with the " excepted specified items " under the Central Government, but they constitute a very much smaller proportion of the total provincial expenditure and, since the cessation of the provincial contributions,[3] have become a very minor factor. Otherwise all financial proposals have to be submitted to the provincial councils, but the Governor-General-in-Council has power to certify expenditure on reserved subjects that he considers " essential to the discharge of his responsibility for the subject,[4] whilst even in the case of transferred subjects, he can in case of emergency ' authorize such expenditure as may be in his opinion necessary for the safety or tranquillity of the province, or for the carrying on of any department.' "[5] Similarly he can " certify " the Finance Bill as a whole, if necessary.

In order to carry out the financial provisions of the reforms, the complete separation of central and provincial finances became necessary.[6] The former " divided heads " of revenue and expenditure (divided, that is, between the Central and Provincial Governments) have been abolished, some having been made entirely imperial, and the rest entirely provincial. The rearrangement entailed a heavy initial financial loss to the Central Government, which was compensated by means of annual contributions from

[1] Section 67 A (3) of the Government of India Act, 1919. These " excepted " items usually account for more than half the total expenditure of the Central Government.

[2] The Governor-General-in-Council has power to restore and pass into law any single item, or the Finance Bill as a whole, if he certifies that to do so is essential to the discharge of his responsibilities.

[3] These did not have to be submitted to the Legislatures.

[4] Section 72 D of the 1919 Act. [5] Section 72 D (2) (*b*).

[6] Up to 1921 the Budget included all provincial as well as imperial revenue and expenditure, the former being shown separately.

the provinces, until the imperial revenues increased sufficiently to render further contributions unnecessary.[1]

The principal sources of revenue assigned to the Central Government are opium, salt, customs, taxes on income, tributes and receipts from central departments. Those assigned to the Provincial Governments include land revenue, irrigation, excise, stamps, registration, forests, and receipts from provincial departments. The provinces also have certain powers of borrowing[2] and of imposing fresh taxation,[3] and a share in the growth of revenue derived from income-tax collected in the province so far as that growth is attributable to an increase in the amount of income assessed.

The reforms introduced another important change by transferring the expenses of the India Office to the British revenues.[4] This means that Parliament now has the opportunity of discussing and criticising Indian affairs, but, as an adverse vote would necessitate the fall of the Cabinet, in practice this criticism cannot be effective.

It is thus only with regard to the transferred provincial subjects that India has "responsible Government," exercised through the power of the purse, whilst it is complained that even in this sphere the power is strictly limited by the fact that control over part of the finances of a province cannot be effective without the power of adjusting the whole, so as to make it possible to alter the relative importance of the constituent items. It is protested that this makes it impossible to increase expenditure upon "nation-building" objects, such as education and health. Actually the chief obstacle to ambitious provincial schemes has been that they cannot be carried out without an increase in taxation, to which those sections of the population that have political power are strongly opposed. Meanwhile the Imperial Budget is not yet under representative, let alone democratic[5] control, either in India or in England, although the growth of the Nationalist Party and the reforms have made it more than ever necessary for the Government to conciliate public opinion, which (in consequence) has probably almost as much influence on financial policy in India as in Britain.

[1] V. *Meston Report of* 1919, Cmd. 724; and p. 396 *et seq.*

[2] On the security of its revenues, for certain defined purposes and subject to the sanction of the Central Government or Secretary of State. In 1925 a "Provincial Loans Fund" was established.

[3] For a list of the fresh taxes permitted, see C. N. Vakil, *Financial Developments in Modern India*, p. 50.

[4] Certain functions formerly entrusted to the Indian Office were handed over to a newly constructed department under a "High Commissioner," the expenses of which still fall upon the Indian revenues.

[5] It should not be forgotten that representation in British India is on an extremely narrow basis, there being only 7·4 million voters out of a total population of over 247 millions.

§ 3. THE RESOURCES AND EXPENDITURE OF THE GOVERNMENT

In order to understand the financial position and policy of the Government, the economic effects of the policy pursued, and the financial outlook, it is necessary to analyse the nature of the Government's financial resources and expenditure, and recent changes therein.

During the second half of the nineteenth century the chief items of revenue and expenditure and their relative importance changed but little—apart from temporary fluctuations, due to seasonal or other special circumstances.[1] The main characteristics of the financial situation were the inelasticity of existing, and the difficulty of finding new sources of revenue, and the consequent financial stringency, which limited (although it did not altogether prevent) new forms of outlay, for instance, on productive public works, such as railways and irrigation canals. The general character of the Budget did not change greatly.

On the other hand quite fundamental financial changes have been introduced during the last twenty-five years, and especially since the war.

It is possible to obtain a general idea of the financial position in the nineteenth century, and of the changes introduced up to 1921, by comparing the accounts of a (more or less) representative year in the nineteenth century with those of later dates, selected to illustrate the general trend of financial development. With this object Table XVIII[2] has been prepared, giving the principal items of revenue and expenditure in 1891–92, 1901–2, 1911–12, and 1920–21.[3]

No direct comparison can be drawn between the accounts of the Central Government before and after 1921, for the reasons given above.[4] In order to understand the changes since the reforms, it is necessary to study and co-ordinate both the central and provincial accounts. This will be done after examining the accounts up to 1920–21.

Six main heads of revenue are included in the accounts for the years under consideration (1891–92 to 1920–21) *i.e.*: (i) Land revenue; (ii) Opium; (iii) Taxation; (iv) Commercial Undertakings; (v) Miscellaneous Receipts; (vi) Exchange.

[1] The chief exception to this statement is the decline in revenue from customs, owing to the adoption of Free Trade between 1882 and 1894 (*v.* chap. xiii, p. 345).

[2] *V.* pp. 538, 539. For an explanation of the choice of dates see note 1 to Table XVIII.

[3] The *net* figures of revenue and expenditure are quoted in the tables and in the text, as our object is to study the economic effects of the financial situation, rather than the details of outlay and receipts.

[4] *V.* p. 371 above.

Land revenue has been of outstanding importance not only because, until quite recently, it provided a large proportion (42 per cent. in 1901–2) of the total revenue, but also because of the part played by it in the general administration of the country, the controversies that have raged around the principles underlying land settlement and assessment, and because it is the chief means by which the agricultural classes contribute towards the expenses of Government.

The different types of settlement carried out from time to time in British India—Zamindari, Ryotwari, and Joint Village; permanent or temporary—have already been described.[1] It is impossible to state any general principles with regard to the basis or rate of assessment, as these differ from district to district, but it can be said that the general tendency has been towards lowering the rate whenever resettlements have been made.[2]

Under the permanent settlement of 1793 the rate of assessment was fixed at 90 per cent. of the rent. At first this proved a heavy burden, and many estates changed hands, but the value of land gradually rose (owing to increased security, and the increased value of agricultural crops), rents were raised, and the Zamindars obtained large incomes from this land. In 1900 the land revenue paid to Government from permanently settled areas amounted to less than Rs. 4 crores, whilst rentals in the same areas amounted to no less than Rs. 16½ crores.[3]

The rate of assessment was not fixed so high in areas with temporary settlements, and by the middle of the nineteenth century 50 per cent. of the net income from land, or rent, was a usual rate. By the end of the century the rate charged was in many areas much less than this, but great differences are still to be found from district to district.[4] Although the rate of assessment has tended to decrease, the total revenue derived has risen steadily, owing to agricultural improvements and the extension of the area under cultivation.

It has been urged by opponents of British rule in India that the prosperity of the country has decreased, or at least failed to increase satisfactorily, under British rule, largely on account of the pressure of taxation, including in their opinion, land

[1] *V.* chap. v, § 2.

[2] Rates have been raised in certain prosperous districts, but the rates prevailing over provinces (or other large areas) as a whole, have been lowered.

[3] *Government Resolution, East India* (*Land Revenue*); Cd. 1089, 1902, p. 82.

[4] Mr. Darling estimates that in the Punjab land revenue absorbs some 20 per cent. of the net income from the land (v. *The Punjab Peasant in Prosperity and Debt*, pp. 10, 248). Dr. Slater has estimated the land revenue demand in Madras, which he says is higher than that of India as a whole, at only some 4 per cent. of the gross output ("Proceedings of the East India Association," *Asiatic Review*, March 1923, p. 283 *et seq.*). Mr. Pillai says that the incidence per head of population of the land revenue varies from 11 annas per annum in Bengal up to Rs. 5. 6a. 0p. in Lower Burma (*Economic Conditions in India*, p. 97).

revenue,[1] which leaves no surplus income for the people in good years, whilst in bad years they cannot even obtain a minimum subsistence. Hence it is said no capital can be accumulated, no improvements in cultivation can be afforded, and there is no possibility of increasing income per head. The defenders of the Government reply that the land revenue is not a tax but a rent, that as such it does not enter into the cost of production, and does not affect the prosperity of the cultivators. They argue that if it were not paid to the Government it would go to a class of rent-receivers (as in England) and would not benefit the actual cultivators. Moreover they state that—as is acknowledged by all—the system was not invented by the British Government, and that the average rate of assessment is now very much lower than in pre-British days. It is argued further that the prosperity of the cultivators has increased under British rule (although not as rapidly as might be desired); and that even if land revenue is included under the heading of "taxation," India ranks as one of the most lightly taxed countries in the world. These two points of view account for the lengthy and heated controversy as to whether land revenue is a "tax" or a "rent."

The legal "right" of the Government to land revenue is incontrovertible. But that is no moral justification for the continuance of the system, if it is inimicable to the welfare of the country.

It appears impossible to give a definite answer to the question whether land revenue is a tax or rent, but even if an answer could be given, this would not suffice either to defend or condemn the system. It is clear on the one hand that land revenue is not a "tax" in the usually accepted technical sense of that term. Mr. Baden-Powell defines a tax as "an impost leviable from year to year, which may be changed, abolished or created, according to each Budget in Parliament."[2] Land revenue does not fall within this definition. But it partakes of the nature of a tax in as far as it compulsorily transfers to Government part of the income received by land-holders.

On the other hand it can hardly be considered as "rent" in the ordinary sense of that term, as the receipt of "rent" implies that the receiver owns the land. Now an analysis of the various India land tenures shows that in the Zamindari and Joint Village districts the British Government does not hold the position of landlord at all, and that in Ryotwari districts it holds the position of landlord only subject to definite qualifications. This has been clearly explained by Mr. Baden-Powell,[3] who

[1] Land revenue is considered to be the heaviest burden, as the poorest classes are hardly touched by indirect taxation, except on salt.

[2] "Is the State the Owner of all Land in India?" (*Asiatic Quarterly Review*, July 1894, p. 18).

[3] *Ibid.*

points out that, with regard to the Zamindari districts of Bengal, North Madras, and Oudh, and the Joint Village districts of the United Provinces, Central Provinces, and the Punjab, the British Government has definitely stated that property in the soil " has been declared vested in the land-holders," and any reservations made, in the latter areas, referred not to State rights, but to the " rights of subordinate holders and tenants."

In Ryotwari districts the State retained a " residuary right " with regard to vacated and waste land, but has no power to eject the cultivators " except as the result of process in default of revenue payment." " Hence," says Mr. Baden-Powell, " the ' recognized ownership ' of Government does not exist at all in a large part of India, and in other parts only in a very qualified manner." [1] Yet land revenue partakes of the nature of rent in that it is a right to a periodic payment from landowners on account of that land-holding, and that failure to pay involves the loss of the right to the land. Perhaps it would be nearest to the truth to say that it is a tax on rent,[2] and that as a large proportion of the actual cultivators in India are in a sense " landowners," there is no doubt that the Government is receiving as revenue an income that would otherwise go into their pockets. But even if this is admitted it is not legitimate to conclude that land revenue should be abolished or even drastically reduced, without comparing the advantages to the country of State expenditure of the income thus derived with that of the people who would retain it were land revenue remitted or reduced, and exploring the possibilities of administrative economies or of alternative sources of revenue for the State, and their effects on the prosperity of the people. No exact comparison can be drawn, because of the obvious difficulty of estimating: (*a*) the effects of handing over the whole—or part—of the land revenue to those at present responsible for its payment; (*b*) the value of the present expenditure by the State of the income obtained from the land revenue; and (*c*) the effects on prosperity of administrative economies or of new taxation. Nevertheless certain broad conclusions can be drawn.

If the land revenue were remitted (or drastically reduced) in Zamindari districts, the gainers would be the Zamindars, not the

[1] *Asiatic Quarterly Review*, July 1894, p. 18.

[2] One objection to this statement is that land revenue is not " an impost leviable from year to year," and hence does not fall within the definition of a tax given above. Mr. Baden-Powell says that " The whole thing is a fiction, and is the result of trying to force Eastern institutions into Western moulds " (p. 18 *op. cit.*). If the definition of taxation given by the Indian Taxation Enquiry Committee, 1924–25, is accepted, then land revenue may be legitimately called a " tax on rent." This definition says that " Taxes are compulsory contributions made by the members of a community to the governing body of the same towards the common expenditure, without any guarantee of a definite measured service in return " (p. 419). The Committee remarked that land revenue " has some of the characteristics of a rent as well as of a tax."

actual cultivators. The former, as a whole (in their capacity of landowners) are a functionless and parasitic class, who only in rare instances use their incomes to promote better cultivation. To present them with a large additional income would be eminently uneconomic and indefensible. In Ryotwari and Joint Village districts, the individuals and groups of individuals who are responsible for the payment of the land revenue are in some cases actual cultivators, whilst in others their land is let to tenants and sub-tenants. To present the mere rent receivers in these districts with a large additional income would be open to the same objection as to present it to the Zamindars. The remitted land revenue would go to the actual cultivators in a limited number of cases only. How would these actual cultivators spend their increased income? If a large proportion of it were spent on permanent improvements in the land, and in introducing the use of machinery and better methods of production, there would undoubtedly be an enormous gain, against which, however, would have to be set the loss involved by an equivalent reduction in expenditure by the State. But—judging from past experience—it appears likely that part of the increased income would be squandered on increased expenditure on ceremonies, and that the rest of it would be swallowed up by an increase of population, rather than by any improvement in the standard of life or in methods of cultivation.

Under these circumstances it appears that, under present conditions, the existing expenditure of the Government of the receipts from the land revenue is more beneficial to the country as a whole, and to the masses in particular, than would be the type of expenditure that might be expected from its remission or drastic reduction. Nevertheless the system should not be considered as sacrosanct, and every effort should be made to improve its incidence and the methods of assessment. In many instances the Government has already recognized at resettlements that the rate has been unduly high, but there is still need for a reduction in certain areas, and for a general readjustment in order to equalize the burden.

The Indian Taxation Enquiry Committee (1924–25)[1] concluded that the chief fault of the existing system is that there is no uniformity or certainty as to either the basis or rate of assessment, and recommended reforms designed to remove these blemishes, together with the introduction either of an income-tax on agricultural incomes, or a succession duty, or both. The only

[1] The whole system of taxation in India was examined and reported upon by this Committee, which was especially instructed to include land revenue within its survey. Its report throws valuable light on the history and present characteristics and incidence of the various items of taxation, but its recommendations take the form of more or less minor modifications in particular items of taxation rather than of any drastic change in the basis or relative proportions of the existing system.

scheme that appears to reconcile an improvement in the position of the smallholders in the future (on the assumption that the rental value of land will continue to rise) with the discovery of a source of considerable additional revenue for the Government, is that a permanent settlement [1] should be made throughout British India on the basis of existing payments, whilst agricultural incomes above a certain figure should be subject to income-tax on the same terms as industrial and commercial incomes.

Alternatively it may be suggested that there is no reason why a representative Government [2] should continue to honour a bargain (*i.e.* the " Permanent Settlement ") made at the end of the eighteenth century between the Bengal (and some Madras) Zamindars and the East India Company. Moreover, whilst " Land Revenue " was centrally controlled, the Government could not fairly levy a higher rate in one province than in another, but now that it is a provincial matter it would involve no injustice if each province adopted the system best suited to its own needs, and regarded land revenue as a source of revenue to be used for the good of the province as a whole. Each province could then determine the principles and rate of its own land revenue assessment. This principle has recently (February 1929) been adopted in the Punjab, by an Act defining by statute the powers of the Government over land revenue.[3]

The heading " Opium " in the accounts [4] includes Government receipts from the manufacture of opium, and from sales for export, but excludes the further revenue obtained by licensing retail shops for the internal sale of opium and other drugs, which falls under the heading " excise." In British India the cultivation and export of opium has long been, and still is, carefully controlled by the Government, and its manufacture is a Government monopoly, whilst " Malwa " opium, *i.e.* that grown in the Indian States, can only leave those States under a pass system, subject to heavy payments to the Government of British India. During the nineteenth century the revenue thus obtained was large, and tended to increase, but the policy of checking (and finally prohibiting) export to China (adopted in 1907), and the policy adopted in 1923 of controlling and gradually limiting to medicinal and scientific purposes all exports of opium,[5] have led to a great

[1] This suggestion was not considered by the Taxation Enquiry Committee.

[2] When such has been introduced. [3] *V.* p. 370 above.

[4] Opium is not included under the heading " taxation," because it is derived either from the Government monopoly of manufacture, or from sales to foreign countries, not from consumers within the country.

[5] In order to carry out its international obligations (resulting from the Geneva Conventions with regard to the export of drugs) the Government of India assumed complete control over exports of opium in 1923. Every application for leave to export opium must be accompanied by a certificate from the importing country, whilst exports to any non-Asiatic country, other than the United Kingdom, are

and progressive decline of both exports and revenue.[1] Further restrictions are under contemplation,[2] and the revenue from opium is now of minor importance.

The heading termed " taxation " includes seven main items : *i.e.* salt,[3] stamps, excise, provincial rates, customs, assessed taxes, and registration. The taxes on stamps and registration are levied much as in other countries and require no special comment, whilst customs duties have already been dealt with in another connection and need not detain us here.[4]

Revenue is derived from both import and excise duties on salt. During the greater part of the nineteenth century these duties varied from province to province, and until 1879 a great inland customs line stretched right across the country. In that year the duties on salt were practically equalized throughout India (at about Rs. 2. 8a. 0p. per maund, of 82 lb.), and were maintained at or about the same high level until the end of the century.

The salt tax has long met with strong opposition, on the score that it imposes an undue burden on the poorest classes, as the poorer a man is the more he relies upon salt for seasoning his food. It is defended by the argument that the financial exigencies of the State necessitate some tax which reaches the masses, and that salt is the only taxable commodity universally consumed in India.

The strength of this argument depends largely upon whether or not land revenue can be considered a compulsory contribution from the masses to the State. But even if the necessity for the salt tax is admitted, it is still questionable whether the rate of duty has been appropriate. An examination of the figures of consumption before and after any change in the rate of duty shows that an increase in the rate is invariably followed by a marked decline in consumption, and vice versa, which is sometimes held to indicate that a considerable proportion of the population has been unable to afford to buy what is regarded as a necessary quantity.

entirely prohibited. Exports to the United Kingdom are permitted for medicinal purposes only, and—like exports to Asiatic countries—must be accompanied by an import certificate. It is intended to reduce exports for other than medicinal and scientific purposes by 10 per cent. each year (beginning from 1926) until by 1935 they shall entirely cease (*Moral and Material Progress of India*, 1926–27, pp. 154, 155).

[1] In 1891–92 an income of Rs. 6,14 lakhs was obtained from " opium." The policy of checking exports to China actually stimulated exports for some years (*i.e.* before it was entirely prohibited), but the revenue derived therefrom fell to Rs. 2,30 lakhs in 1920–21, and in certain more recent years has been even less.

[2] An attempt is being made to extinguish, by agreement, the cultivation of the poppy in the Indian (Native) States (*Times*, May 28 and 30, 1928).

[3] The revenue from the import of salt is included under this (separate) heading, and is not included under " customs."

[4] *V.* chap. xiii, § 2.

When the financial position of the Government began to improve, early in the twentieth century, the salt duty was reduced, by various stages, to Rs. 1. 0a. 0p. per maund, in 1907. In 1916 it was raised to Rs. 1. 4a. 0p., in spite of considerable opposition, and in 1922 the Government—faced with a series of Budget deficits—proposed increasing the duty to Rs. 2. 8a. 0p. This proposal was rejected by the Legislative Assembly in 1922, and again in 1923. On this occasion the Council of State supported the Government's proposal, and the Bill went back to the Assembly, which rejected it a third time. The Viceroy exercised his power of certification,[1] and the duty was raised to the proposed level until in the following year (after further controversy) it was once again reduced to Rs. 1. 4a. 0p.[2]

It is difficult to decide how far the very violent opposition to the higher rate of duty was genuine, and how far the incident was utilized as a convenient stick with which to beat the Government at a period when non-co-operation was at its height. It is possible that the burden imposed by raising the tax has been exaggerated, but as the tax undoubtedly does affect the whole population, it ought not to be increased except at a time of urgent financial stress.

The Taxation Enquiry Committee recommended that steps should be taken to render India self-supporting as regards salt, and that the question should be referred to the Tariff Board. The Central Board of Revenue has recently issued a paper on the subject, in which it states that it is doubtful whether India could meet a substantial portion of the Bengal[3] demand within twenty years, and that the majority of Bengal consumers definitely prefer the imported fine white salt. The Government has accepted these conclusions, but has agreed to an inquiry into possible means of enabling the Burma salt industry to secure the local market.[4]

The revenue from excise includes the proceeds of duties on "country spirit," spirits manufactured according to European methods in India,[5] the production and sale of hemp and drugs, and the retailing of opium.

The policy has been to raise a maximum revenue from a minimum consumption, but it has proved extremely difficult to check consumption,[6] in spite of the fact that the rate of excise has been continually raised (*pari passu* with the increased duties

[1] *V.* p. 371 above.

[2] In spite of the efforts made in the Legislative Assembly in 1929 to reduce the duty still further, i.e., to Rs. 1-0-0, it still remains at this rate.

[3] Bengal is the principal importing area.

[4] *Times*, May 12, 1928, "Indian Salt Supply."

[5] The revenue from imported spirits is included under "customs."

[6] *Report of the Excise Committee of the Bombay Government*, 1922–23.

on imported liquors and drugs) since the beginning of this century, and that the number of licensed shops has been substantially reduced. The revenue thus obtained increased progressively up to 1920–21, duties being made as heavy as was thought possible without stimulating illicit consumption. A policy of prohibition has so far been condemned, on the score of expense and difficulty of enforcement,[1] but except in certain areas, including the coal-fields and the city slums, the "drink evil" is not nearly so prevalent in India as in the West.[2]

The "Provincial Rates" were additional cesses on the land, which were introduced in 1878 to provide revenue for the Famine Insurance scheme that was then introduced,[3] and amounted in practice to an increase in land revenue. The fact that they formed an additional burden on the cultivators was recognized and, with greater financial ease at the beginning of the twentieth century, they were gradually reduced, and eventually all cesses were abolished except for local purposes. This source of revenue is therefore now available for local purposes.

The "Assessed Taxes" are the Indian form of income-tax, and were first levied in 1861, but were dropped again between 1872 and 1877. They were revived in 1878, in the form of a license tax on traders, which in 1886 was supplemented by a similar tax on all other non-agricultural incomes. At this time they had become, in practice, an income-tax on all non-agricultural incomes of over Rs. 500 per annum,[4] but in 1903 the taxable minimum was raised to Rs. 1,000.

With the need for increased revenue, in 1916 the progressive principle was reinforced, so that incomes between Rs. 1,000 and Rs. 5,000 paid at the old rate (2 per cent., or approximately three pies per rupee); incomes between Rs. 5,000 and Rs. 10,000 paid six pies per rupee; incomes between Rs. 10,000 and Rs. 25,000 paid nine pies per rupee; and those above Rs. 25,000 paid one anna per rupee. In the following year a super-tax was imposed on incomes over Rs. 50,000, in 1920 the basis of assessment was reorganized, and in 1921 an increase was made in the progressive rates. Meanwhile (in 1919) the taxable minimum had been raised to Rs. 2,000.[5]

The Taxation Enquiry Committee considered various suggestions for bringing the Indian income-tax into line with those

[1] Every palm tree, in addition to the Mahua plant, is a ready source of alcohol, and it would be impossible to prevent illicit distillation and brewing.

[2] Muhammadans are forbidden by their religion to drink alcohol.

[3] These cases varied in amount and method of assessment from province to province, but were always collected with the land revenue.

[4] Incomes from Rs. 500 to Rs. 2,000 per annum paid at the rate of 2 per cent., and incomes of over Rs. 2,000 at the rate of 2½ per cent.

[5] In 1919 a duty of 50 per cent. had also been imposed on excess profits, but lapsed in 1920.

in force in the West, but came to the conclusion that on the whole the present system suited Indian conditions best. They suggested that the present relatively high level of exemption is offset by the absence of allowances for dependents, making the latter complication unnecessary.[1] The distinction between "earned" and "unearned" incomes is of little importance in India at present, although it would become of importance if agricultural incomes were included. The Committee suggested that the rate of taxation should be increased for incomes over Rs. 10,000 per annum, and that the super-tax limit should be reduced to Rs. 30,000, but no such alterations have as yet been introduced. It may be noted that salaries, pensions, and interest on securities, paid in England, are liable to income-tax in England, and do not contribute anything to the Indian revenues. This is obviously unfair, and could and should be remedied.

The fourth main head of revenue, "Commercial Undertakings," includes the net revenue (if any) from the post office, telegraphs, railways and irrigation. Up till the end of the nineteenth century these undertakings, taken together, resulted in a net loss to the State, mainly on account of the deficit on the railways.[2] The latter brought in a net revenue for the first time in 1898–99, and since that date the commercial services as a whole have proved a fruitful and progressive source of revenue, which has added to the income of the State, without oppression to the masses, or irritation to any class.[3]

"Miscellaneous Receipts," before the reforms, consisted mainly of a profit on minting. In 1893, when the Mints were closed, the rupee became a token coin.[4] When minting was resumed, early this century, the profit thereon proved a substantial source of revenue.

The last head of revenue appearing in the accounts under consideration is that called "Exchange," although it has only been in certain years that the exchange transactions of the Government have brought in a net revenue. In other years exchange has figured as a net loss. The exchange transactions of the Government are necessitated by the fact that heavy payments have to be made regularly, on Government account, in sterling in London, from revenue collected in rupees in India. Instead of calculating in each case exactly how many rupees had to be given in order to buy the requisite amount of sterling in London, at the current rate of exchange, the amount needed used

[1] Any such allowance would be extremely difficult to assess in India, owing to the joint family system.

[2] *V.* chap. vi, p. 134.

[3] The revenue obtained from railways and irrigation works (the two chief sources) has already been discussed above (*v.* chap. vi, p. 147, and chap. vii, p. 163).

[4] *V.* chap. xv, p. 410.

to be entered in the accounts as if it were obtained at the par of exchange. The total difference in any one year between the number of rupees that would have been needed at the par of exchange, and the number that was actually needed at the market rate, to obtain the necessary sterling in London, was entered as a separate item under the heading loss or gain on exchange.[1] Thus, if, on balance, in any year the rupee price of sterling was above par (*i.e.* with " par " at 1*s.* 4*d.* when one rupee could not buy as much as 1*s.* 4*d.* in sterling) there was a loss by exchange, and vice versa. Thus the loss or gain on exchange was slight whenever the value of the rupee was steady, but became of great importance during a period of instability. For instance, during the period from 1873 until nearly the end of the century, the gold value of the rupee decreased continuously, and the Government suffered a heavy annual loss on exchange. During the early years of the twentieth century when the rupee had been approximately stabilized, " exchange " became of minor importance.

In 1917 the sterling value of the rupee began to rise sharply, and as the Budget was still based on a one and fourpenny rupee, a large " gain on exchange " was registered. In 1920 the official par of exchange was raised to 2*s.*,[2] which was also adopted for Budget purposes, and the accounts were calculated on a rupee instead of (as previously) a sterling basis. But then the market value of the rupee began to fall, and the Government was faced with a serious loss on this account.[3] This continued until in 1922–23 the Government returned to a par of 1*s.* 4*d.* sterling for statistical and Budget purposes. In the following year the separate heading for loss or gain on exchange was given up, due allowance being made under each separate heading for variations in exchange.[4] In 1925 a par of 1*s.* 6*d.* sterling was adopted for statistical and Budget purposes, and in 1927 the exchange value of the rupee was fixed by statute at 1*s.* 6*d.*[5]

We can now turn to the expenditure side of the accounts,[6] and here much less explanation is necessary, as the nature of many of the principal heads is obvious, whilst an account of the history of expenditure on some of the largest items, such as military services, is outside the scope of these pages.

Seven main classes of expenditure are distinguished: *i.e.* debt services, military services, collection of revenue, commercial

[1] *Moral and Material Progress of India*, 1901–2, p. 140.

[2] At first 2*s.* gold, later changed to 2*s.* sterling.

[3] *V.* chap. xv, p. 423.

[4] In 1923–24 the Budget figures were recast on the new but " natural " system, for the years 1921–22 onwards. This change, as well as the separation between imperial and provincial finances, adds to the difficulty of comparing the accounts before and after 1920–21.

[5] *V.* chap. xv, p. 427.

[6] *V.* Table XVIII, p. 539.

services, civil services, famine relief and insurance, and provincial adjustments.

The nature of the expenditure on military services, collection of revenue and civil services needs no explanation, the commercial services have already been discussed under the heading of revenue, and the provincial adjustments have already been explained.[1] Thus expenditure on famine relief and insurance, and on debt services alone require consideration at this point.

Up to 1878 the revenue expended on famine relief had either to be raised specially for the purpose, or to be obtained from the Budget surplus (if any), but in that year it was determined that, as famines tended to recur periodically, it would be wiser to make regular annual provision for their prevention and relief. Hence a special famine fund was instituted, towards which a definite sum was annually devoted, and utilized either for actual relief or for reducing or avoiding debt on account of famines.

At first, owing to financial stress, the fund was not strictly appropriated to its real purpose, but in 1881 the scheme was reorganized, since when a sum of about Rs. 1,50 lakhs per annum has been provided annually, and utilized for relief, protective works (such as irrigation), or the avoidance of debt.

The debt consists partly of rupee loans raised in India, and sterling loans raised in England. Both types of loan have been raised either to meet military or administrative expenses, in which case the debt is termed "ordinary," "non-productive," or "dead-weight," or in order to promote remunerative public works, such as the construction of railways and of irrigation works, in which case the debt is termed "productive." It is obvious that as long as these latter works or services produce sufficient revenue to cover, or more than cover expenses, interest and sinking fund charges, the debts thus incurred do not constitute a charge on the Indian revenues, and may earn a net revenue.

The Mutiny involved a large addition to the existing "unproductive" debt, as did the other frontier and internal wars of the nineteenth century,[2] but by the end of the nineteenth century the greater part of this type of debt had been paid off and India's "dead-weight" debt had been reduced to very small proportions.[3]

Hence although during the latter part of the nineteenth century the total debt tended to increase, this was on account of increased expenditure upon public works, whilst the dead-weight debt was

[1] *V.* p. 368 above.

[2] It was these debts which led to the complaint that India was burdened with payments that ought properly to have been debited to England's account. Whatever the rights and wrongs of this question, India has not been burdened with any substantial payments of this nature since the end of the nineteenth century.

[3] The interest charges on dead-weight debt amounted to Rs. 3,60 lakhs in 1891–92, Rs. 1,73 lakhs in 1901–2, and only 88 lakhs in 1911–12.

tending to disappear.[1] Indeed it would have completely disappeared had it not been for the outbreak of the war, which naturally necessitated raising new unproductive loans for various purposes. The extent of the burden thus imposed can best be considered later.[2]

Having reviewed the nature of each of the principal items in the accounts, we can now consider shortly their relative importance, and the changes therein.

Land revenue stands out prominently as much the most important single source of revenue in the nineteenth century, and in 1891–92 accounted for almost 40 per cent. of the total net revenue. The seven heads of taxation taken together did not produce in the same year much more than land revenue alone. Salt was the second, and opium the third, most valuable single source of revenue. After these came excise, stamps, and provincial rates. Only a very small revenue was obtained from customs at this time,[3] and commercial undertakings still fell under the heading of net expenditure. The limited inelastic nature of such State resources is obvious, as is also the fact that a large proportion of the total revenue was obtained from the masses of the people.

On the side of expenditure, in 1891–92, military services accounted for 41 per cent., and civil services for 37 per cent. of the total. Debt services had been reduced to a relatively low level, and the burden of the commercial services tended to disappear.

In 1901–2 the general situation had changed but little, except that the commercial services had been transferred from net expenditure to net revenue, customs had increased (owing to the change in the tariff system introduced in 1894 and 1896),[4] and that there had been a further fall in debt services.

Between 1901–2 and 1920–21 total revenue and revenue from each main source, except opium[5] and provincial rates,[6] tended to increase markedly, but there was a fundamental change in relative importance.[7] Commercial undertakings, of which railways were the most important, brought in over Rs. 7 crores both in 1911–12 and in 1920–21, as compared with only Rs. 1·7 crores in 1901–2. There was also a remarkable increase in the

[1] The Government utilized the capital resources liberated by the reduction of the dead-weight debt to increase "productive" expenditure.

[2] *V.* p. 395 below.

[3] It will be recalled that free trade prevailed between 1882 and 1894.

[4] *V.* chap. xiii, p. 346. [5] *V.* p. 378. [6] *V.* p. 381.

[7] At this point only a very short summary is given of the changes in the relative importance of different items of revenue and expenditure, as the matter is discussed in more detail below, where a comparison is drawn, on a percentage basis, between the position in 1925–26 and 1913–14 (*v.* p. 388).

revenue from several items of "taxation," especially excise, customs, and income-tax. The greatest increase of all took place in the revenue from customs, which rose from Rs. 5·6 crores in 1901–2 to Rs. 30·9 crores in 1920–21, owing to the repeated raising of the import duties necessitated by the war and initiated in 1916.[1] The increase in land revenue was relatively slight.

On the expenditure side we naturally find that the main increases were due to the war, which involved not only great increases in military [2] and debt services,[3] but also very expensive exchange transactions.[4] There was also a considerable increase in the cost of collection of the revenue and in the cost of the civil services.[5]

Since the reforms many items previously included in the Central have been transferred to the Provincial Accounts, and the arrangement of the former has been changed.

Four main heads of Imperial Revenue are now distinguished,[6] *i.e.*: (i) Principal Heads of Revenue, including Customs, Income-Tax, Salt, Opium, and "other"; (ii) Commercial Services; (iii) Currency and Mint; and (iv) Provincial Contributions.[7] The latter and new head of revenue may be explained at this point. The provincial contributions arose out of the separation between the central and provincial finances due to the reforms, which redistributed the Indian revenues in such a way as to entail a loss to the Central Government estimated at Rs. 9,83 lakhs. The plan was adopted that the provinces should make up the deficit by means of contributions to the Central Government, until the expected improvement in central revenue rendered such aid unnecessary.[8]

Expenditure is given under eight main headings: (i) Commercial Services; (ii) Forest and other Capital Outlay charged to Revenue; (iii) Debt Services; (iv) Civil Administration; (v) Currency and Mint; (vi) Civil Works; (vii) Miscellaneous Civil

[1] *V.* chap. xiii, p. 347.

[2] Net expenditure on the military services rose from Rs. 24,24 lakhs in 1901–2 to Rs. 87,38 lakhs in 1920–21.

[3] Net debt services rose from Rs. 1,73 lakhs in 1901–2 to Rs. 12,07 lakhs in 1920–21.

[4] These do not appear in the figures given, but are fully discussed below (chap. xv, p. 423).

[5] These increases can be accounted for partly by a permanent extension of administrative functions (for instance, in the educational, police, medical and scientific services), partly by a temporary extension of Government activities during the war, and partly by increases in prices and salaries. It was noted in 1901–2 that the actual total cost of collection of revenue in India was only slightly greater than in England, in spite of the immensely greater population and the greater difficulties involved in collecting from a largely illiterate population with a very low average income.

[6] *V.* Table XIX, pp. 540, 541.

[7] This head appeared for the last time in 1926–27.

[8] *V.* p. 398 below.

Services; and (viii) Military Services. From the figures given in Table XIX [1] the main changes under these headings since 1921–22 can easily be traced, but (although of interest in themselves) they give only an incomplete idea of the principal sources of revenue and items of expenditure on Government account in British India as a whole. In order to obtain a more accurate view of the situation the main heads of revenue and expenditure, as shown in both the Imperial and Provincial Governments' accounts, have been brought together in Tables XX and XXI. The former gives the *principal* sources of revenue and items of expenditure, imperial and provincial, for 1921–22 and each subsequent year [2]; whilst the latter gives the complete figures for 1925–26, together with the figures for 1913–14, with an estimate of the figures for 1925–26 on the basis of the pre-war level of prices.[3]

Our object is, on the one hand, to complete the account given above of recent changes in the main classes and items of revenue and expenditure, and, on the other, to contrast the complete figures for 1925–26 with those for 1913–14, both as they actually stand, and as they appear when allowance has been made for the change in the purchasing power of money.

Three main classes of revenue are shown in Table XX, *i.e.*: (i) Land Revenue; (ii) Taxation; and (iii) Commercial Services. The total net income (imperial and provincial) from land revenue in 1925–26 [4] was Rs. 32,67 lakhs; from taxation Rs. 1,00,98 lakhs; and from commercial services Rs. 10,06 lakhs. This compares with Rs, 26,26, Rs. 29,31, and Rs. 1,72 lakhs in 1901–2, respectively.

Since the beginning of the century no radical change has been

[1] Table XIX is not quite identical with the form of accounts published in the Budgets. In the table "Forest and other capital outlay charged to revenue" has been included under the heading "Commercial Services," instead of with "Miscellaneous Expenditure," as is done in the Budgets. Also the heading "Currency and Mint" has been omitted from the expenditure side of the accounts, where it is found in the Budget figures for 1921–22, because there was a balance in net revenue from this source in that and subsequent years. A corresponding deduction has been made from the total net revenue and expenditure for that year.

[2] In order to simplify Table XX as far as possible, minor and miscellaneous items have been omitted. The table aims at bringing together the really important items of revenue and expenditure, not at presenting a complete view of the financial position. If we compare the total revenue and expenditure in 1925–26 as given in Tables XX and XXI, pp. 542–545, we find that the former includes no less than 96 per cent. of the complete total given in the latter. It therefore includes all the important items and the bulk of the total. It should not be forgotten that the Imperial Accounts include the revenue and expenditure of those provinces which have not yet obtained dyarchical government. The Shan States, which first had a dyarchical budget in 1923–24, have been excluded. It is impossible to present in tabular form the exact financial position of each of the provinces owing to the confusion introduced by debt and loan transactions and miscellaneous adjustments between the Central and Provincial Governments, etc.

[3] The Calcutta index number of wholesale prices for 1925 was 159, July 1914 being taken as 100.

[4] This is the latest year for which completed accounts were available, in England, when the table was prepared.

made in the principles of land revenue assessment,[1] and in spite of a tendency to a decrease in the average rate of assessment the total net income from land revenue had increased in 1925–26 by Rs. 6,41 lakhs as compared with 1901–2, but whereas in 1901–2 land revenue accounted for 42 per cent. of the total net revenue of the Central Government, in 1925–26 it accounted for only 21 per cent. of the total net revenue of the Central and Provincial Governments.

When the figures for 1925–26 and 1913–14 are compared, allowance being made for the change in the general level of prices, it appears that the burden of the land revenue has decreased, whilst the provincial rates (which were really an additional cess on land) have been set free for local purposes. A similar calculation shows that the burden of the salt tax[2] is also less than in 1913–14, so that the masses of the population have been relieved of part of the burden from the two main sources of State revenue that affect them.

The most striking feature since 1920–21 of the various sources of revenue grouped together under the heading "Taxation" is the continued expansion of the income from customs, which rose from Rs. 30,95 lakhs in 1920–21 to no less than Rs. 46,96 lakhs in 1925–26. Whereas as recently as 1911–12 "customs" provided less than one-third of the income provided by land revenue, it is now the principal single source of revenue,[3] and whereas in 1913–14

[1] The Government's Land Revenue policy was well summed up in the Government Resolution of 1902, *i.e.* East India (Land Revenue), Cd. 1089 (1902). It is said to be an "open secret" that this was actually written by Lord Curzon (v. *Lord Curzon in India*, vol. i, p. 172). The latter laid great emphasis on the need for elasticity in the actual collection of land revenue in accordance with variations in the harvest, and the Government passed rules for the granting of remissions in a Resolution of April 1905.

[2] The revenue from salt rose to a peak in 1923–24, with the increased rate of taxation, but has since declined, with the subsequent reduction in taxation.

[3] The following table, compiled by the Indian Taxation Enquiry Committee of 1924–25, gives an interesting picture of the change in the relative importance of certain outstanding sources of Indian revenue:

Tax Head.	Percentage to Total Tax Revenue.				
	1883–84	1893–94	1903–4	1913–14	1923–24
Land revenue	53·15	46·71	42·76	35·42	20·75
Customs	2·98	3·27	9·21	12·99	24·30
Excise	25·07	26·51	24·97	22·92	21·67
Income-tax	1·32	3·39	2·92	3·52	12·30
Transactions and fees	9·47	9·59	9·39	10·89	9·03
Probate duties				0·18	0·15
Local taxation and Capitation tax, etc.	8·01	10·53	10·75	14·08	11·80
	100	100	100	100	100

it provided only 13·8 per cent. of the total net revenue, in 1925–26 it provided no less than 31·5 per cent.

The revenue from customs is undoubtedly the most elastic and fruitful that has yet been tapped in India, although care is necessary to avoid inadvertently shifting the burden therefrom from the richer to the poorer classes.[1] The fact that "customs" now holds such an important position as a source of revenue influences fundamentally the possibility of inaugurating a far-reaching policy of industrialization by means of protective tariffs. In the absence of alternative sources of revenue, if the Government is to be enabled adequately to carry out its manifold functions, India's tariff policy must primarily be directed by revenue considerations.[2]

Although the total net revenue from excise increased rapidly up to 1920–21, in spite of the Government's policy of discouraging the consumption of alcohol, it has since declined, partly owing to the general depression and consequent shrinkage in the purchasing power of the people, and partly because the present taxation appears to have "overstepped the limits of the consumers' purse, patience, and readiness to obey the law; and widespread evasion is the result."[3]

In 1920–21 the revenue derived from income-tax was exceptionally high, owing to the post-war boom, but has since declined, in correspondence with the depression. Nevertheless since the introduction of the progressive principle in 1916, and of higher rates of assessment in the same and subsequent years, direct taxation has assumed an important place in the fiscal system as a whole. A great increase in the revenue from income-tax would be possible if large agricultural incomes were liable. As long as they are exempt it would be unfair to tax industrial and commercial incomes at a higher rate than at present, and increases in the yield will therefore be dependent upon the prosperity of the manufacturing and commercial classes.

The financial results of the principal commercial services have already been discussed in some detail. The year 1921–22 was a disastrous year from this aspect, and railways and irrigation showed a heavy net deficit. Since then, however, the tide has again turned, so that in 1925–26 the railways showed a net revenue of Rs. 5,49 lakhs and irrigation of Rs. 1,28 lakhs.

These total figures, however, do not give a true idea of the

[1] The Taxation Enquiry Committee thought that there had recently been a tendency in this direction, largely on account of the high duty on sugar, and recommended a reduction in the duties on sugar, raw materials, and "other means of production." These might be offset, they suggested, by increased duties on wine, beer, and spirits.

[2] *V.* chap. xiii, p. 362.

[3] V. *Report of the Taxation Enquiry Committee*, p. 188; *v.* also the *Report of the Bombay Excise Committee*, 1922–23.

financial value of the main irrigation schemes, as they include capital expenditure paid out of revenue not only on account of protective (or " unproductive ") irrigation works, but also on account of navigation, embankment, and drainage works, many of which are not intended to yield any direct financial returns. Hence, whereas it has been calculated that an average profit of 7 per cent. to 8 per cent. is normally earned on the whole of the capital expended on irrigation and drainage works of every description, if " productive " irrigation works alone are considered a much greater return (of perhaps 11 per cent.) would be shown.[1]

On the other hand, when the figures are analysed from the point of view of the separate provinces,[2] it is found that in 1921–22, and in each subsequent year, a net revenue has been obtained in two provinces only, *i.e.* in the Punjab and the United Provinces. In all the others there has been a regular net deficit. For instance, in 1925–26 there was a total provincial net revenue of Rs. 1,31 lakhs, but whilst the Punjab obtained a net revenue of no less than Rs. 3,42 lakhs, and the United Provinces one of Rs. 10 lakhs, Madras showed a net deficit of no less than Rs. 83 lakhs, Bombay of Rs. 52 lakhs, Bengal of Rs. 31 lakhs, the Central Provinces of Rs. 26 lakhs, and Burma of Rs. 25 lakhs. Very similar results have been obtained in every other year.

Although both the railways and irrigation works now yield a steady (and large) income to the State, they cannot be expected to give progressively increasing returns, as if their net return on expenditure increases, such profits are to be (and should be) used to reduce charges (and thereby to stimulate production and trade and relieve the consumer) rather than to provide more revenue for the State.

The net income from forests increased from Rs. 1,66 lakhs in 1920–21 to Rs. 2,16 lakhs in 1925–26, but there is reason to suppose that the best policy would be to expend on further forest improvements a larger proportion of the income obtained.[3] It is interesting to note that Burma provides more than 50 per cent. of the total net income from forests.[4]

When we compare the revenue figures for 1925–26 and 1913–14—especially when allowance is made for price changes—it appears that, all things considered, the demands of the State have not seriously increased, and that the bulk of the increase comes from customs duties and income-tax, that is, mainly from increased taxation of luxuries and of the wealthier classes.

Imperial and provincial expenditure is grouped, in Table XXI, under five main heads: (i) Imperial Debt Services; (ii) Military

[1] *Triennial Review of Irrigation in India*, 1918–1921, p. 11.
[2] *V.* Table XXII, p. 545.
[3] *V.* chap. vii, p. 176.
[4] In 1925–26 Burma provided Rs. 1,21 out of Rs. 2,16 lakhs.

Services; (iii) Civil Works; (iv) Civil Administration; and (v) Famine Relief.

In 1925–26 the largest of these groups was Military Services, on which the net expenditure amounted to Rs. 56,00 lakhs. Next came Civil Administration (including General Administration, Justice, Police and Jails, Superannuation,[1] Education, Medical and Public Health, Agriculture, Industries, Scientific Departments, Ports and Pilotage) which amounted to Rs. 56,48 lakhs, followed by Debt Services, Rs. 14,12 lakhs, Civil Works, Rs. 8,95 lakhs, and Famine Relief, Rs. 1,15 lakhs.

Although expenditure on Military Debt Services and on many items of Civil Administration remains very high in comparison with pre-war figures, considerable reductions have already been effected during the last few years as a result of the outcry for "economy" and of the specific recommendations of the Inchcape Retrenchment Committee of 1922–23.[2] On the other hand, owing to financial tightness, there have so far been few signs of that increased expenditure upon cultural and indirectly productive objects (such as education, agriculture, industry, and public health) which might have been expected in view of the Government's more constructive economic policy.

The net expenditure on Military Charges hardly increased after 1901–2 (when it amounted to Rs. 24,24 lakhs) up to the outbreak of the war. It then rose rapidly to Rs. 87,38 lakhs in 1920–21,[3] at which time it accounted for no less than 51 per cent. of the total net expenditure of the Central Government. Many economies were subsequently introduced, largely at the instigation of the Inchcape Retrenchment Committee, until in 1925–26 expenditure had been reduced to Rs. 56,00 lakhs. When allowance is made for price changes, it appears that the annual expenditure on defence has increased since 1913–14 only by some Rs. 3·64 crores, and that it now accounts for 38·8 per cent. of the total net expenditure, as compared with 42·6 per cent. in 1913–14. Naval expenditure has hitherto been limited to an annual contribution of £100,000 to the British Navy, and the total expenditure on defence works out at a good deal less than Rs. 2 per head per annum, *i.e.* about one-twentieth of that in Great Britain.

In the sphere of "Civil Administration" a war has been waged between the claims of economy and retrenchment on the one hand, and the demand for increased expenditure upon indirectly productive and cultural objects on the other. Here again many reductions in expenditure resulted from the

[1] I include expenditure upon Superannuation under this heading, as it obviously forms part of the expense of Civil Administration. In the actual accounts, however, it is included amongst Miscellaneous Expenditure.

[2] *Moral and Material Progress of India*, 1926–27, p. 269.

[3] This extremely heavy expenditure was largely due to the Afghan War.

recommendations of the Inchcape Committee, which have, however, been counteracted (from the point of view of total net expenditure) during the last year or two by increased expenditure upon Education, Agriculture, Industries, and Public Health.

The following table gives the figures of both the gross and net, Imperial and Provincial, expenditure upon cultural and indirectly productive objects, in 1925–26:

(1) Education . .	Gross Expenditure	Rs.	11,21	lakhs
	Net	,,	Rs. 10,53	,,
(2) Medical and Public Health	Gross	,,	Rs. 5,40	,,
	Net	,,	Rs. 4,90	,,
(3) Agriculture .	Gross	,,	Rs. 2,23	,,
	Net	,,	Rs. 1,78	,,
(4) Industries . .	Gross	,,	Rs. 1,48	,,
	Net	,,	Rs. 1,28	,,
(5) Scientific Departments	Gross and Net	,,	Rs. 84	,,

It is obvious that no great expansion of expenditure upon these objects could be undertaken until both the Imperial and Provincial Budgets showed a surplus, and we have already seen that this happy position has only recently been attained, but it is clearly increased Governmental activity of this type that is urgently needed.

It is interesting to notice which provinces expend most on each of these objects, although in order to institute a true comparison allowance should be made for the relative size of the provincial populations. In 1925–26 Bombay spent most on Education, followed by Madras, the United Provinces, the Punjab, and Bengal. Madras spent by far the most on Medical and Public Health purposes, followed by Bengal, the United Provinces, Bombay, Burma, and the Punjab. The Punjab spent most on Agriculture, followed by Madras, Bombay, the United Provinces, Burma, and Bengal. Madras again led with regard to both Industries and Scientific Departments[1]; Bengal, the United Provinces, Bihar and Orissa, and the Punjab having the next largest expenditure on Industries. It therefore appears that "benighted" Madras has paid by far the most attention to the promotion of indirectly productive objects.

In Table XX the net Imperial Debt Services only have been included, as they alone represent a dead-weight charge on the revenues.[2] Net interest charges arose, as a result of the war, up

[1] A quite minor item of provincial expenditure, even in Madras.

[2] *V.* p. 384 above. The Provincial Debt and Loan Accounts are very complicated and cannot be presented in a form comparable with the debt services of the Imperial Government. Moreover all the permanent Provincial loans are raised for more or less productive purposes and should not be included in the category of dead-weight charges.

to a peak of Rs. 15,27 lakhs in 1924–25, since when they have been slightly reduced. Even in 1924–25 they amounted to only 9½ annas per head of the population,[1] and were, therefore, extremely low in comparison with most other materially advanced countries, although, obviously, undesirably high in relation to the average level of incomes. In comparing total net expenditure in 1925–26 and 1913–14, allowing for price changes, it appears that the increase in dead-weight debt services accounts for the bulk of the increase in the total.

No notable changes have taken place with regard to expenditure upon either Civil Works or Famine Relief, except that in both cases the actual expenditure, even without allowance for price changes, has declined.

§ 4. RECENT DEVELOPMENTS IN THE FINANCIAL POSITION AND POLICY OF THE GOVERNMENT

No attempt can here be made to trace chronologically, or in any detail, the financial position and policy of the Government during the nineteenth century, but in order to understand quite recent changes and the present position it is necessary to call attention to certain financial "landmarks."

Some idea has already been given of the general character of nineteenth-century Budgets. The difficult financial situation after the Mutiny gradually eased with the restoration of order and the general improvement in production and trade which resulted from the opening-up of India (in particular from the construction of public works, the opening of the Suez Canal, and the improvements in sea communications). This meant that the yield of indirect taxation, land revenue, and direct taxation (although this was a very minor consideration) tended to increase, and enabled (as already seen) a reduction in capital liabilities and debt services, the extension of public works, and reductions in indirect taxation.

The general tendency towards financial improvement was checked and limited, during the last quarter of the century, by a series of unfortunate events, in particular the continuous fall in the exchange value of the rupee that set in after 1873,[2] and a series of exceptionally severe famines. The closing of the Mints in 1893 and other currency reforms,[3] together with the return to import duties in 1894 (and 1896), effected an improvement,

[1] This is based on the 1921 Census figures of population, *i.e.* 247 millions. Actually the population was rather greater in 1924–25.

[2] The fall in exchange meant that the Government had to procure ever-increasing quantities of rupees in order to purchase sterling to pay the Home Charges.

[3] These reforms resulted in raising the exchange value of the rupee to about par (*i.e.* 1*s.* 4*d.*) in 1893, after which this level was maintained (within narrow limits). *V.* chap. xv, p. 412.

and from 1898 the previous series of annual deficits began to be replaced by a small annual surplus. At the turn of the century the position was greatly improved by the replacement of an annual deficit by an annual surplus on the railways, and, after 1900, by a series of good harvests. An annual surplus—averaging Rs. 4 to Rs. 5 crores per annum—was realized in every year (except between 1907 and 1909) [1] up to the outbreak of the war. India was also favourably affected, especially after 1904, by rising prices in the world market for her principal exports.[2]

Under Lord Curzon[3] the policy was adopted of increasing productive expenditure,[4] and of alleviating the burden on classes and districts which were judged to be in particular need of assistance.[5]

The deficits in 1907–8 and 1908–9 led, after Lord Curzon's retirement, to a more timid policy, and even after a recovery had occurred in the general commercial and financial position [6] there was a tendency to replace Lord Curzon's policy of productive expenditure by one of unproductive economy, with the result that the constructive economic (and social) functions of the Government were unduly restricted. Nevertheless, the burden of Government demands on the masses had been considerably reduced, and there was a promise of greater financial ease than had ever before been realized.

The outbreak of war caused a short financial panic in India, which was soon successfully stemmed, followed by a period of strain and anxiety in the financial as well as in other spheres. Military and administrative expenditure of every description naturally rose rapidly and resulted in Budget deficits in 1914–15 and 1915–16. Whilst it was thought that the war would be over in a few months, the extra expenditure was met from temporary loans, but by the end of 1915–16 the necessity for increased taxation was realized, and led to the increase in customs duties, the salt tax, and income-tax which have already been described.[7]

[1] In 1907 there was a partial failure of the harvest and a commercial crisis in America, which caused a temporary change in the balance of trade in India, and hence currency disturbances.

[2] *V.* chap. xvi, p. 451. [3] Viceroy from 1899 to 1906.

[4] For instance, special grants were made for irrigation and other public works, and increased grants for the improvement of education and health. "Administrative efficiency is merely another word for financial outlay" (*Lord Curzon in India*, vol. i, p. 145).

[5] Arrears of land revenue were remitted to the extent of Rs. 2 crores in areas which had suffered from scarcity, and later the salt tax was reduced to assist the poorest, the income-tax exemption limit was raised to assist the struggling members of the middle classes, the Provincial Settlements were revised (in 1905) in favour of the provinces, and land cesses were reduced in some areas.

[6] During the decade 1901–2 to 1911–12 the total net revenue increased 31·8 per cent., as compared with increases of only 15 per cent. and 10 per cent. in the two preceding decades respectively.

[7] *V.* chap. xiii, p. 347, and pp. 379, 381 above.

By the end of 1916 the general economic position in India had been greatly improved by a good monsoon, increased railway earnings, the war demand for Indian products, and great internal commercial activity. A small surplus was actually realized for the year (1916–17). By this time the strain on Britain's financial resources had become extremely serious, and the satisfactory position in India was held to justify a war gift of £100 millions to Great Britain at the end of 1917. This naturally greatly increased annual liabilities on account of interest and sinking fund services.[1]

At this time the problem arose of how to secure a proper distribution of financial resources between India and London, as the purchasing power of the Government of India tended to be progressively transferred from India to London, owing to the unusually great excess of exports over imports of merchandise,[2] accompanied by the impossibility of sending gold from London to India. To enable private traders to pay in India, Council Bills were sold up to £33 millions. This meant that India's gold reserves in England mounted up, whilst reserves in India became more and more depleted. To help to solve this difficulty large quantities of silver were bought in London and exported to India to be minted, and silver was released from the metallic reserve covering currency notes in India, and replaced by securities in London.

Trade continued to prosper and taxes to yield unexpectedly well in 1917 and 1918, and the difficulty of securing silver for India was overcome by an arrangement made early in 1918 with the United States.[3] In the autumn of 1918 the Government of India offered a further and larger war gift to Great Britain, but the Armistice rendered it unnecessary actually to grant more than a portion of the sum promised.[4]

The signing of the Armistice was followed in India by serious commercial losses, affecting State revenues, owing to an extensive failure of the monsoon and a terrible influenza epidemic. For a time the post-war boom staved off the threatened commercial and exchange crisis, but nevertheless the Budget for 1918–19 revealed what subsequently proved to be the first of a five-years' series of deficits.[5] With the world-wide trade depression that began in 1921 the financial position became extremely serious. The efforts of the Government, after the introduction of the reforms in 1921, to balance the Budget were frustrated partly by the continued trade depression, and partly by the opposition of the

[1] Additional revenue was secured by a super-tax on incomes over Rs. 50,000, increased customs duties, and a surcharge on railway rates.

[2] Caused by heavy private and (British) Government purchases in India, but a great fall in Indian imports.

[3] *V.* chap. xv, p. 420.

[4] About £50 millions were actually granted.

[5] The expenses of the Afghan War were an aggravating factor.

Legislative Assembly to the proposed increases in taxation, especially in the salt tax,[1] although some relief was secured as a result of economies adopted in accordance with the recommendations of the Inchcape Retrenchment Committee of 1922.[2] In 1923 it was decided that India's credit would be seriously damaged if the balancing of the Budget were further delayed, and the Viceroy therefore "certified" the enhancement of the salt tax.[3] By this means the series of deficits was ended, with immediate excellent financial effects, which included a rise in the market price of rupee securities and a great improvement in the credit of the Government of India.[4]

The Budget for 1924–25 estimated for a surplus of Rs. 3·36 crores, on the basis of existing taxation. There were two notable claimants for this surplus—*i.e.* the reduction of the provincial contributions and the reduction of the salt tax. The former reduction was urgent, because it alone would enable increased expenditure on education, agriculture, and industry, but on the other hand it was desirable to reduce the extremely unpopular salt tax. The Finance Minister, Sir Basil Blackett, compromised and proposed a reduction of the salt tax from Rs. 2. 8a. to Rs. 2 per maund, together with a reduction of the provincial contributions by Rs. 1·5 crores. This compromise was not accepted by the Assembly, which, moreover, threw out the two "pivotal heads" of the revenue—namely, income-tax and customs. Lord Reading was therefore obliged to certify the Finance Bill as a whole, and decided to do so "in the minimum form which the responsibilities vested in him dictated."[5] The result was that the salt tax was reduced to Rs. 1. 4a. per maund and proposed customs changes were dropped. Meanwhile, in order to balance the Budget it was necessary to continue to collect provincial contributions on the former basis.

In 1925–26, however, a surplus was secured, which made it possible, at last, to reduce the provincial contributions, and also to introduce a few minor improvements in taxation.[6]

The provincial contributions had been fixed initially in such a

[1] *V.* p. 380 above.

[2] These economies principally affected military expenditure, public works, and general administration. For a short summary of the Inchcape Report, v. *Moral and Material Progress of India*, 1923–24, p. 108.

[3] *V.* p. 380 above.

[4] For an excellent summary of these good effects, v. *Moral and Material Progress of India*, 1923–24, p. 108.

[5] *Ibid.*, p. 115.

[6] These latter included minor reductions in both customs and excise. The removal of the cotton excise was admitted to be desirable, but was postponed. Two other financial reforms also came into force in 1925–26, *i.e.* the separation of the Railway from the General Budget (*v.* chap. vi, p. 140), and a plan for the stabilization of the contribution from revenue towards the reduction or avoidance of debt (v. *Asiatic Review*, April 1925, "The Indian Budget, 1925–26").

way as to minimize immediate inconvenience and hardship.[1] It was intended that the burden should be redistributed by degrees until after seven years the amount paid by each province should be in proportion to its estimated taxable capacity,[2] after making allowance for the net increase accruing to provincial revenues, from the new distribution of revenues provided for under the reforms, between the Central and Provincial Governments, as shown in the following table :

Province.	Initial Contributions.		Equitable percentage on the basis of taxable capacity.
	(*a*) In lakhs of rupees.	(*b*) Percentage of the whole.	
Madras . . .	348	35·4	17
Bombay . .	56	5·7	13
Bengal . . .	63	6·5	19
United Provinces .	240	24·4	18
Punjab . . .	175	17·8	9
Burma . . .	64	6·5	6½
Central Provinces and Berar	22	2·2	5
Assam . . .	15	1·5	2½
Bihar and Orissa .	nil	0·0	10
	983	100	100

When this proposal came up for confirmation in the House of Commons, it was decided that the contributions ought to be abolished as soon as possible, that no increase should be made for any province in the course of the redistribution of the burden, but that those most heavily burdened should be the first to be relieved when an improvement in the Imperial finances made a reduction of the total possible. It will be seen, therefore, that the provinces were very unequally interested in the reduction of the contributions.[3]

Up to this time—owing to the period of financial stress that had, unfortunately, coincided with the inauguration of the reforms —no reduction of the provincial contributions had been made, except for the remission of the contribution of Bengal.[4] Hence

[1] A clear and succinct history of the Provincial Contributions is given in *Moral and Material Progress of India*, 1927–28, p. 247 *et seq.*

[2] *Report on Financial Relations* (*i.e.* the *Meston Report*), P.P., Cmd. 724 of 1919. Some allowance was also made for the indirect contributions from the Provinces to the Central Government under the headings of Customs and Income-tax.

[3] V. *Moral and Material Progress of India*, 1926–27. Bombay holds that it is still at a disadvantage financially, as it is the chief provider of revenue from income-tax, whilst the whole of the latter goes to the Central Government. The other provinces argue that the clothing of the whole of India is taxed in order to create these Bombay incomes.

[4] *Ibid.*, 1923–24, p. 103 *et seq.*

in 1925 it was decided to devote Rs. 2·50 crores of the estimated recurring surplus to the reduction of the contributions from the most heavily burdened provinces, *i.e.* Madras, the United Provinces, the Punjab, and Burma, and to continue the remission of Bengal's contribution for three more years. In addition it was decided to distribute Rs. 50 lakhs of the non-recurring surplus amongst those provinces whose contributions had not yet been reduced, namely, Bombay, the Central Provinces, and Assam.[1]

Thus the Budget of 1925–26 marked the third stage in the financial recovery of India.[2] In 1923–24 equilibrium was attained by means of additional taxation and certification; in 1924–25 equilibrium was maintained without that additional taxation; and in 1925–26 a surplus was realized, which permitted a reduction in the provincial contributions, and thus at last made possible additional provincial expenditure.

The Budget of 1926–27, unlike its predecessors, met with little serious opposition in the Legislative Assembly, and included the repeal of the cotton excise[3] and a further reduction in the provincial contributions.[4]

The effect of these reductions in the provincial contributions and of other favourable circumstances was to enable most of the Provincial Budgets to be balanced by 1925–26.[5]

The great feature of the Budget for 1927–28 was the experimental abolition, for that year, of the provincial contributions, a measure that was made final in 1928–29. A few minor remissions in taxation were also introduced in 1927–28.[6] The general financial situation was less favourable in 1929, when the new finance member, Sir George Schuster, presented the Budget for 1929–30, owing partly to the uneven distribution of revenue between financial years, and the possibility of having to resort to increased taxation was foreshadowed, but it may be legitimately hoped that this will be only a temporary phenomenon. Meanwhile a prominent feature of the situation is the great amount of capital development, especially on railways, that is being under-

[1] The Legislature accepted these proposals rather reluctantly, and withdrew its original proposal to reduce the salt tax again.

[2] *Asiatic Review*, April 1925, "The Indian Budget."

[3] *V.* chap. xiii, p. 355.

[4] These had now been reduced from an original sum of Rs. 983 lakhs to Rs. 545 lakhs.

[5] As late as 1922–23 only two out of the nine provinces were even budgeting for a surplus.

[6] *I.e.* the export duty on tea was abolished (although it was balanced by an increase in other taxation of tea companies), the stamp duty on cheques and bills of exchange payable on demand was removed, and the import duties on motor-cars and tyres were reduced. The proposed abolition of the export duty on hides was not accepted. Later on in the year the decision was taken to reduce the duties on machinery and other goods utilized by the cotton mill industry (*v.* chap. xi, p. 278).

taken, at the cost of a relatively small increase in the Public Debt.[1]

This satisfactory position leads us to hope that the period of "exasperating restrictions imposed by financial penury"[2] is at an end. During Sir Basil Blackett's six years of financial leadership he succeeded in inducing the Indian legislature to accept a series of reforms, which—together with the improvement in the general economic condition of the country—have converted a serious annual deficit into a reasonable annual surplus, enabled the cotton excise and the provincial contributions to be entirely abolished and taxation to be greatly reduced, have resulted in an enormous improvement in India's credit,[3] and have recently made possible increased expenditure on directly and indirectly productive objects by both the Central and Provincial Governments. This is apart altogether from reforms in currency and banking, which will be considered below.[4] Thus the way has been paved for the inauguration of a more constructive programme which it was, at one time, over-sanguinely expected would follow immediately from the introduction of dyarchy.

§ 5. SUMMARY AND CONCLUSIONS

From the foregoing account it is clear that in the past India's limited, inelastic, and unreliable financial resources have acted as a serious brake on the introduction of reforms and the assumption and extension of social and economic functions designed to promote the transition from a mediaeval to a modern type of economy. The financial problem has undoubtedly been an important factor in the arrested economic development of India. Moreover, although in certain cases a mistaken financial policy may have been pursued, on the whole the often inadequate results have been due less to lack of will than to lack of power, caused partly by social difficulties—such as the obstacle presented by the existing land revenue system to the extension of direct taxation—partly by political difficulties, inherent in financial control by an alien Government—manifested, for instance, in the opposition on irrelevant grounds to proposed reforms, and the lack of co-operation

[1] V. *The Indian Budget for* 1929–30, and the *Times*, March 1, 1929 ("Indian Budget Figures"). The Loan Policy of the Government is well summarized in *Moral and Material Progress of India*, 1927–28, p. 264.

[2] *V.* Sir Basil Blackett's Budget Speech, 1925–26 (*The Indian Budget*, 1925–26, p. 133).

[3] V. *The Indian Budget*, 1928–29, p. 6 *et seq.* Since 1923 the unproductive debt of India has been diminished by Rs. 76 crores (£57 millions) and the productive debt has been increased by Rs. 189 crores (£142 millions).

[4] *V.* chap. xv. For a succinct appreciation of Sir Basil Blackett's work v. *Economic Journal*, September 1928, "The Indian Reserve Bank and Sir Basil Blackett's Work in India," by A. J .Saunders. See also *Moral and Material Progress of India*, 1926–27, p. 211.

in working dyarchy [1]—and partly to unavoidable disadvantages —such as the unfortunate coincidence of the inauguration of the reforms with a period of exceptional financial stress and strain. But here, as in other economic spheres, a great change for the better is discernible since the beginning of the century, especially since the war.

The resources of the Government are now more elastic and taxation less oppressive than formerly, which has enabled some, if not yet extensive, expansion of expenditure upon economic and cultural services. The improvement has been particularly marked since the abolition of the provincial contributions in 1927.

A difference of opinion still exists as to whether it is wise to aim primarily at retrenchment, or to undertake increased expenditure on directly and indirectly productive purposes. Some critics assert that the Government has already undertaken expenditure upon too grand a scale, and has attempted to provide the people with services—railways, improved sanitation, or what not—which, according to the opinion of the critic, they cannot afford. Others assert that " progress " has been sacrificed to " order," [2] or, in other words, that false economy has been practised. One of the chief criticisms directed against the war finance of the Government of India has been that instead of imposing extra taxation and continuing to promote education, sanitation, and industrial development, the Government simply " marked time." " The obvious preoccupations of the war," says Professor Kale,[3] " were not a sufficient excuse for marking time in the matter of expansion of education, improvement of sanitation, and the promotion of industries. . . . We should have liked to see [4] Government impose additional taxation in the very first year of the war in order not to be compelled to abate the pace of progress and in order that they might be able even to hasten it."

Professor H. S. Jevons has pointed out that it may be a positive financial advantage to incur a deficit, and even to increase the unproductive debt (let alone the productive debt), if such a deficit is due to increased expenditure upon the beneficent services, such as public health and education, or on indirectly productive services, such as agricultural research. " The outlay on education, health, and agriculture undoubtedly creates gradually increased

[1] " Opposition to military expenditure, captious criticism of the placing of orders for stores and equipment in England, jealous suspicion of anything which savours of Imperial preferences—are examples of the extraneous motives in question which should be settled on purely technical grounds " (*Round Table*, December 1923).

[2] B. R. Ambedkar, *The Evolution of Provincial Finance in British India*, p. 190.

[3] *India's War Finance and Post-War Problems*, by V. G. Kale (1919), p. 42.

[4] I wonder whether we really should ?

taxable capacity." [1] We have already seen in a number of connections how lack of revenue has prevented the fulfilment of innumerable schemes of great promise. Even in the case of agriculture (for which more has been done by the Government than for any other economic interest) the expenditure of the State per head or per acre is still extremely low in comparison with other countries, as is shown in the following table:

State Expenditure on Agriculture.[2]

	Per 1,000 of the population. Rs.	Per 1,000 acres of cultivated land. Rs.
Germany (1910)	945	705
U.S.A. (1919–20)	1,020	210
United Kingdom (1921) . . .	960	1,380
The Punjab (1921–22) . . .	79	56 [3]

The expenditure upon industries is still more meagre. Undoubtedly increased expenditure upon agriculture, industry, public health, and education,[4] if well conceived and well administered, would eventually prove financially productive. Indeed, it is probable that the very instances that are sometimes quoted to show the futility of expenditure really illustrate the need for still greater expenditure. Thus the alleged futility of supplying expensive sanitary services in certain municipal areas [5] may contain the grain of truth that they have not been sufficiently universalized to effect their purpose.

Unfortunately, time is needed before any economic return is obtained from expenditure of this type, and meanwhile the Government is confronted with the problem of financing the new schemes, whilst the demands for a reduction of taxation are strong in view of the poverty of the masses, and of the need to avoid discouraging enterprise amongst the small class of the rich and well-to-do.

Eventually it might be possible to reorganize the land revenue

[1] *Proceedings of the Indian Economic Association*, 1923, pp. 46, 47. Professor Jevons even goes as far as to suggest that it would be a perfectly sound financial policy deliberately to borrow in order to finance such services.

[2] These figures are given by M. L. Darling (*The Punjab Peasant in Prosperity and Debt*, p. 715), who takes those for Germany, the United States, and the United Kingdom from Sir Henry Rew's article in the *Edinburgh Review*, April 1922. The Punjab is relatively advanced in its agricultural policy, and in 1921–22 spent more on agriculture than any other province (*v.* Table XXII, p. 546).

[3] The annual expenditure on agriculture per cultivated acre for British India as a whole worked out in 1923–24 at about ½*d.* per acre (v. *Moral and Material Progress of India*, 1924–25, p. 185, and P. P. Pillai, *Economic Conditions in India*, p. 98). This is equivalent to about Rs. 31 per 1,000 acre, and is therefore considerably less than for the Punjab.

[4] Table XXI, p. 545, shows that expenditure upon education has increased relatively as well as absolutely since 1913–14. In that year it accounted for 5·8 per cent. of the total net expenditure, whereas in 1925–26 it accounted for 7·2 per cent.

[5] Some municipalities have threatened to stop the "unnecessary" supplies of water and other sanitary services.

along the lines suggested above,[1] that is, either to vary the system from province to province, in accordance with local needs, or to make a permanent settlement for the country as a whole at existing rates, and to levy an income-tax on agricultural incomes above a given level, which would enable direct taxation to be raised without injustice to the industrial, as compared with the agricultural classes. This would mean a fundamental alteration, which would provide a really elastic source of revenue, and enable the salt tax to be repealed. In the meanwhile the burden of taxation on the necessities of life might be lessened by reducing the salt tax, the loss of revenue being made up by additional luxury taxes designed, so far as possible, to avoid discouraging enterprise.[2] There seems no logical reason why such taxation should not be extended to luxuries of general consumption. For instance, the excise on tobacco might well be increased, and an excise might be imposed on betel-nuts. Such an adjustment would go far to remove the reproach that the one necessity of life purchased by the masses is liable to taxation, although it is unlikely that the measure would be popular!

On the whole the facts seem to support the conclusion that there has been niggardliness, rather than extravagance, in expenditure, and that the truly economic policy would be to increase expenditure in a number of directions. However this may be, one can certainly conclude that the financial outlook is brighter now than it has ever been, and that before long some of the long-deferred benefits of dyarchy should begin to be reaped.[3]

[1] *V.* p. 378.

[2] The bulk of the indirect taxation at present in force may be considered to be "luxury" taxation, as it is levied on articles mainly consumed by the more prosperous classes. The scheduled taxes—*i.e.* entertainments and betting taxes—at present levied in Bengal and Bombay only, might well be extended to other provinces, but would only bring in a very small revenue. (In Bengal and Bombay they produced Rs. 24 lakhs in 1924–25.)

[3] On the other hand, it must not be forgotten that the transference of certain subjects to the provinces has made it more than ever difficult to co-ordinate policy and therefore to obtain the most efficacious expenditure on the productive and beneficial services.

CHAPTER XV

BANKING AND CURRENCY

§ 1. THE BANKING SYSTEM, p. 403.

India's inadequate banking and credit facilities—The indigenous banking system, its nature, functions, and defects—Four main classes of banks of a European type: the Presidency Banks, now united to form the Imperial Bank; Local Joint Stock Banks; Specialized Banks; Exchange Banks—Conclusions.

§ 2. THE CURRENCY SYSTEM, p. 409.

The influence of the currency system and policy on economic conditions in general—The system at the end of the nineteenth century, and the closure of the Mints (1893)*—The gold exchange standard—Paper currency—The gold standard reserve and its functions—The financial crisis of* 1907*—Criticisms of the existing system and the Chamberlain Commission—Currency problems and policy during the war—The Babington-Smith Commission* (1919) *and the exchange crisis of* 1920*—The abandonment of the* 2*s. rupee—The Hilton Young Commission of* 1925–26 *and its three main recommendations:* (i) *the introduction of a gold standard (but not of a gold coinage);* (ii) *the adoption of* 1*s.* 6*d. as the ratio of exchange;* (iii) *the establishment of a Central Reserve Bank—The action taken on the Report, and the present situation—Conclusions.*

§ 1. THE BANKING SYSTEM

INDIA'S difficulty in obtaining sufficient capital for investment in productive ventures in general, and in industrial concerns in particular, has been recognized as one of her primary economic deficiencies. This difficulty has been partly due to the insufficiency of financial resources, partly to the lack of adequate banking facilities,[1] and partly to the inadequate use made of existing Indian capital.[2]

The Indian banking system can be divided into two parts: the indigenous and the European systems.

The origin of the former is remote and obscure. Very many centuries ago the native bankers, or "shroffs," conducted financial operations on a comparatively large scale in the chief commercial

[1] V. *The Banking Needs of India*, by Mohanlal Tannan (pamphlet), 1919, p. 2.

[2] The "investing habit" has not yet become popular in India, and there is an ignorance of, and a lack of confidence in, banking which often leads people to "invest" their savings in gold and silver ornaments, or to hoard them in coin or bullion.

centres, and facilitated payments by means of their " hundis," or bills of exchange. They " conducted large transactions at the chief commercial centres and at the courts of native rulers, to whom they sometimes acted in the capacity of Finance Ministers. Even in times of trouble and anarchy, their persons were usually respected. Their credit stood so high that their hundis were readily negotiable throughout the country, and often beyond the bounds of India." [1] They and their hundis still play an important part by financing persons in remote districts whose credit would not suffice to enable them to obtain help from European and Europeanized banks, but it is difficult to obtain accurate records of their proceedings.[2]

Although banking on the European system became firmly established during the nineteenth century, it is still confined to the larger centres and the new types of trade and business, and is entirely inadequate to serve anything like the whole banking needs of India. It has hardly, if at all, encroached upon the sphere of the native banker, as British Rule has tended to commercialize and open up India, to raise the value of land and of produce (thus increasing credit) and hence to increase the need for and business of the indigenous banker. The latter is often also a trader and money-lender, and finances agriculture as well as industry and internal trade,[3] and it is impossible to draw any hard-and-fast distinction between his banking, trading, and money-lending functions.

The indigenous system has both its good and its evil sides. It is still obviously essential in rural areas, and is undoubtedly the readiest, and often the only, means of providing money in small doses for the small agriculturists and industrialists. On the other hand in many cases the mahajan, or shroff, charges very high rates of interest, which press heavily upon the borrowers, and may even lead eventually to their ruin, or at any rate complete dependence upon the lender. The existence of a large body of ready lenders also encourages extravagance.

The rate of interest charged varies enormously according to the nature of the loan. For the more purely commercial transactions with traders of good standing, the rates charged are by no means exorbitant, and are often closely related to those charged by the Presidency or Joint Stock Banks,[4] and the Indian banker is beginning to realize that banking of the European type will assist rather than hinder his business.[5]

[1] *Imperial Gazetteer*, vol. iv, p. 522.

[2] The best account is L. C. Jain's *Indigenous Banking in India* (1929).

[3] *V.* chap. v, p. 108.

[4] Findlay Shirras, *Indian Banking and Finance*, p. 342.

[5] Indian bankers rarely deal in European paper, or foreign or sterling bills, but still grant advances by discounting hundis, and make loans against gold or

On the other hand the rates charged for loans to agriculturists and small industrialists (those who can least afford to pay) often rise to extraordinary heights, such as 200 per cent. to 300 per cent. per annum.

Banks on the European system (apart from Post Office Savings Banks),[1] may be divided into four main classes: (i) The Presidency Banks, which were amalgamated in 1921 to form the "Imperial Bank of India"; (ii) Local Joint Stock Banks; (iii) Specialized Banks, such as Co-operative and Industrial Banks; (iv) The Exchange Banks.

The Presidency Banks of Bengal, Bombay, and Madras originated in the days of the East India Company, and until 1921 were regulated under the Presidency Banks Act of 1876, as amended in 1899 and 1907. These banks were both to some extent the Government's banks and to a great extent the bankers' banks. They held the balances of the Government in the presidency towns, frequently held the unemployed cash of various other banks (including the Exchange Banks), and assisted other banks in times of trouble. Under the Acts mentioned above they were not allowed to deal in exchange, might not raise funds in London, and were restricted as to lending.[2] They helped to finance trade directly by making advances against merchandise consigned to them, and indirectly by discounting hundis, or internal bills of exchange, brought to them by the shroffs, the latter being either "produce" or "finance" bills.

Nevertheless the Presidency Banks were in no full sense the Government's banks. The Government held the greater part of its own cash balances, arising out of the collection of revenue, in three "Reserve" and some three hundred district treasuries and sub-treasuries which were scattered throughout the country; had sole control of the paper currency; and controlled exchange by its transactions with the Secretary of State.[3]

This peculiar system, known as the "Independent Treasury System," had grown up owing to the lack of adequate banking facilities, but entailed the serious disadvantage that large sums were kept locked up and useless in the district treasuries, instead

silver bullion. Thus their work supplements, and does not compete with, that of European banks.

[1] Post Office Savings Banks have been successfully introduced by the Postal Department since 1870, and district branches had by 1900 been opened all over the country. They have performed an extremely useful function by stimulating the poorer classes to save (and to invest instead of to hoard) and, at least until the establishment of Co-operative Banks, earned the title of the "Poor Man's Bank." (G. Clark, *The Post Office in India.*) Their work has developed along the usual lines and they are much appreciated by small investors.

[2] Findlay Shirras, *Indian Banking and Finance*, p. 377.

[3] *Imperial Gazetteer*, vol. iv, p. 525.

of being deposited with banks which could have utilized them to finance seasonal trade requirements.[1]

Attention was called to the disadvantages of this system by Mr. J. M. Keynes in a memorandum annexed to the Report on Indian Finance and Currency of 1913, in which he advocated the formation of a strong central bank to which some of the functions of the "Independent Treasuries" could be transferred. He also argued that the paper currency issue ought to be rendered more elastic, that a bank could perform the function of currency control better than a Government office,[2] and that a great Central Bank could act as a "Bankers' Bank," like the Bank of England, and in particular could assist the co-operative movement and industrial development by providing facilities for the Central Co-operative Banks and any industrial banks that might be started. Moreover, if branches were founded all over the country, remittance of money would be greatly facilitated, whilst better arrangements could be made for dealing with sterling reserves in London, if there were an Imperial Bank with a London office.[3]

The outbreak of the war prevented anything from being done at the time, but in 1921 the three Presidency Banks were amalgamated to form the "Imperial Bank of India." The most important of the regulations which defined and limited the functions of the Presidency Banks were transferred to the new Imperial Bank—which was therefore prevented from encroaching upon the functions of the Exchange Banks—and four important innovations were made. A London office was established; Government handed over all its general banking business to the Imperial Bank, which was gradually to take over the Treasury balances; the new bank undertook to open 100 new branches within five years; and the Governor-General-in-Council was given power to issue instructions on vital matters to the Imperial Bank. The hundred new branches were opened by 1925–26, in which year the Imperial Bank possessed in all 161 branches in addition to twenty sub-agencies.[4] Recently the proposal has

[1] This was the more serious as the demand for currency in India is subject to great seasonal fluctuations, and the season of maximum collection of revenue coincides with the season of busiest trade, so that "at the time when the market stands most in need of funds, the Government are taking off the market a sum of Rs. 6 or Rs. 7 crores not for the sake of immediate requirements, but in order to meet disbursements during the slack season of the summer and autumn" (*Final Report of the Royal Commission on Indian Finance and Currency*, 1913, Cd. 4236, p. 34).

[2] The great financial responsibility and very extensive banking and currency functions of the Indian Government are felt to be an anomaly, not in accordance with the practice of most advanced countries.

[3] *V.* Memorandum by J. M. Keynes on "Proposals for the Establishment of a State Bank in India" annexed to the *Report of the Royal Commission on Indian Finance and Currency*, §§ 8 and 9, and Mohanlal Tannan's pamphlet, *The Banking Needs of India*.

[4] *Moral and Material Progress of India*, 1925–26, p. 228.

been put forward that a new Central " Reserve " Bank should be established in India, and that the restrictions on the Imperial Bank, mentioned above, should be removed. This proposal arose out of the recommendations of the Royal Commission on Indian Currency and Finance of 1926, and can best be discussed in connection with the general recommendations of that Commission.[1]

Joint Stock Banking (whether under European or Indian management) originated in the middle of the nineteenth century, but was left quite uncontrolled, with the result that many wild-cat schemes were set on foot. Many of the early banks—even when under European management—failed after a few years, so that the total paid-up capital of all the principal Joint Stock Banks in India in 1900 only amounted to some Rs. 82 lakhs.[2]

In 1906 an era of rapid expansion of Joint Stock Banking began in connection with the economic aspect of the *Swadeshi* Movement of that time. Some of the banks were under Indian, some under European, control and management, the great majority being in the former class.[3] This led to speculation and unwarranted expansion.[4] The new Joint Stock Banks were not content to build up their business in the usual " slow but sure " way, but undertook varied types of business, including industrial financing. The result was a period of very rapid increase in Joint Stock Banking, followed by the collapse of 1913–15, from which recovery only began to be apparent in 1917. Between 1913 and 1917 no less than 34 per cent. of the total paid-up capital of all the Indian Joint Stock Banks was lost.[5] The failure of many of these banks was attributed to the fact that they advanced money for industrial ventures which did not pay.[6] Although a great revival and expansion of banking took place after 1918, many of the Joint Stock Banks continued to suffer from the " horrible catastrophes " of 1913 and the following years.[7]

Specialized banking has only recently started in India, and is

[1] *V.* § 2, p. 428 below.

[2] *Indian Year Book*, 1914, p. 205. At this time there were no Co-operative or Industrial banks.

[3] V. *Industrial Commission Report*, note by the Hon. Pundit Madam Mohan Malaviya, p. 336.

[4] In 1900 the capital of Joint Stock Banks in India (excluding the Presidency and Exchange Banks) amounted to Rs. 82 lakhs, the reserves to Rs. 45 lakhs, and the deposits to Rs. 807 lakhs. By 1912 the figures had risen to Rs. 285 lakhs, Rs. 126 lakhs, and Rs. 2,529 lakhs respectively (excluding the Presidency and Exchange Banks as before, and the new Co-operative Banks) (*Indian Year Book*, 1923, p. 310).

[5] Findlay Shirras, *Indian Banking and Finance*, p. 365. This excludes the Presidency, Exchange and Co-operative Banks, but includes European as well as Indian-controlled Banks. European management did not exempt from failure. For details of the failures v. *Proceedings of the Indian Economic Association*, 1923, p. 91 *et seq.*

[6] *Ibid.*, p. 98 [7] Findlay Shirras, *Indian Banking and Finance*, p. 365.

practically confined to co-operative banking,[1] which has already been dealt with in another connection.[2] Specialized industrial banking was attempted by the foundation of the Tata Industrial Bank in 1917, but has failed. The Tata Bank practically confined itself to financing the manifold concerns connected with Tata Sons, Ltd., but suffered severely during the post-war trade depression, until in 1923 it amalgamated with the Central Bank of India, of Bombay, sacrificing half its capital.[3] After 1917 a number of banks were founded with professedly "industrial" functions, but all carry on commercial, as well as industrial, banking, and can hardly be distinguished from the ordinary Joint Stock Banks, which themselves have varied functions.[4] The union of industrial with commercial banking in the ordinary Joint Stock Banks is specially dangerous in India, as the paid-up capital of such banks is usually small, whilst deposits are mostly made for short periods only. It has been said to be "well-nigh criminal folly" in such circumstances to grant long-term loans with short-dated deposits.[5]

Finally, there are the Indian branches and agencies of the great Exchange Banks. Traders engaged in the export and import trade of India, as in other countries, take part in very large transactions from which they cannot at once realize a return. They do not themselves possess sufficient command of capital to finance such transactions, but depend on a special class of bank which specializes in foreign trade. In India this work is entirely done by Indian branches of large British, Foreign, and Colonial Exchange Banks. The founding of banks to carry on exchange business in India began in the eighteen-fifties, and the number and activities of such banks have increased steadily since that date.[6]

[1] Although investments in land are popular in India, there are no special land-mortgage banks, but mortgaging is carried on by many of the ordinary Joint Stock Banks.

[2] Chap. viii, p. 192.

[3] *Moral and Material Progress of India*, 1917–18, p. 78, and the *Annual Review of the Trade of India*, 1922–23.

[4] *Proceedings of the Indian Economic Association*, 1923, pp. 91, 96. Most of the Joint Stock Banks make loans for investment purposes, create fixed capital, help speculators who dabble on the Stock Exchange, and finance industrial enterprises.

[5] *Proceedings of the Indian Economic Association*, 1923, p. 100.

[6] *V.* Findlay Shirras, *Indian Banking and Finance*, pp. 355, 356. The list of Exchange Banks now includes the following: The Chartered Bank of India, Australia, and China (with eight branches in India); the National Bank of India (thirteen branches); the Mercantile Bank (seven branches); the Eastern Bank (three branches); the Hong-Kong and Shanghai Banking Corporation (two branches); the Yokohama Specie Bank (two branches); the International Banking Corporation (New York: two branches); the P. & O. Banking Corporation (four branches); the Sumitomo Bank (Japan); the National Bank of South Africa; the Imperial Bank of Persia; the Comptoir National d'Escompte de Paris; the Bank of Taiwan; the Banco Nacional Ultramarino; and Reuter's Bank.

Since the outbreak of the war their progress has been particularly rapid.[1]

In spite of the progress in Joint Stock Banking that has just been described, there is general agreement that India's banking facilities are entirely inadequate for the needs of a first-class economic country,[2] and that their extension is essential if industrial development is to be stimulated. In particular there is a great lack of facilities for discounting and accepting trade bills, which tends to restrict commercial activity. One hopeful feature is that measures have recently been taken to encourage the recruitment and training of young Indians for employment in banks in India.[3]

§ 2. THE CURRENCY SYSTEM

The currency system of any materially advanced country is like the oil necessary to the proper working of complicated machinery. If the supply is adequate, all goes well; but if the supply is insufficient, excessive, or of the wrong consistency, the machine immediately begins to work badly, or may even break down entirely.

The Indian currency system has on several occasions, within recent times, proved inefficient, and has involved the Government, the commercial classes, and the general public in serious losses. Unfortunately it is not easy to detect either the exact cause of the trouble or what remedies are appropriate, with the result that controversies have ensued, which have been the more heated since the system has not been on a "natural" basis, but has depended upon Governmental policy and control, and because the problems involved concern the relations between internal and external values, and hence lay an alien Government open to the accusation that their policy has been dictated by the desire to promote external, rather than internal, interests.

The particularly unsatisfactory periods have been (*a*) during the last quarter of the nineteenth century, when the progressive decline in the gold value of the rupee involved a great strain on State revenues; (*b*) the last two years of the war, when the world shortage of bullion, and world-wide changes in the level of prices and in exchange, dislocated the working of the Indian

[1] "In the pre-war year there were twelve Exchange Banks doing business in India. By 1922 the number had risen to eighteen. Before the war the aggregate capital and reserves amounted to £38 millions, while in 1922 the figures stood at £112 millions. Indian joint stock banks with a paid-up capital and a reserve of Rs. 5 lakhs and over have increased from 18 in 1913 to 27 in 1921, while smaller banks increased from 23 in 1913 to 41 at the present time" (*Moral and Material Progress of India*, 1924–25, p. 145).

[2] *Ibid.*, p. 146. [3] *Ibid.*, 1926–27, p. 237.

currency and exchange systems; (*c*) the post-war period, up till about 1925, when both price and exchange fluctuations caused widespread commercial difficulties (and losses), whilst the policy adopted involved the Government in serious direct financial loss, and provoked accusations of manipulation in favour of British interests. The dissatisfaction and suspicion aroused during this latter period also led to far-reaching criticisms of the means eventually adopted to stabilize exchange.

In order to understand the problems and controversies involved it is necessary to describe briefly the currency system of the nineteenth century, and to trace subsequent developments, attempting to discover, in so doing, how far the unsatisfactory features have been due to the nature of the system adopted, or to the way in which the system has been controlled, and how far they have been the inevitable outcome of disturbed conditions throughout the world as a whole.

Under the early rule of the East India Company, no change was made in the existing currency system of the country. A number of different types of silver rupees and of gold and subsidiary coins were in circulation, issued from several independent mints at various centres, including some belonging to the East India Company. It was not until 1835 that a standard silver rupee and half-rupee were made legal tender throughout British India. Gold mohurs and various copper coins continued to be issued and to circulate, but were not legal tender.[1] Silver bullion was coined into rupees without limit on presentation at the Calcutta and Bombay mints, and as after 1873 the gold value of silver fell rapidly and continuously, this resulted in an excessive issue of rupees which, for nearly two decades, undermined the stability of the whole financial system, and seriously disturbed the commercial and financial relations between India and England.[2] Eventually it was realized that the adoption of a gold standard was the only way to avert disaster, and on the recommendation of the Herschell Committee the Indian mints were closed (in 1893) to the coinage of silver. The object of this measure was gradually to reduce the number of rupees in circulation, until the gold value of the rupee rose to 1*s.* 4*d.* (even if silver bullion continued to depreciate), and then to bring gold coins into circulation and thus alter the basis of the system from silver to gold. For the time being the rupee alone remained full legal tender, but it was stipulated that sovereigns and half-sovereigns could be tendered in payment of sums due to Govern-

[1] An attempt, in 1868, to make the golden sovereign legal tender side by side with the silver rupee was frustrated by the decline in the gold value of silver that set in about that date, and in 1870 an Act was passed according to which the silver rupee became again the only form of legal tender.

[2] *V.* chap. xiv, p. 393.

ment (at the rate of 1*s.* 4*d.* to the rupee), and that gold coin and bullion could be brought to the mints and exchanged for rupees at the same rate.[1] Thus rupees could be claimed in exchange for gold coins or bullion, but there was no obligation to give gold in exchange for rupees, although in administrative practice the policy was generally followed of giving either gold sovereigns or bills payable in sterling in London in return for rupees.[2]

These measures succeeded in checking the decline in the gold value of the rupee, and by 1898 the rate of exchange had risen again practically to par (*i.e.* 1*s.* 4*d.*). The problem of how to maintain the rate of exchange at this level, and to introduce a gold standard, was considered by the Fowler Committee of 1898, which recommended that the sovereign (and half-sovereign) should be made legal tender ; that anyone presenting gold in India should have a right to rupees in exchange at the rate of 1*s.* 4*d.* ; that a gold currency should be introduced ; and that a special gold reserve should be established. Accordingly, in 1899, the sovereign and half-sovereign were made legal tender side by side with the rupee, at the rate of 1*s.* 4*d.*[3] By this time the rupee had become a token coin, as owing to the cessation of coinage it was now current at a value greater than that of the silver bullion that it contained ; but the final step towards the gold standard was not taken, as Government still did not undertake to give gold in exchange for rupees, and it is the absence of this latter obligation that has been the chief peculiarity of the Indian system.[4] An attempt was made in 1900 to bring gold coins into circulation with the idea of avoiding additional silver coinage, and gradually introducing a gold standard, but this completely failed, gold falling to a considerable discount. A run upon silver nearly exhausted the treasury reserves,[5] and it was then decided " to allow the composition and volume of the currency to adjust itself

[1] The latter was provided for by notification, not by law (J. M. Keynes *Indian Currency and Finance*, p. 6).

[2] *Ibid.* This practice was suspended on the outbreak of war (*v.* M. S. Jevons, *The Future of Exchange*, p. 9).

[3] The Act of 1899, making the sovereign and half-sovereign legal tender at the rate of 1*s.* 4*d.*, was the only actual statutory provision for fixing the rate of exchange. A notification was issued at the same time giving anyone the right to present sovereigns or refined gold at the Bombay Mint, and receive rupees or notes in exchange, at the rate of 1*s.* 4*d.* This notification was withdrawn in 1906 and replaced by one that said that rupees could be claimed only on presentation of gold sovereigns, not (as formerly) of sovereigns or bullion. The Currency Commission of 1913 proposed that the former notification should be reissued, but this was not done.

[4] Nevertheless, as explained above, Government did to a great extent make gold and rupees freely convertible by voluntarily tendering gold in exchange for rupees.

[5] Government was unable to cash currency notes in rupees in many districts. Both notes and sovereigns went at a discount (*Report of the Currency Commission*, 1913, p. 9).

automatically to the condition of trade through ebb and flow of gold." [1] Government therefore resumed the issue of rupees early in 1900.

At the beginning of the twentieth century this system worked well, and the value of the rupee (or "rate of exchange") only fluctuated slightly, never deviating much from par.[2] In practice the number of rupees in circulation was adjusted by watching the fluctuations in the nature of the paper currency reserve, and taking steps to restore the ratio by the issue or withdrawal of rupees, if any disturbance occurred. Stabilization was also promoted by careful regulation of the sale of Council Bills, or, if necessary, of Reverse Councils.[3]

Hence, at the beginning of the twentieth century, the former disastrous decline in the gold value of the rupee had been checked, and a system had been devised by which in normal times the rate of exchange could be stabilized within reasonable limits.

Side by side with the metallic coinage a paper currency has been issued since 1861. After this date paper notes were issued by Government from its head offices at Calcutta, Bombay, Madras, Rangoon, and a few other places.[4] They were only legal tender locally, but in practice could generally be cashed throughout India.[5]

In 1903 the first step was taken towards the institution of an Imperial Paper Currency, by making the five-rupee note legal tender throughout British India.[6] A reserve, called the "Paper Currency Reserve," was held against these notes up to their full

[1] *Imperial Gazetteer*, vol. iv, p. 518. V. *Chamberlain Commission Report*, 1913, p. 9.

[2] *Moral and Material Progress of India*, 1911–12, p. 165.

	Average Rate of Exchange. Pence to the Rupee.
Decade ending 1862–63	23·920
,, ,, 1872–73	22·754
,, ,, 1882–83	19·525
,, ,, 1892–93	14·984
For the year 1894–95	13·100
,, ,, 1896–97	14·454
,, ,, 1898–99	15·979
,, ,, 1899–1900	16·068
,, ,, 1900–1	15·973
,, ,, 1901–2	15·980

1902–3 to 1911–12 : the average rate varied between 16·002 and 16·930.

[3] *V.* chap. v, p. 116, and pp. 413, 414 below.

[4] *I.e.* Allahabad, Lahore, Calicut, and Karachi (*Moral and Material Progress of India*, 1911–12, p. 167).

[5] *Imperial Gazetteer*, vol. iv, p. 522.

[6] The Indian Paper Currency Act (II) of 1910 codified and amended the system and universalized the Rs. 10 and Rs. 50 notes. In 1911 the Rs. 100 note was also universalized (*Moral and Material Progress of India*, 1911–12, p. 168).

value, partly in British and Government of India securities, partly in gold and silver coin or bullion.[1]

After the rupee had become a token coin, current at a rate above the intrinsic value of its bullion content, it was decided to set aside the profits on mintage as a special reserve to be held in London, mainly in sterling securities.[2] The interest thus obtained was to be added to the reserve. This new reserve was at first called the " Gold Reserve " and was held entirely in England, but since 1906 it has been called the " Gold Standard Reserve " and has been held partly in India and partly in England.[3] It provides cash in India and in London, which can be used, in connection with the sale of Council Drafts and Reverse Councils, to maintain parity between the rupee and sterling.

Up till 1904 Council Bills were sold in London by the Secretary of State simply as a means of enabling India to discharge her debts on account of the " Home Charges," and the volume of sales was regulated according to the amount required annually for that purpose,[4] but since that date the volume of Council Drafts put on the market has no longer been limited by the need for remittances on account of home charges, but has become a " very important part of the general mechanism for the maintenance of the Gold Exchange Standard." [5] That is, whenever there is a temporary (probably a seasonal) demand for more currency in India, indicated by a rise in the sterling value of the rupee, instead of increasing the coinage of rupees (which might be undesirable in the long run, and create an excess of rupee currency) Council Bills are sold in London and presented in India, calling into circulation rupees from the Government reserves.

[1] The amount of the fiduciary issue, *i.e.* of the amount of notes issued against securities (as opposed to coin or bullion), was limited to Rs. 4 crores in 1861, but raised in 1871, 1890, 1896, and 1905, at which date it reached Rs. 12 crores (of which Rs. 2 crores might be securities in the United Kingdom). In 1911 it was again raised, namely, to Rs. 14 crores (of which Rs. 4 crores might be securities in the United Kingdom). In spite of this increase in the volume of the fiduciary portion of the paper currency reserve, the proportion of the invested portion to the total reserve fell from 44·9 per cent. in 1871–72 to 28·8 per cent. in 1911–12, on account of the rapid increase of paper currency in circulation (*v.* H. L. Chaplani, *Indian Currency and Exchange*, p. 19).

[2] Gold was not needed by the Government in India, but was wanted in England for the purchase of silver for the rupee currency and for the payment of Home Charges. The object of holding it in the form of securities was to prevent it from being a dead-weight burden on India.

[3] Part of the reserve held in India was in silver, which obviously in no way helped to maintain a store of gold to be used in emergency. In 1907 it was decreed that half the profits on coinage should be diverted from the reserve to the promotion of railway improvement, but owing to the insufficiently rapid growth of the reserve this policy was abandoned in 1912.

[4] Actually the annual need for remittances from India to England was diminished by the amount of capital borrowed during that year by India in England.

[5] A notification was issued by the Secretary of State in 1904, signifying his willingness to sell drafts on India (Council Bills) without limit, at the price of 1*s.* 4$\frac{1}{32}$*d.* (J. M. Keynes, *op. cit.*, p. 106).

Conversely, if the rupee falls below par the Government can suspend the issue of Council Bills, and let rupees paid in taxation accumulate in Government treasuries, or even call in rupees by selling Reverse Councils in Calcutta, to be cashed in gold in London.[1]

By this means the Secretary of State could draw upon the Gold Standard Reserve to meet commitments in England, when (owing to an adverse balance of trade) the exchange value of the rupee threatened to fall, in order to avoid increasing the issue of rupees in India which would be necessary if he sold Council Drafts. Similarly the Government of India could support exchange by selling Gold Bills on the Secretary of State (to be met from the reserve) and by withdrawing from circulation the rupees received in return for these bills.

The smooth working of this system was seriously tried on only one occasion during the pre-war period, and then the fault appears to have lain rather with the administrative working of the system than with the system itself. The emergency arose out of the financial collapse that occurred in the United States in 1907. This caused a sudden decline in the demand for Indian produce, which was aggravated by a partial failure of the monsoon, and was unfortunately accompanied by a heavy arrival of imports in response to long-dated contracts.[2] Thus the normal balance of trade was reversed, the demand for rupee remittances fell off rapidly, Council Bills became unsaleable, and the Secretary of State had difficulty in meeting the demands made on him for gold in London. The theory was that on occasions of this kind the Gold Standard Reserve would be available, but as a matter of fact its resources were not sufficiently liquid, so that it was necessary to limit drastically both the amount of gold released by the Secretary of State, and the sale of Sterling Bills on London at gold-export point,[3] with the result that exchange fell to 1*s.* $3\frac{11}{16}$*d.*, and the financial position of the Secretary of State was temporarily severely shaken. These measures tided over the crisis and prevented any further slump in exchange, whilst the excess of imports was checked after a while and the export trade gradually revived. Eventually normal conditions were restored, but it was felt that the system had not proved satisfactory, and in particular it was widely contended that a gold currency should have been introduced, as recommended by the Fowler Committee of 1898, so

[1] "The management of the Gold Standard Reserve is governed neither by Act nor by notification, but by administrative practice solely; and the sale of Council Bills on India and of sterling drafts on London (*i.e.* Reverse Councils) is regulated by announcements changeable at administrative discretion from time to time" (J. M. Keynes, *Indian Currency and Finance*, p. 10).

[2] *Indian Year Book*, 1914, p. 340. A lag in imports caused trouble again in 1920–21 (v. chap. xiii, p. 337).

[3] The reserve was held not in cash but in securities (£14 millions) and in money at short notice (£50,000), *ibid.*

that temporary commercial and exchange disturbances might have been met by the free movement of gold. In addition, critics of the currency system said that the sale of Council Bills by the Secretary of State in excess of his needs on account of Home Charges prevented the export of gold from England that was really needed in India,[1] and forced into circulation in India an excessive number of rupees. This argument has recently been revived by Mr. Ambedkar,[2] who asserts that the gold exchange system is incapable of maintaining the value of the rupee even in normal times, and that the rise in prices during the pre-war period was due to an over-issue of rupees.

Here Mr. Ambedkar fails to distinguish between the stabilization of exchange and the stabilization of the internal price level.[3] In the pre-war period the currency policy was directed towards the stabilization of exchange, in which it was substantially successful (except during the crisis of 1907–8), as is shown by the narrow limits to the fluctuations in the gold value of the rupee. But as gold prices were rising in the world market, a stable exchange value of the rupee necessarily implied rising rupee prices. Actually, owing largely to improved communications, there was also an approximation of the low general price level in India to that outside, so that prices rose rather more in India than in Europe or America. The increased circulation of rupees and rupee paper was, therefore, assuming the maintenance of stable exchange, the necessary consequence, and not the cause, of the rise in prices.[4]

Criticism was also directed against the location and use of the Gold Standard Reserve. It was said that the location of the reserve in London deprived India of a large accumulation of resources which might have been utilized for the economic and social advancement of the country, or for the reduction of taxation, and that it failed even to support exchange (its primary function) as it was invested in short loans instead of being held in cash. Hence it was asserted that English merchants obtained the benefit of the reserve which had been built up at the expense of the Indian tax-payer, as the administration of the reserve was entirely in the hands of a small Finance Committee of the India Office, from which all Indian influence was excluded, so that in fact London banking interests had final control of the policy adopted. The suggestion was made that the gold standard reserve should

[1] It was pointed out that Council Drafts were frequently sold at rates below gold export point, and therefore prevented the natural flow of gold into India.

[2] *The Problems of the Rupee*, by B. R. Ambedkar (1923), chaps. vi and vii.

[3] *V.* the *Economic Journal*, March 1923, "Professor Jevons and the Indian Exchange," by J. M. Keynes, p. 63.

[4] *V.* chap. xvi, p. 449.

be held in India, partly in gold and partly in securities or money at short notice.

In 1912 all these criticisms of the currency system were brought to a head by the purchase of a large quantity of silver by the India Office for coinage purposes in India from Messrs. Montagu & Company, instead of through their "recognized and constituted agents" the Bank of England. As a matter of fact the object of this purchase was "to avoid being fleeced by a group of Bombay speculators who had more or less cornered the market"[1] in silver, in expectation of Government purchases through their usual agency. Nevertheless the proceeding appeared sinister to the critics of Government, who had no means of knowing the object of the change in procedure. The agitation that ensued[2] resulted in the appointment of a "Royal Commission on Indian Currency and Finance," under the chairmanship of Mr. (now Sir) Austen Chamberlain, which reported in 1914.

The Report discussed fully the working of the system in the past, and the various criticisms directed against it, giving special attention to the question of introducing an actual gold coinage, and to the location and administration of the gold reserve.

With regard to the introduction of an actual gold coinage, the Commission pointed out that "the circulation of gold on a moderate scale only"[3] would be of no substantial use, from the point of view of support to exchange, and that "the circulation of gold on a large scale, at any time in the near future, must necessarily be at the expense of the existing reserves and, so far from increasing the gold in the country, must have the effect of making what gold there is less available for the support of exchange,"[4] whilst the coinage of gold would necessarily be much more expensive to Government than the coinage of rupees, on which a substantial profit was made. In the absence of a gold

[1] *Indian Financial Management*, by M. R. Sundaram Iyer, 1913 (pamphlet). For an account of the whole transaction *v.* P.P. 400 (1912), "Return of Correspondence with the Bank of England and Messrs. Samuel Montagu & Co. relating to the purchase of silver in 1912." The object of the secrecy observed was to prevent the market in silver rising against the Government of India (*v.* the *Economist*, August 24, 1912, p. 364, "The Silver Market").

[2] This question has never been fully investigated, but the *Economist* (November 30, 1912) expressed the opinion that "The reckless attempts by certain persons in Parliament and the Press to damage the Government of India in the eyes of the public still continue, and appear to be developing into a kind of anti-Semitic campaign." In reply to questions in Parliament as to the dates at which certain (Jewish) firms were placed on the India Office list of approved borrowers, it appeared that these additions were made in 1889, 1900, 1903, and 1904, during which years Lord George Hamilton, Lord Cross, and Mr. Brodrick successively held the office of Secretary of State for India. The *Economist* says: "We have added the name of the Secretary of State for India in the case of each of the firms indicated by Mr. Gwynne, as it makes Mr. Gwynne's insinuations against the present Government of a desire to favour unduly foreign or Jewish firms look particularly absurd."

[3] *Report of the Royal Commission on Indian Currency and Finance*, 1914, p. 17.

[4] *Ibid.*, p. 18.

currency, a gold mint was obviously an unnecessary expense, but the Commission recommended that the notification—which had been withdrawn in 1906—stating that refined gold (as well as sovereigns) could be presented at the Bombay Mint in exchange for rupees or notes at the rate of 1*s.* 4*d.*, should be reissued.[1] The general conclusion was, therefore, that the gold exchange standard "was not only workable, but in the absence of any developed banking system was admirably adapted to the country on account of its cheapness. . . . A gold currency and a gold mint the Commission considered to be unnecessary."[2]

On the question of the gold reserve, the Commission said that a reserve was required in India not in order to secure the convertibility of rupees within India, but only in order "to provide a reserve sufficient to convert into sterling such amount of rupees as may at any moment seek export."[3] On the other hand a reserve was required in London sufficient to meet all demands for remittances to London in times of crisis, and to provide for the payment of Home Charges, at times when Council Drafts were not in demand.[4] In addition, the maintenance of the reserve in London enables the Government to avoid unnecessary indebtedness in London (where Government loans are normally raised), and to take advantage of the fact that London is the centre of the world's money market, which reduces the burden on the Indian taxpayer on account of the reserve. Moreover, when the reserve is kept in London, money can be transferred to England at a time when exchange is favourable.[5] Were the reserve located in India, money—if urgently wanted—would have to be transferred immediately, irrespective of the conditions of transference.[6] It was estimated that in 1907–8 some £18 millions were needed for the reserve, and the Commission suggested £25 millions as a possible figure to cover all likely demands. The suggestion that it had been kept in England in order to supplement the reserves of the Bank of England was entirely repudiated.

Although the location of the reserve in London was upheld, the Commission stated unequivocally that the actual system as worked was most unsatisfactory. The Secretary of State's reluctance to part with gold in 1907 was severely condemned as

[1] *Report of the Royal Commission on Indian Currency and Finance*, 1914, p. 20. This recommendation has not yet been put into effect.

[2] *Ibid.*, p. 53.

[3] *Ibid.*, p. 21.

[4] Mr. Findlay Shirras points out that reserve should be in London because its purpose is not merely to meet Home Charges when exchange prevents the sale of Council Drafts, but to liquidate an unfavourable balance of trade to the extent necessary to prevent exchange falling below the specie point (*Indian Banking and Finance*, p. 220).

[5] *Report of the Royal Commission on Indian Currency and Finance*, 1914, p. 32.

[6] *Ibid.*, p. 23. If the reserve were "kept in India it would have to be shipped to London to be used."

showing " some misapprehension of the real use of the Reserve." Still more important was the composition of the reserve, as undoubtedly the amount held actually in gold ought to be increased. The Commission therefore recommended that the reserve should be substantially increased, that it should remain in London, and that not less than one-half of the total should be kept in actual gold. In addition, in order to prevent the Secretary of State from withholding gold in times of emergency, it was recommended that the Government of India should give " a definite undertaking to sell Reverse Drafts whenever called upon to the utmost extent of its resources." [1] This recommendation has subsequently been adopted by the Finance Committee of the India Office.[2] A number of subsidiary recommendations of great practical importance were also included in the Report, aiming chiefly at making the note issue more elastic, in accordance with the seasonal demands of trade. With the same object it was also suggested that Government should have more licence to utilize its reserves in India in the interests of the internal trade of the country at busy periods.[3] Finally, in explanation of the accumulation of excessive balances in London it was pointed out that, owing to the exceptional uncertainty of Indian revenues, the custom had been adopted of framing estimates with a large margin of error on the " safe " side. The result has been that in good years the balance has been unnecessarily large.

The outbreak of war delayed full consideration of this Report and the adoption of its major recommendations, although some of the minor recommendations (including those regarding the action to be taken during a falling exchange) were adopted almost immediately. During the war the system remained essentially the same as it had been since 1898, but naturally special measures had to be taken in order to meet the extraordinary, though temporary, difficulties of the situation.

It had always been anticipated that the difficulty to be encountered in any financial crisis in India would be a fall in the gold value of the rupee, and that measures would have to be directed, as in 1907, towards maintaining its gold value. For a short while immediately after the outbreak of war these expectations were fulfilled. There was a sudden demand for sterling bills on London—which, after only a very brief delay, was fully met—and at the same time there was a run on the Indian currency offices owing to a demand for the encashment

[1] Findlay Shirras, *Indian Banking and Finance*, p. 220.

[2] *Indian Year Book*, 1923, p. 241. In 1915 the rupee holding of the Indian branch of the reserve was abolished.

[3] The way in which the defects of the " Independent Treasury System " have been recently remedied by the creation of the Imperial Bank of India has already been described (p. 406 above).

of the paper currency and a heavy withdrawal of deposits from the Post Office Savings Banks. The situation was handled calmly and wisely, the demand for sterling bills and for the encashment of notes abated, and post office withdrawals ceased. After a short time the problem took a new and unexpected turn. The difficulty which now had to be faced was not a demand for sterling remittance and gold, but for rupee remittance and silver coin. This new difficulty was caused by the exceptionally heavy "favourable" balance of trade,[1] the accumulation of Indian resources in England, and the difficulty experienced in transferring them from England to India,[2] which resulted in an immense reduction in India's imports of gold[3] and a consequent increase in the demand for silver.

Great difficulty was experienced in satisfying this demand, which contributed, with many other forces, to a rapid rise in the price of silver, and a tendency for the bullion value of the rupee to rise above its face value.

From 1916 onwards the price of silver began to rise rapidly. In India not only was there an enormous mintage of rupees, but as silver had become the only available precious metal, it was utilized largely for ornaments and for hoarding. In September 1917 the Government of India instituted control over the trade in silver and prohibited export under licence. In order further to economize metallic resources, paper currency of low denomination (Rs. 2½ and R. 1 notes) and a nickel two-anna piece were introduced, and the Government resorted to greatly increased issues of paper money.[4] Between 1915 and 1919 the legal limit of the invested portion of the Paper Currency Reserve (*i.e.* of the fiduciary issue) was increased from Rs. 14 to Rs. 120 crores.[5] Early in 1918 the position became very grave. All countries were practising a "jealous economy" of their metal reserves, the United

[1] Due both to the increased demand for Indian goods and to the difficulty in obtaining European goods for India.

[2] By 1922 about £70 millions of Indian money had been thus accumulated in England, where it was lent out at low interest to London bankers (*Indian Year Book*, 1923, p. 240).

[3] Not only was there difficulty in transferring gold, but there was great difficulty in procuring gold at all. Most "gold-standard" countries refused to part with their supplies. In June 1917 the Government of India issued an order requiring all gold imported to be sold to Government at a stated price, and prohibited the use of gold or silver coin for any except currency purposes. The gold thus bought was placed in the Paper Currency Reserve, whilst gold disappeared from circulation, after a period during which it went at a heavy premium.

[4] During 1918–19 the circulation of R. 1 notes increased from Rs. 33 to Rs. 10,51 lakhs, and that of Rs. 2½ notes from Rs. 18 to Rs. 1,66 lakhs (*v.* H. L. Chablani, *Indian Currency and Exchange*, p. 23).

[5] Inflation continued throughout the period of Budget deficits. Professor Jevons explains that the Budget deficits were met by resort to "created securities" and that this is equivalent to inflation (*The Future of Exchange*, pp. 52, 137). The Government issued paper currency (which went straight to the Treasury balances) against its own artificially created Treasury Bills.

States had entirely prohibited the export of silver, and the world's annual output of silver had declined since 1914, mainly owing to civil war in Mexico. It seemed as if no more silver could be had at any price, and as the bullion reserves in India were becoming rapidly depleted, it was feared that it would become necessary to go over to an inconvertible paper currency. In addition, bad news from the Continent brought about a run on the currency offices and a crisis seemed imminent. The situation was just saved by an arrangement with the American Government, whereby in April 1918 the latter agreed to give up part of their silver reserve and sold no less than 200 million ounces to the Government of India.[1]

Meanwhile the price of silver rose from 27¼ pence per standard ounce in 1915 [2] to no less than 43 pence in August 1917, a point at which the value of the silver bullion in the rupee equalled its exchange value (*i.e.* 1*s.* 4*d.*).[3] Thereafter the price of silver continued to rise in consequence of intense demand from China, and there was therefore a tendency to melt and export rupees.[4] Between May 1918 and April 1919 the price of silver oscillated between 47¾*d.* and 50*d.* per standard ounce. In May 1919 the United States and British Governments withdrew control over the silver market, which rose to 79⅛*d.* in December 1919 and to an apex of 89½*d.* in February 1920. From that time onwards it began to fall.

After August 1917, therefore, it no longer paid to coin rupees at the rate of 1*s.* 4*d.*, and the Government was driven to the conclusion that the maintenance of the pre-war currency and exchange system was impracticable.

Meanwhile the attempt to prevent a corresponding rise in the rate of exchange had broken down, and from August 1917 a marked rise began and exchange reached the high average rate of 1*s.* 10$\frac{3}{32}$*d.* in 1919.[5] By this time the Secretary of State, instead of needing to buy gold in London by the sale of Council Drafts in order to meet the Home Charges, found himself overwhelmed with resources in England.[6] Government could not, however, entirely stop the sale of Council Bills, as there was urgent commercial need for remittances to India in payment for the exceedingly heavy " favourable " balance of trade, but it limited the sale

[1] V. *Report of the Committee on Indian Finance and Currency*, 1919, Cmd. 527, p. 7.

[2] This was the highest price reached in 1915.

[3] H. L. Chablani, *Indian Currency and Exchange*, 1925, p. 73.

[4] Professor H. S. Jevons remarks that undoubtedly very large quantities of rupees were melted after August 1917 (*The Future of Exchange*, p. 37).

[5] V. *Statistical Abstract British India* for detailed figures of the rise in exchange.

[6] During the war the Indian Government was called upon to disburse no less than £240 millions on behalf of the British Government, for which repayment was made in London.

to a certain amount per week.[1] These were sold at a rate fixed from time to time by the Secretary of State, who confined his sales to persons on an "approved" list. At the same time a widespread appeal was issued to merchants asking them to give voluntary preference in applying for remittances to articles needed for war purposes.[2] Until the bullion value of the rupee rose above 1*s.* 4*d.* (*i.e.* in August 1917), no marked change in the rate of exchange was made, but when this point was reached the Secretary of State was "compelled to raise . . . the rate at which he sold this limited amount of his council drafts."[3] Hence the rate of exchange increased from an average of 1*s.* 4$\frac{1}{2}$*d.* in 1916 to 1*s.* 10$\frac{3}{32}$*d.* in 1919.[4] Even thus the demands of trade could not be satisfied, and war expenditure and the raising of war-loans in India also greatly extended the need for currency in India. In addition the rise in the value of silver and fluctuations in the exchange value of the rupee upset trade and commercial calculations, and introduced an unhealthy element of speculation. Hence a committee was appointed in 1919 to inquire into the currency system with the special object of re-establishing the stability of exchange.

The committee reported in December 1919, and was much impressed by the urgent need for the adoption of a policy which should immediately restore stability and the automatic working of the system, and serve as a permanent basis of policy.[5]

Unfortunately, in formulating a "permanent" policy, the committee appears to have overlooked the temporary (and abnormal) nature of the prevailing financial circumstances, and hence its recommendations were based on two assumptions, neither of which was subsequently substantiated. These were that a balance of trade strongly in favour of India would be maintained and that the price of silver would remain high.[6]

In order to attain its ends the committee proposed that the ratio between the rupee and gold should be altered (in order to avoid any large change in the existing level of exchange); the new rate to be one rupee to 2*s.* gold—*i.e.* that R. 1 should be exchangeable for 11·80016 grains of fine gold.[7]

The decision in favour of relating the rupee to gold rather than to sterling was taken partly in order that a permanent basis should be adopted right away, and partly in order to obtain a

[1] The amount sold varied between Rs. 120 and Rs. 130 lakhs per week (H. L. Chablani, *Indian Currency and Exchange*, p. 73).
[2] *Moral and Material Progress of India*, 1917–18.
[3] H. L. Chablani, *op. cit.*, pp. 73, 74.
[4] *Statistical Abstract*, 1912–13 to 1921–22, pp. 196, 197.
[5] *Report of the Babington-Smith Committee on Indian Finance and Currency*, 1919, Cmd. 527.
[6] V. *Indian Year Book*, 1923, p. 246.
[7] *Report of the Committee on Indian Finance and Currency*, 1919, Cmd. 527.

greater appearance of autonomy. It is clear that the committee gave serious attention to the effects of exchange policy on the level of prices, and that in preferring stabilization on a "gold" rather than on a "sterling" basis it was influenced by a (mistaken) apprehension of a further fall in the gold value of sterling.[1] Similarly in fixing the ratio at 2*s.*, consideration was paid to the possibility of a further rise (rather than a fall) in the price of silver, and the possibility of an "adverse" balance of trade was not contemplated,[2] whilst it was argued that a high exchange would be advantageous to the Government by decreasing the burden of Home Charges.

A number of supplementary recommendations were also made with regard to such matters as the reopening of the sale of Council Drafts and Reverse Councils by open tender, releasing trade in gold and silver bullion,[3] the reopening of the Bombay mint,[4] the strengthening of the Gold Standard Reserve,[5] and increasing the metallic portion of the Paper Currency Reserve.[6]

In the light of subsequent events it is clear that although the ideals of the committee were excellent, the best means of attaining the desired ends were not adopted. Moreover, the policy of deflation adopted in England as a result of the Cunliffe Report of 1919[7] led to an appreciation in the gold value of sterling. The subsequent change in the nature of India's trade balance, and the fall in the price of silver, undermined the whole scheme. A system that can be upset by events of this order is obviously unsound.

The report of the committee was issued in December 1919,

[1] The mistake was that it did not go quite far enough. Under the circumstances it might have been better had it aimed deliberately at the stabilization of internal prices, and given up, for the time being, all idea of stabilizing the exchange value of the rupee. *V.* chap. xvi, § 2, p. 458.

[2] Mr. Keynes speaks of the "bogey" which mainly influenced the Currency Committee of 1919, "of silver rising in price so much that the bullion value of the rupee would exceed its currency value" (*Economic Journal*, March 1923, p. 62).

[3] Both these proposals were accepted.

[4] The Bombay Mint was made into a branch of the Royal Mint for the coinage of sovereigns for a short time during the war. Later, when some technical difficulties arose, gold mohurs of the weight and fineness of the sovereign were coined. Subsequently the Mint was again closed. In 1922 the Finance Minister said that it would be reopened directly a demand for gold coins arose (*Report of the Royal Commission on Indian Finance and Currency*, 1925–26, *Minute of Dissent*, p. 106).

[5] The Committee suggested that part (not more than 50 per cent.) of the reserve might be held in India, but this proposal was not adopted.

[6] The Government adopted a slightly modified form of this proposal. In October 1920 it reduced the fiduciary limit to Rs. 85 crores, as a preliminary step. It then proceeded to attempt gradually to reduce the fiduciary issue to that point at which it did not exceed the value of the metallic portion of the reserve, in order that the fiduciary portion should never exceed 50 per cent. of the total circulation of paper currency. It order to increase the elasticity of the currency it has also been provided that notes may be issued against commercial bills (maturing not later than at ninety days) up to a limit of Rs. 5 crores (*v.* H. S. Jevons, *The Future of Exchange*, pp. 15, 16, 17).

[7] V. *Report of the Committee on Currency and Foreign Exchange after the War*, 1918–19.

when exchange stood at 2*s.* $4\frac{29}{32}$*d.* sterling,[1] and was adopted by the Government of India in February 1920—at which time sterling exchange was 2*s.* $8\frac{5}{16}$*d.*—but the announcement that the official ratio was changed from Rs. 15 to Rs. 10, per sovereign, did not come into effect until June 1920, by which time exchange had fallen to 1*s.* $10\frac{1}{16}$*d.* sterling. Meanwhile there had been a sensational fall in the sterling value of the dollar, owing to the adoption by the British Government of the Cunliffe Report. The effect of the notification of June 1920 was, therefore, to raise the official rate of exchange high above the market rate, just at a time when, after many successive years of "strength" (*i.e.* of a "favourable" balance of trade), Indian trade was beginning to show signs of "weakness."[2] The notification necessarily accentuated this tendency. The export trade was hard hit, whilst imports—particularly of textiles—were stimulated.[3] Hence, in 1920, there was a heavy balance of trade against India, and the first assumption of the committee was falsified. Government tried to maintain exchange by selling Reverse Councils at a loss, hoping to carry on until a revival took place in the export trade. The money market became hopelessly disorganized; much speculation was induced by the difference between the rate for Reverse Councils and the market rate, and a great and entirely artificial transference of capital from India to England took place, in order to obtain the gain on exchange afforded by the Government's offer of Reverse Councils at a rate far above the market rate. The Government made one more effort at stabilization by announcing that the rupee would be stabilized at 2*s.* sterling instead of at 2*s.* gold. On September 8 an Act was passed by the Legislative Council, declaring the sovereign legal tender at Rs. 10.[4] This had little effect, and shortly afterwards Government stopped the sale of Reverse Councils and gave up all attempts at controlling exchange, and the rupee fell to less than 1*s.* 4*d.*

The failure of this experiment naturally brought vials of wrath upon the Government. "A policy which was avowedly adopted to secure fixity of exchange produced the greatest fluctuations in the exchanges of any solvent country and widespread disturbance of trade, heavy losses to Government, and brought hundreds of big traders to the verge of bankruptcy."[5] £55 millions of Reverse Councils were sold without seriously

[1] The rates quoted are for exchange on London at four months' sight. V. *Statistical Abstract.*

[2] *V.* chap. xiii, p. 337.

[3] Other adverse factors, such as the check to the Japanese demand for Indian cotton, were also at work.

[4] This Act was only repealed in March 1927, although in reality £1 had for a long time been worth far more than Rs. 10. *V.* H. S. Jevons, *The Future of Exchange*, p. 136.

[5] *Indian Year Book*, 1925, p. 244.

reducing the premium on gold, at a loss of Rs. 35 crores.[1] Had this policy not been adopted a fall in exchange early in 1920 would have tended to correct the adverse balance of trade (*i.e.* imports would have been checked and exports stimulated). As it was, exporters could not sell, and importers ordered more and more goods, in anticipation of a high exchange, which eventually they could not dispose of, after exchange slumped in the autumn of 1920.[2]

The results were disastrous.[3] Government suffered a severe direct loss of revenue; Indian reserves of sterling and sterling securities were dissipated; trade was dislocated even more than it would have been by the free movements of the exchange, and the whole policy raised suspicion and bitterness. In the absence of any intelligible explanation of the proceedings, it was even asserted that there had been a deliberate plot to stimulate British exports at the expense of India. The difficulty of the situation was aggravated by a remarkable decline in the price of silver, owing chiefly to the course of Chinese trade. Rupees began to flow into the Currency Reserves, partly because gold once more began to replace silver in India as a "store of value" (*i.e.* in hoards or for jewels), and partly because of the increasing popularity of the note-issue.

After September 1920 exchange was left to find its own level. It remained low in 1921 and 1922 (1*s.* $4\frac{5}{8}$*d.* and 1*s.* $3\frac{31}{32}$*d.* on an average respectively), but rose to an average of 1*s.* $4\frac{3}{8}$*d.* in 1923, 1*s.* $5\frac{5}{8}$*d.* in 1924, and 1*s.* $6\frac{7}{16}$*d.* in 1925. In August 1925 a Royal Commission on Indian Finance and Currency was appointed, under the chairmanship of Mr. Hilton Young, "to examine and report on the Indian exchange and currency system and practice, to consider whether any modifications are desirable in the interests of India, and to make recommendations."

The main recommendations of the report, issued on July 1, 1926,[4] fall under three headings: (1) The supersession of the old sterling[5] exchange standard by a gold standard, without, how-

[1] Rs. 35 crores was the difference between what Government gave, and what they could get, for the rupees that they accepted in return for Reverse Councils (sterling in London).

[2] This explains the defalcation of many Indian importers, who said that Government had guaranteed a 2*s.* rupee.

[3] The sale of Reverse Councils at a loss ranks with Dyarchy, the Caliphate policy, and the position of Indians in Kenya, as one of the greatest grievances that have agitated India since 1914 (v. *Times*, September 11, 1922).

[4] Cmd. 2687 (1926).

[5] Up to this point the system introduced at the end of the nineteenth century has been called the "gold exchange standard" in accordance with ordinary usage. Sir Basil Blackett pointed out in his memorandum to the Hilton Young Currency Commission that it would be more logical and convenient to speak of the "sterling exchange standard," as the rupee was linked directly with sterling, not with gold. This nomenclature has therefore been adopted in the following pages.

ever, the introduction of an actual gold currency; (2) the adoption of a new legal ratio—namely, 1*s.* 6*d.*—for the rupee; and (3) the creation of a new Central Bank, to be known as the "Reserve Bank."

(1) In the first place the Commission had to choose between three possible bases for the Indian currency: a return to the old sterling exchange standard, the adoption of a gold standard with a gold currency, and the adoption of a gold standard without an actual gold currency. It rejected the old sterling exchange standard on the score that it had been discredited, and that "in order to secure public confidence in India, the currency of the country must be linked with gold in a manner that is real and conspicuously visible."[1] The proposal to adopt a gold standard with an actual gold currency was rejected as undesirable on account of the expense and of the disturbance to the world's gold and silver markets that would be involved, and as impossible, even if it were desirable.[2] An actual gold coinage—which articulate Indian opinion appears strongly to favour—may ultimately be both desirable and practicable, but it seems clear that a rapid transition would involve far-reaching dislocation, and that, in particular, the hoarding habit must first be drastically modified. The recommendation was therefore made that "the stability of the currency in terms of gold should be secured by making the currency directly convertible into gold, but gold should not circulate as money."[3] According to this scheme convertibility is to be secured by obliging the proposed new Central Bank to buy and sell gold without limit at a fixed legal ratio, "in quantities of not less than 400 fine ounces of gold."[4] The ordinary medium of circulation is to remain, *i.e.* the currency note and the silver rupee, and the silver rupee is to remain legal tender, but the existing legal tender quality of the sovereign and half-sovereign is to be removed.

These proposals were accepted by the Government of India but have not yet been translated into law.[5]

It is difficult to see what advantages this system has over the old sterling exchange system. It can hardly achieve the object of linking rupees with gold in a manner "real and conspicuously visible to the people as a whole," and although a gold standard has been adopted it is "only with complicated

[1] Cmd. 2687 (1926), p. 21.

[2] "It is estimated that the scheme for a gold standard worked out by the Indian Finance Department, assuming gold in circulation, would require the acquisition of £103 millions of gold over a period of ten or eleven years, quite apart from the sums going in the ordinary way into hoards." (Midland Bank, *Monthly Review*, August-September 1926.)

[3] Cmd. 2687 (1926), p. 86.

[4] *Ibid.*, 400 ounces of fine gold is equivalent to Rs. 22,650, or £1,700.

[5] *V.* p. 429 below.

qualifications that deprive it of any special superiority it may possess "[1] over the old sterling exchange system. Unless or until a gold standard with an actual gold currency can be introduced, the old sterling exchange system, with certain modifications and improvements such as those suggested by Sir Basil Blackett,[2] would have been more appropriate.[3]

The sterling exchange standard has the advantage in times of comparative price stability of keeping the Indian price level in accordance with world prices: it worked well, on the whole, before the war; it is cheap; the rupee is a convenient unit in India; and the linkage with sterling is convenient in normal times, in view of the close trade relationships between India and the United Kingdom. Its disadvantages are that in times of great instability in world prices it subjects India to great fluctuations in the internal price level; it is only satisfactory as long as sterling remains at par with gold;[4] it is a "managed" and not an automatic system, and hence depends upon the judgment of those who control it; and it offends the sensibilities of Indian nationalists, who look upon it as an "inferior article."

The dangers inherent in a return to the old sterling exchange system could be minimized by realizing, as Sir Basil Blackett puts it, that "in essence the problems raised by the existence of the silver rupee with unlimited legal tender characteristics are rather those associated with note issue than those associated with a metallic currency," and by approaching these problems "from the standpoint that the silver rupee is essentially a note printed in silver rather than a token coin."[5] Moreover, the adoption of the modification proposed by Sir Basil Blackett would go far to remove the worst dangers inherent in a "managed" system.

It must not be forgotten, however, that the silver rupee is inferior to paper currency in that it is more expensive to issue, and because the maintenance of a stable rupee exchange depends upon

[1] Midland Bank, *Monthly Review*, August-September 1926.

[2] "Memorandum on the Indian Currency System" (*Report of the Royal Commission on Indian Finance and Currency*, 1926, vol. ii, appendix 7).

[3] With this might have been incorporated the scheme of savings certificates, redeemable in three or five years in gold or legal tender, at the option of the holder, or before maturity in legal tender only, proposed by the Committee in order to prepare the way for the eventual circulation of gold in India. This scheme has been said to be "the only evidence of the gold standard which will appeal to the native" included in the recommendations of the Commission (Midland Bank, *Monthly Review*, August-September 1926).

[4] It should not be forgotten that no country can manage its currency system without drastic modifications during a period of extreme instability. Even countries with a full gold standard were obliged to resort to inconvertibility and inflation during the recent war. If India had a true gold standard and actual gold currency, her currency problems would not be solved once and for all. There is little reason to expect that sterling will depreciate in value except under circumstances that would in any case involve the Indian currency system in difficulties.

[5] *Report of the Royal Commission on Indian Finance and Currency*, vol. ii, appendix 7.

the price of silver remaining below the point at which the bullion value of the rupee would be greater than its exchange value.[1]

(2) In the second place the Currency Commission had to fix a new rupee ratio. We have seen that exchange fell heavily in 1920–21 and in 1921 reached a point just below 1*s.* 3*d.* sterling (about 1*s.* gold). In January 1923 it began to recover, reaching 1*s.* 6*d.* sterling (1*s.* 4*d.* gold) in September-October 1924, and has since oscillated about this point. As sterling was restored to parity with gold in the summer of 1925, exchange has since then stood at about 1*s.* 6*d.* sterling *and* gold. Meanwhile, at the time the Currency Commission reported, the index number of wholesale prices in Calcutta had reached a point (157 in July 1925) practically equivalent to that attained by the index number of prices in the United Kingdom.[2]

The Currency Commission therefore concluded that an equilibrium of Indian prices and exchange in relation to the world situation had once more been attained, and recommended stabilization at the new rate of 1*s.* 6*d.*

Sir Purshotamdas Thakurdas asserted in opposition to this view that in fact the greater part of the adjustment of Indian to external prices at the one and sixpenny ratio had yet to come, and that the existing rate of 1*s.* 6*d.* had been attained by the deliberate action of Government during the period preceding the appointment of the Hilton Young Commission.[3] He therefore maintained that stabilization of exchange at 1*s.* 6*d.* would entail deflation. In addition there was the possibility of a fall in gold prices throughout the world as a whole in the near future.[4] These two factors, both tending in the direction of lower prices, would undoubtedly inflict serious injury on Indian producers. "I cannot but contemplate such a prospect," said Sir Purshotamdas Thakurdas, "with very serious misgivings, for it will hit the Indian producer to an extent beyond his capacity to bear. In a word, it will hit, and hit very hard, four-fifths of the population of the country that exists on agriculture."[5] In all this he represented Bombay opinion, especially that of the mill-owners.

In spite of considerable opposition, both within and outside

[1] *V.* "The Indian Currency Report of 1919 and After" (*Economica*, October 1921), in which Mr. Burns remarks on the "inconvenience of allowing the standard to be affected by the bullion value of token coins."

[2] Taking 1914 as the basis of exchange, in both cases.

[3] *V.* Minute of Dissent. Sir Purshotamdas Thakurdas accused the Government of deliberately refraining from taking advantage of the opportunity of stabilizing at 1*s.* 4*d.* (gold) in September-October 1914, and then of forcing up exchange to 1*s.* 6*d.*

[4] *V.* Professor Cassel's views summarized in the *Times* of November 1, 1926, "City Notes."

[5] Minute of Dissent (p. 130 of the Report).

the Legislature, the "Rupee Ratio Bill" fixing the new ratio of 1*s.* 6*d.* eventually became law in 1927.[1]

It is difficult to decide how far the rate of one and sixpence was attained "naturally," or as a result of deliberate policy, and whether or not the price level had, in 1926, become fully adjusted to the new rate of exchange,[2] but the actual course of events suggests that producers on the whole have not been injured thereby. The continuance of the depression in the cotton mill industry may be attributed to a number of other causes,[3] whilst it should not be forgotten that although mill-owners would have been helped by the return to a one-and-fourpenny rupee, the real wages of the operatives would have been thereby reduced.[4] Hence it appears that Sir Purshotamdas Thakurdas used the term "producers" in a very restricted sense. Moreover, the return to a one-and-fourpenny rupee would have increased the rupee cost of the home charges, and involved a Budget deficit in place of a surplus, which—although the actual burden of taxation might not have been affected by any increase in taxation necessitated thereby [5]—would have increased the financial difficulties of both the Central and Provincial Governments.

In the third place the Currency Commission recommended the creation of a new Central Bank. It made out a clear case for the concentration of the control of currency and credit in the hands of a single authority. Hitherto Government by supplying the currency exercised paramount control over monetary matters, and therefore limited the Imperial Bank's control over the supply of credit. The Commission proposed that in order to achieve unity of policy a new organization should be established, to be known as the "Reserve Bank," which should be given the sole right of note issue,[6] be entrusted with the cash balances of the Government (both in India and in London) and all the remittance operations of the Government, and receive the banking reserves of all banks operating in India.

The establishment of a Central Bank controlling the issue of

[1] The Government of India accepted all the main recommendations of the Hilton Young Report and embodied them in three important bills. The first aimed at the immediate stabilization of the rupee at 1*s.* 6*d.* and (as said) has already been passed. The second bill includes proposals for establishing the type of gold standard currency described above, and for constituting a Central Reserve Bank. The third bill aims at enlarging the powers of the Imperial Bank.

[2] *V.* the summary of Sir Basil Blackett's arguments in favour of fixing the rate at 1*s.* 6*d.* in *Moral and Material Progress of India*, 1926–27, p. 89.

[3] *V.* chap. xi, p. 268 *et seq.*

[4] *I.e.* by tending to inflate prices. V. *Moral and Material Progress of India*, 1926–27, p. 111.

[5] *Ibid.*, pp. 77, 93.

[6] It was proposed that after a certain period the Government's paper currency should cease to be convertible by law into silver coin, but that it should be the duty of the Bank to maintain the free interchange of the different forms of legal tender.

currency, regulating exchange, conducting the Government's banking and remittance business, and in a position to exercise functions with regard to credit control comparable with those of the Bank of England, would go far towards the desired introduction of monetary autonomy, and would help to improve India's credit system by providing more extensive discounting and acceptance facilities,[1] and thus assisting the mobilization of India's potential capital resources. It was proposed that the new "Reserve" Bank should be a shareholders' bank, like the Bank of England, and independent of political control, as it was realized that with the introduction of responsible government the executive must inevitably be subjected to a "degree of political pressure from which credit and currency ought to be wholly free."[2] It is this recommendation which—as will be seen—has so far prevented the proposals from being passed into law.

The most controversial aspect of these recommendations is the proposal that a new institution should be created, instead of adapting the Imperial Bank. Many argue that this would undermine the status of the Imperial Bank. The Commission, however, for reasons which are not adequately explained, asserted that if the Imperial Bank were "required to discharge the duties of a true Central Bank" its charter would have to be amended in such a way as to preclude it from undertaking many of its present functions as a commercial bank. It therefore concluded that there was need in India for both a "Reserve Bank" and for the Imperial Bank; so that the latter (being freed from some of the restrictions imposed by its charter) would be enabled to give India the widespread banking facilities that are urgently required.[3]

The main recommendations of the Currency Commission with regard to the introduction of a (qualified) gold standard and the institution of a Reserve Bank were referred in March to a Joint Committee of both Houses of the Legislature, which introduced far-reaching amendments, and the amended Bill was discussed in the Legislative Assembly in August and September 1927. The main amendments proposed were: (*a*) That the bank should be a State bank, not a shareholders' bank; (*b*) that political influence should not be excluded, but should be expressly provided for by the direct election of three directors by the Central Legislature and three by the Provincial Legislatures; (*c*) that either the

[1] "The development of a discount market and an acceptance business would mobilize India's immense potential capital for the development of India's own resources." (*Moral and Material Progress of India*, 1926–27, p. 234; *v.* also p. 230 *et seq.*)

[2] *Times*, February 11, 1928.

[3] The same results might, surely, be more simply achieved by instituting a separate issue department in the Imperial Bank, as in the Bank of England.

governor or deputy-governor should be an Indian; (*d*) that gold mohurs should be minted.

The principle of a shareholders' bank had been adopted by the Government expressly in order to exclude political influence and pressure, but the Congress Party feared that in practice the shareholder system would transfer power from the Secretary of State to industrial financiers centred in Bombay or Calcutta.[1] The opposition to the Government Bill emanating from this quarter was reinforced by that of the gold currency enthusiasts and by those who disliked the Reserve Bank scheme altogether, and it was therefore obvious that the original Bill could not be carried.

Sir Basil Blackett, the Finance Minister, attempted to save the Bill by compromise, and offered extensive concessions,[2] but was unable to discover a basis of agreement. Eventually the Government (on September 12, 1927) withdrew the Bill entirely, as it appeared impossible to reconcile the principles of the Currency Commission with any proposals acceptable to the opposition.[3] The whole scheme, together with the promised improvements in India's currency and credit systems, is now indefinitely postponed.

Amongst the minor recommendations of the Commission may be included the long overdue proposal that the paper currency and gold standard reserves should be amalgamated, and that the proportions and composition of the combined reserve should be fixed by statute. This would eliminate the unnecessary complications and duplication of the existing system,[4] and would reduce the size of the total reserve held.

The Commission made no recommendation with regard to the location of the Indian reserve. Although highly controversial this question is, in reality, of quite minor importance. We have seen that under the sterling exchange system the gold reserve was actually used in London, and if it had been kept in India it would have had to be shipped to England before performing its primary function of supporting exchange. If a gold standard system were introduced, according to which exchange would be supported by the actual sale of bullion for rupees, the reserve would be needed in India. But the Hilton Young type of gold standard would prevent the purchase of bullion from becoming a profitable

[1] This is an example of the deep cleavage that exists between the Indian Agrarians and Industrialists.

[2] Sir Basil Blackett went so far as to offer to accept a State (instead of a Shareholders') Bank, and the election of six directors by electoral colleges (which would have admitted a certain amount of direct political influence), but these concessions upset his supporters. It has also been freely asserted that the Secretary of State stepped in and objected to the compromise. V. *Moral and Material Progress of India*, 1927–28, p. 272.

[3] *Times*, February 11, 1928.

[4] At present there is no definite ratio between the Government notes in circulation and the sterling and gold reserves held against them. The functions of the two reserves are not clearly distinguished and demarcated.

transaction in ordinary circumstances, and hence the reserve would be needed in London as formerly. The most important principle involved appears to be whether or not Indian opinion ought to be consulted. If, after due consideration, Indians prefer the slightly greater expense of location in India, or think that this expense would be offset by the use that might be made of part of the reserve by Indian traders, then I can see no valid reason for opposing the suggestions, so far as a large part of the fund is concerned.

From the above account, and from the description given in previous chapters of recent commercial and financial developments,[1] it can be seen that the maintenance of a stable currency and exchange is vital to industrial and commercial prosperity, and to the State revenues, whilst these latter, and the general level of prices (which is dependent upon the currency and exchange system) affect the standard of life of the whole community.

There is general agreement that the system in force before 1893 had become unsatisfactory, and that the subsequent reforms did effect great improvements. The "gold-exchange" or "sterling exchange" standard succeeded in maintaining the exchange value of the rupee, suited the needs of the people, and worked smoothly in normal times. On the other hand, as it was based on the stabilization of the rupee-sterling exchange, it was liable to be upset by fluctuations in sterling-exchange (*e.g.* during the war) and did not provide for any control over the price level. Although defects of this type are almost inevitable under present-day conditions of world interdependence, their adverse effects have been aggravated in India by the suspicion aroused by the fact that currency control has been largely at the discretion of the (alien) Government. Even before the war it was strongly urged that the system should be placed on a more automatic basis.

The difficulties of the war period were the inevitable outcome of world-wide conditions, and necessitated special emergency measures. Unfortunately the measures adopted after the conclusion of the war to re-stabilize the rupee were based on an inadequate view of the problems involved, and not only failed to prevent fluctuations in exchange or prices, but involved the Government in a heavy, direct financial loss,[2] and also led to accusations of a breach of faith with traders.

These experiences converted the Government to the view that it was necessary to introduce more fundamental reforms, in particular a greater measure of autonomy. The proposals made were, as we have seen, linked up with a scheme for the extension and improvement of banking and credit facilities, which would

[1] *V.* chaps. xiii and xiv.
[2] *I.e.* on the sale of Reverse Councils.

have been of far-reaching benefit to economic development in general.

Unfortunately they did not obtain the support of the Legislature, owing to the omission of certain provisions upon which the opposition laid great emphasis; in particular the introduction of an actual gold coinage and of political control over the proposed Reserve Bank.

The main objection to the former proposal, although it is undoubtedly favoured by Indian opinion, is that it would necessarily force up the purchasing value of gold all over the world, and cause great depreciation of silver. It would thus create great difficulties in all international commerce and monetary transactions, increase the burden of debts in all gold-using countries, and inflict heavy losses on all purchasers of silver (*e.g.* in U.S.A.), and on all holders of silver (*e.g.* in India). It could not be carried out without the active co-operation either of the United States, which controls most of the existing supply of gold, or of Great Britain, as the British Empire produces most of the world's output. Neither of these Powers would be justified in co-operating with so foolish and disastrous a policy.

As for the proposals of the Legislative Assembly for political control over the Reserve Bank, they are absolutely opposed to the accepted doctrines of all banking and financial experts outside India.

Thus the reluctance of the Government to accede to the wishes of the Legislature is far from arbitrary, and is due to concern for public well-being, rather than to any lack of consideration for the wishes of the people.

Meanwhile the withdrawal of the Reserve Bank Bill has in effect restored the system in force before the war, and it may reasonably be expected that, with the help of past experience, it will in future work at least as well, if not better than, it did then. On the other hand, it is unfortunate that no steps should be taken to improve the banking system either by establishing a special Reserve Bank or—better still—by extending the functions of the Imperial Bank.

CHAPTER XVI

THE PROSPERITY OF THE PEOPLE

§ 1. THE MAIN CAUSES OF FLUCTUATIONS IN PROSPERITY IN INDIA, p. 433.

The important part played by the monsoon, epidemics, the financial situation, internal political movements, and external events with regard to fluctuations in prosperity—The primary importance, in the Governmental sphere, of the construction of public works and of financial policy—A short review of the main periodic fluctuations in prosperity since the end of the nineteenth century.

§ 2. CHANGES IN *PER CAPITA* INCOME, p. 438.

Estimates of per capita *income in India—The problem of whether or not India's total production is sufficient to support the population—The diet of the people—The problem of distribution—The burden and incidence of taxation.*

§ 3. PRICES, WAGES, AND THE COST OF LIVING, p 445.

Price and wage changes as an index of changes in prosperity—An examination of the actual course of prices and earnings in India—The relatively greater increase in Indian than in world prices up to 1914, *and its effects—Price changes since* 1914, *and their effects—Conclusion that whilst the pre-war price changes tended to increase prosperity, those since* 1914 *have tended to decrease it, but have been counteracted by other factors —Circumstantial evidence in support of the statement that prosperity has increased—Intensive wage studies in Bombay Presidency—Conclusions.*

§ 1. THE MAIN CAUSES OF FLUCTUATIONS IN PROSPERITY IN INDIA

THE trend of recent economic development in India has now been reviewed in each of its principal aspects, but no attempt has been made to estimate the effects of the developments described on the prosperity of the country as a whole, and on the conditions of the labouring classes—*i.e.* the masses of the people—in particular. In the present chapter an attempt will be made to supply this defect, by examining the evidence with regard to changes in the standard of life of the people (especially of the masses), with special reference to *per capita* income, prices, wages, and the cost of living.[1] Before, however, proceeding to the details of such an

[1] Insufficient statistical data exist to enable us to draw any cut-and-dried conclusions, but there is a certain amount of both direct and indirect evidence relevant

inquiry, attention must be drawn to the nature and outstanding causes of the seasonal and periodic fluctuations in prosperity that have been experienced.

The course of such fluctuations can be readily followed in the decennial reports on the "Moral and Material Progress of India," published between 1872–73 and 1911–12, and in the annual reports since the latter date.[1] Space forbids any attempt to reproduce the relevant facts here, but many of them have already been discussed incidentally, in connection with the accounts given of developments in each of the main economic spheres.

In a predominantly agricultural country, such as India, it is obvious that we must pay primary attention to fluctuations in the prosperity of the cultivators, with whom, owing to mutual interdependence, may be classed the bulk of those engaged in the indigenous industries.

Here we find that the nature of the monsoon (which may involve floods, as well as drought) has been, and still is, of primary importance, as (in spite of the development of large-scale industry and of foreign trade) after all the bulk of the people still depend for subsistence upon their own produce. The nature of the harvest influences directly the revenue of the State, the cultivators, those engaged in the indigenous industries, the demand for imports, and all engaged in transporting, preparing for the market, and exporting the produce of the soil. No other single factor, whether a change in economic policy, a change in the position of large-scale industries, or some widespread change in commercial conditions, can compare in importance with the monsoon. For this reason pride of place must be given, amongst all the activities of the Government, to those which have affected the famine problem : *i.e.* to the construction of railways and irrigation works, and to the steps taken to introduce scientific methods of cultivation and in other ways (such as by the institution of co-operative credit societies) to improve the position of the cultivators.

A second fundamental cause of short-period fluctuations in prosperity has been, and from time to time still is, the appearance of devastating epidemics of diseases such as plague, cholera, and influenza. These have caused widespread migrations, especially from the great ports and other industrial centres, in addition to the actual loss due to the increased death and sickness rates, and their economic results have swamped in importance those due directly to industrial or commercial causes. Public health

to the problem under consideration, particularly for the period since 1900. It is, however, difficult to draw any conclusions for the period since 1914, as the outbreak of war gave rise to a series of conflicting changes, whilst it is still difficult to distinguish fundamental, permanent tendencies from amongst the confused mass of currents and cross-currents that have been at work.

[1] Unfortunately the publication of decennial reports has been discontinued.

measures, which are, of course, also concerned with improvements in the general standard of health (and thus affect the general level of efficiency, as well as the purse of the people and of the State), must, therefore, be given an extremely prominent position amongst the activities of the State that affect the prosperity of the people.

Thirdly, we come to the financial position and policy of the Government, including therein the regulation of currency and exchange. The appreciation of gold after 1873 (which increased the burden of India's external debt), the exchange crisis of 1920, and the budget deficits between 1918 and 1923, stand out as prominent causes of widespread depression and lack of prosperity.

Fourthly, a series of internal political movements have had far-reaching economic effects. The best-laid economic schemes may go awry, if not in conformity with the wishes of the people. It would, however, be a mistake to suppose that political agitations such as the *Swadeshi* movement in and after 1905, and Gandhi's non-co-operation movement (of 1921), have invariably acted in the direction of retarding material progress, even of progress towards larger-scale organization. On the contrary they have also entailed a quickening of interest in public life in general, and in local and economic matters in particular, which (in the long run) can only result in economic benefit. India has suffered in the past from disdain for economic occupations, especially those entailing technical manual training and skill. This attitude is slowly weakening under the influence of the desire on the part of the educated classes to gather the threads of economic life into their own hands. They are beginning to realize that economic emancipation presupposes technical training, and financial and managerial ability and integrity.

Similarly, these movements have opened the eyes of many educated Indians to the need for public service on, for instance, local governing bodies, and in the co-operative movement. Many public-spirited Indians—at least in the three presidency towns—now devote their lives to inconspicuous spade-work of this description. But the demand for such service is still far greater than the supply.

The reaction of external events, such as of certain nineteenth-century wars (for instance, the American Civil War), the opening of the Suez Canal, the commercial crisis in America in 1907, and —above all—the World War, on prosperity in India, has also obviously been of vast importance. Most of these events are clearly entirely beyond the control of the Government or people of India, but with the growth of international organizations and co-operation, Indian representatives are beginning to take part in the formation of international opinion and policy, through the

League of Nations, the International Labour Organization, and many other bodies, official and voluntary.[1]

In many cases even fluctuations in prosperity which appear to be directly caused by changes in the industrial or commercial sphere, will be found to have been ultimately due to one or more of the factors just mentioned, in comparison with which all others have been of minor importance.

In the Governmental sphere undoubtedly the construction of public works (with their reactions on agriculture, the famine problem and commerce) has influenced general prosperity more than anything else, whilst the second place must be given to financial policy (in its broadest sense). Other Governmental actions have stimulated or retarded economic development from time to time, but in no other case have they stood out prominently as the main cause of any marked increase or decline in prosperity, although their relative unimportance does not, in the slightest degree, absolve the Government from responsibility on their account.

In proof of these assertions, let us glance quickly at the main fluctuations in prosperity that have occurred since the end of the nineteenth century.

The last decades of that century were marked by a depression due to bad harvests, the plague, the decline in the gold value of the rupee, and lack of revenue. During the early years of the twentieth century, India gradually recovered from this depression, experiencing good harvests and a rapid expansion of trade, to which the stabilization of exchange contributed in no small degree. In 1905 the political *Swadeshi* movement, led by Mr. Tilak, affected industry and commerce adversely, and the rise in the general level of prices began to assume formidable proportions, but nevertheless industrial and commercial progress continued.

A short depression occurred between 1907 and 1909, owing to the failure of the rains in 1907 (and therefore of the harvest in 1908) and to the financial crisis in America in the same year. In 1909 a distinct recovery took place, only checked before the outbreak of the war by the financial crisis of 1913, primarily due to over-speculation and unsound financial methods. On the whole, marked economic progress and great prosperity characterized the period from 1900 to 1914.

The outbreak of war at first caused dislocation and then led to an increased demand for certain Indian products and to the formation of an almost complete monopoly of the home market for

[1] India has independent representation on the League of Nations and allied organizations, and many examples of the effects of international co-operation have been quoted in previous chapters. *V.* chap. iv, p. 92, chap. vii, p. 182, and chap. xii, p. 324. See also *Moral and Material Progress of India*, 1926–27, p. 239, and 1927–28, p. 205.

Indian industrialists. Although the war caused the dislocation of industry and trade, yet India's peculiar relations with the principal belligerents, and her geographical relation to the main centres of war, gave her incidental (if temporary) advantages, and greatly stimulated economic enterprise in general, and the economic efforts of the Government in particular. Throughout the war the monsoon never once failed badly, and no outstanding epidemic occurred. The chief disturbing factor was the rise in prices, especially the relative rise in the prices of imports.

Nature appeared to be holding her hand for the duration of the war. No sooner was peace concluded than the monsoon failed and a terrible influenza epidemic broke out. The failure of the rains in 1918 was as widespread as any previously recorded failure. As we have seen,[1] no cases of actual starvation were reported, owing to the efficiency of the famine relief organization and to the improved economic condition of the people, which permitted them better to withstand the shock of famine, but no doubt the failure was indirectly responsible for a large number of deaths. Owing to the crop failures of 1918, Governmental control over the exports of foodstuffs, instituted during the war, was retained, and was enforced (until 1922) more drastically than at any time during the war. Meanwhile the influenza epidemic left havoc in its train.

In 1919 fairly normal rainfall was experienced, but in 1920 there was again a partial failure. This was accompanied by a world-wide crisis and depression, and by the gathering strength of the non-co-operation movement in India. The cry of " back to the charkha " (*i.e.* spinning wheel) and the boycott of imported piece-goods checked foreign trade. Exchange difficulties and fluctuations, and the decline in trade affected the yield of the revenues, and the Government was unable to balance the Budget, and hence to pursue a constructive economic policy. The organized industries were hard hit, and, indeed, economic stagnation became general. Good harvests were reaped from 1921 to 1924 (inclusive), and an economic revival gradually made itself felt, spreading slowly from agriculture to trade and certain industries. The monsoon was less satisfactory in 1925 and 1926, but fairly normal in 1927 and 1928, and the total volume of foreign trade has about attained its pre-war level, internal trade has increased, whilst both agriculture and industry are prosperous on the whole, with the exception of one or two particular industries.[2]

This short review illustrates the continuance of India's exceptional liability to far-reaching seasonal and periodic fluctuations in prosperity, and the important part played therein by the monsoon, epidemics, finance, and political movements and events (both internal and external). The question now arises whether

[1] Chap. i, p. 16.

[2] For instance the cotton-mill and coal industries.

or not it is possible to trace, beneath these fluctuations, any more permanent tendency towards an increase (or the reverse) in prosperity in general, and in the prosperity of the masses in particular. An answer to this question will be sought in the following pages.

§ 2. CHANGES IN *PER CAPITA* INCOME

No one can deny that there has been a great increase in the total annual production of India since the early part of the nineteenth century, and since 1900, but it is less certain whether there has been an increase in production relative to population. Attempts have been made from time to time to estimate directly the annual *per capita* income of India, and even to institute a comparison with average incomes in other countries, but it must be stated unequivocably that the material does not exist for the compilation of even approximately reliable estimates of this description, and that the estimates actually made cannot possibly be compared with those compiled for other countries.[1]

There are peculiar difficulties in making an estimate of the total national income of India. In the United Kingdom the problem has been approached by adding up (*a*) the values of goods and services produced and of net imports, and (*b*) the incomes of all the individual members of the community.[2] The latter is the more accurate method, and yields results which are more useful from the point of view of an analysis of the relative prosperity of the various classes and of individuals. The calculations are based on Inland Revenue Returns and fairly complete records of wages and salaries.[3] Comparable figures do not exist for India, and no attempt at a similar estimate has ever been made. The method of adding up the value of the total production of the country is the one that has been followed, but even here existing datum is very inferior. No attempt at estimating directly the value of mill and workshop production, let alone the production of fisheries and cottage industries, merchants' and retailers' charges and profits, repair work, transportation charges (other than by rail) and, most important of all, personal services, with

[1] The use of estimates of average *per capita* incomes for comparative purposes, even with reference to countries that possess essentially similar civilizations and that have reached the same state of economic development (for instance the United Kingdom, France, and Germany), has been condemned by statistical authorities. The idea of instituting any such comparison between the average *per capita* income in, for instance, India and the United Kingdom, is nothing less than ludicrous. (*V.* "Note of Dissent" to the *Report of the Indian Economic Enquiry Committee*, p. 97.)

[2] *V.* A. L. Bowley, *The Division of the Product of Industry*, 1921, p. 14. Professor Bowley also quotes the estimate of the *Report on the Census of Production*, p. 59.

[3] *Ibid.*, p. 6, and pp. 14 and 15.

any degree of accuracy can be attempted.[1] The estimates made have almost all been based entirely upon agricultural production, with the addition of an arbitrary allowance for the value of industrial production.[2] But full material does not even exist for an estimate of the total agricultural production.[3] The most that can possibly be claimed for the estimates made is that those that have been compiled on the same basis do give some indication as to whether the average income has tended to increase or to decrease, although they may not represent accurately the actual average income at any one time.

Let us, therefore, shortly review the estimates of average *per capita* income in India that have been made from time to time.

Mr. Dadabhai Naoroji calculated that in 1870 the average income per head of population was Rs. 20 per annum.[4] In 1882 Lord Cromer (then Major Evelyn Baring) referred to an official calculation, the basis of which was never published, that estimated the average income at Rs. 27.[5] A very elaborate calculation referring to British India only was made by Mr. F. J. Atkinson for the years 1875 and 1895.[6] He estimated an average *per capita* income of Rs. 30·5 in 1875, and of Rs. 39·5 in 1895, but the basis for many of his figures was very inadequate,[7] and tended to exaggerate the average income. Nevertheless, as these inaccuracies occurred in the calculations for both years, his figures at least lead one to suppose that there was a tendency towards an increase in *per capita* income. A more reliable estimate—and one which has been generally accepted—is that of Lord Curzon, for 1901, that the average income was not less, and might be more, than Rs. 30.[8] Mr. Findlay Shirras, as Director of Statistics, brought Lord Curzon's figures up to date, and concluded that by 1911 the average income had risen to Rs. 50.[9] Both these calculations were based on the assumption that " the income of

[1] *Report of the Indian Economic Enquiry Committee*, 1925, p. 96.

[2] *V.* pamphlet issued by the Publicity Bureau, Madras: " The Agricultural Income of the Madras Presidency," and Mr. Findlay Shirras' *Report on an Enquiry into Working Class Budgets in Bombay*, 1923, p. 11. The basis of the allowance made for the value of industrial production has varied in different estimates. Further details are given below.

[3] *Report of the Indian Economic Enquiry Committee*, p. 17.

[4] *Poverty and Un-British Rule in India*, by Dr. Dadabhai Naoroji. Shah and Khambatta summarize his results (and those of most of the other estimates) in their book *Wealth and Taxable Capacity in India*, p. 62 *et seq.* Dr. Naoroji attempted a direct estimation of industrial and other forms of production.

[5] *V.* N. Bose, *The Economic Aspect of the Montagu-Chelmsford Reform Schemes*, p. 9.

[6] *Journal of the Royal Statistical Society*, June 1902.

[7] For instance, he apparently entirely overlooked the fact that some 10 million tons of foodstuffs should be deducted from the total agricultural production annually for seed, cattle food and wastage.

[8] *Lord Curzon in India*, vol. i, p. 99.

[9] *Report on an Enquiry into Working Class Budgets in Bombay.* By G. Findlay Shirras, 1923, p. 11.

agriculturists and non-agriculturists is distributed between the two classes in proportion to their numbers . . . Thus, if the total agricultural produce or income so-called in 1911 was Rs. 876 crores, and if the non-agricultural population was three-eighths of the agricultural population, then the non-agricultural income so-called is three-eighths of Rs. 876 crores, *i.e.* Rs. 328 crores." The total income would then be Rs. 876 crores plus Rs. 328 crores, namely, Rs. 1,204 crores. This divided by the population gives a *per capita* result of Rs. 49·6 or nearly Rs. 50.[1] A more elaborate and probably more accurate calculation made at the same time concluded that Rs. 80 would be nearer the mark.[2]

A calculation of average income in the Madras Presidency alone in 1919–20, made on the same basis as the more elaborate of Mr. Shirras' estimates, suggests Rs. 102 as a fair figure for that year.[3] Before comparing this with the pre-war estimates allowance has to be made for a considerable fall in the purchasing power of the rupee. The Madras Publicity Bureau points out the difficulty of comparing real incomes in 1919–20 and at the beginning of the century on account of the rise in prices, but estimates that " during the past twenty years there has been an increase of about 40 per cent. in average income reckoned in rice."[4]

Next may be mentioned the estimate of the 1921 Census that the *per capita* income in the Bombay Presidency was, in urban districts (excluding Bombay city itself), about Rs. 100, and in rural districts about Rs. 75.[5] Finally, we come to the extremely elaborate calculations made by Professors Shah and Khambatta,[6] who, however, unfortunately deliberately excluded from their estimate the value of the services of all classes of workers, which entirely vitiates the international comparisons that they attempt to draw. Further, although the actual calculations made by Shah and Khambatta may, in themselves, be excellent, the figures on which they are based are not reliable.[7] In spite of the inadequate

[1] *Report on an Enquiry into Working Class Budgets in Bombay.* By G. Findlay Shirras, 1923, p. 11.

[2] *Ibid.*

[3] Pamphlet issued by the Publicity Bureau, Madras, in 1921 entitled: *The Agricultural Income of the Madras Presidency.* This computation was most accurate and careful, the probable error being reduced to 5 per cent. in each direction. On the other hand the year chosen was an abnormal one, following a year of great scarcity, as it saw the unusual combination of large output with high prices.

[4] *Ibid.*, p. 6.

[5] *Moral and Material Progress of India,* 1922–23, p. 197. Compare Mr. Jack's calculation for Bengal in *The Economic Life of a Bengal District.*

[6] *Wealth and Taxable Capacity in India,* Parts II, III and IV. Shah and Khambatta quote Mr. Digby's estimate of *per capita* income at the turn of the century, but in view of the notorious bias of Mr. Digby's opinions any comment on his (extremely low) estimate appears superfluous.

[7] This point is well and fully discussed (although not with special reference to Shah and Khambatta's book) in the *Report of the Indian Economic Enquiry Committee,* and admits of no denial.

basis of their computations they concluded that in 1923 there had been an increase of Rs. 2. 2a. 0p. per head in "real" income since the pre-war period. Considering all the dislocations of the war and post-war period, an increase of only Rs. 2. 2a. 0p. in "real" income per head is not extraordinarily small. It is doubtful whether there was any increase at all in income per head between these years in many countries. Nevertheless it is impossible to make a really accurate estimate, and Shah and Khambatta's laborious calculation merely tends to confirm the conclusion reached from an examination of the estimates quoted above, and from circumstantial evidence, that there has been a distinct tendency towards an increase in average income since the end of the nineteenth century, which was most marked between 1900 and 1914, and has since been retarded as a result of the war.[1] Naturally the general level of incomes varies from district to district; it is highest in urban centres where, however, the counterbalancing disadvantages of high rents, overcrowding and temptations to extravagant expenditure must be taken into consideration, and lowest in certain rural districts (such as parts of the Deccan) where the rainfall is precarious and the soil poor.[2]

Per capita income in India has sometimes been calculated by estimating the weight of the principal foodstuffs produced and retained within the country, and dividing by the number of the population. This gives the available foodstuffs, by weight, per head of the population. It has been questioned whether, even assuming equality of distribution, there is a sufficient supply of foodstuffs to maintain the population in health and efficiency.

Mr. Lupton calculated that, in 1919–20, 70·8 million tons of grain and rice, 2·5 million tons of fruit and vegetables and three million tons of sugar were produced in British India.[3] Of this total of 76·3 million tons of foodstuffs some three million tons were exported, leaving 73·3 million tons for consumption. This, divided by the population (247 millions) gives 665 lb. per person per annum, or 1·82 lb. per head per diem. Reckoning on the basis of a family of five persons, consisting of one working male, one working female, one old person and two children (not working), this gives 9 lb. per normal family, which might be divided into 2 lb. per day for the man, 1½ lb. for the (working) woman, 1¼ lb. each for the dependents, and 1¾ lb. to spare. This calculation

[1] Note the assumption still made by some writers that the average income is still only about Rs. 30 per head. V. *Social Service Quarterly*, October 1924, p. 59. Although the exact figure may be debatable, it is folly to ignore all the indications of improvement.

[2] *Moral and Material Progress of India*, 1922–23, p. 198. See also Dr. H. Mann, *Land and Labour in a Deccan Village*, 1917.

[3] *Happy India*, chap. xiii. Another more detailed calculation has been made by D. S. Dubey, "The Indian Food Problem," *Indian Journal of Economics*, July 1920 and January 1921.

makes no deductions for grain needed for seed, nor for cattle food, but on the other hand, milk, flesh, eggs, poultry, fish, and groundnuts are excluded from the assets. Allowing for seed and cattle food, it has been calculated that this 1·82 lb. per head of the population would be reduced to 1·2 lb. per head (not distinguishing between men, women, and dependents).[1]

The following table gives the jail and famine code rations, and the actual consumption of certain working-class families in Bombay.[2]

Bombay Family Budgets	Bombay Jails.		Bombay Famine Code.		Bengal Jails.
	Hard Labour.	Light Labour.	Diggers.	Non-Workers.	
Cereals 1·29 lb. . Pulses 0·09 ,, .	1·5 lb. 0·27 ,,	1·38 lb.	1·29 lb.	0·86 lb.	1·38 lb.

These figures exclude foodstuffs other than cereals and pulses, which in the case of the family budgets, but not of the jails and famine code,[3] are considerable, and exclude sweetmeats, fish, condiments and spices, vegetables, fruit and various refreshments "for which no estimates of quantity are available."[4]

From these figures it can be concluded that, assuming equality of distribution, the 1·2 lb. per head per day available for consumption within the country would provide about as much per person as the jail and famine dietaries. The family budgets show that independent workers in Bombay consume the same amount of cereals as is provided in the Bombay famine code, but that in addition they consume a considerable amount of "other food"; *i.e.* they prefer to spend their money on a fairly varied accessory dietary rather than on increased quantities of the primary necessities of life. This points to the conclusion that an average allowance of 1·2 lb. of cereals per head per day is sufficient to maintain tolerable efficiency, provided that it is supplemented by small quantities of various other articles of diet.

What is needed to improve the stamina of the Indian people is not so much more rice, millets, or wheat,[5] but more foodstuffs containing protein and fat. The existing normal diet, consisting

the Madras pamphlet quoted above.

dlay Shirras, *Working Class Budgets in Bombay.*

does not even include pulses.

ay Shirras, *Working Class Budgets in Bombay.*

ing to Mr. Findlay Shirras, 67 per cent. of the families in Bombay principally rice, 12·9 per cent. of them jowar and bajri, 8·4 per cent. eat flour, and 10 per cent. a mixture of the above in varying pro-ty per cent. were vegetarians. In rural districts more are vege-diet is less varied. *V.* the article by Mr. Dubey on "The Indian *Indian Journal of Economics*, vol. iii.

as it does mainly of cereals, contains excessive quantities of starch.[1] Comparative figures of the dietary of workmen in the United States, of the population as a whole in Japan, and of Madras prisoners compiled by Mr. Das,[2] show that although the latter consume a far smaller total quantity of foodstuffs per head than the two former, they consume considerably more of the starchy foodstuffs.

The conclusion is that in a moderately good year India produces, and retains within the country, enough food to maintain the population in tolerable health and efficiency, assuming distribution to be approximately equal. The margin between sufficiency and scarcity is, however, a very narrow one, and if the monsoon fails over a considerable area there is at least a tendency towards actual insufficiency for the country as a whole, to say nothing of the specially afflicted areas. Nevertheless, there is probably nearly always sufficient food within the country even when the monsoon is subnormal, if export is checked and famine administration is efficient, to prevent actual deaths from starvation. Without increasing the total production of the country, a higher level of consumption could be attained if caste prejudices and customs permitted a better use to be made of existing supplies, to say nothing of what might be effected were attention concentrated upon improving the quality and increasing the quantity of the foodstuffs produced. The present diet is probably even less satisfactory for those engaged in mining and industrial pursuits than for the agriculturists. It is a well-known fact that in Western countries the town populations all consume more meat (and more protein in various forms) than rural populations. It has therefore been suggested that measures should be taken to educate the town populations in dietary principles, and to make readily available supplies of nitrogenous foodstuffs.[3]

So far the question of the adequacy of the food supply has been discussed on the assumption of approximate equality of distribution. The problem of distribution in India in its general outlines does not differ fundamentally from the problem in other countries, but two points of difference may be noticed. In the first place it is obvious that the proportion of comparatively wealthy persons is smaller in India than in most Western countries, although the gap between the richest and the poorest is probably at least as great. In the second place, there is in India even more

[1] Rice is 78·3 per cent. starch.

[2] *Factory Labour in India*, 1923.

[3] For instance a garden inspector in Assam "strongly urged upon Government the absolute necessity for supplying foods containing the essential nitrogenous principles—*i.e.* meat, milk or peas, and pulses" on the plantations (*Asiatic Review*, January 1924), and Miss Broughton in 1923 pleaded for "education in diet" and suggested that Government might supply the more important articles of dietary in industrial centres (*Social Service Quarterly*, January 1923, pp. 182, 183).

urgent need for the accumulation of capital than in the West. Hence it is probable that any immediate and drastic attempt to reduce inequalities would be fraught with more danger and would involve less advantage in India than in the West. This leads us to consider what is the burden and incidence of taxation in India, and whether the incidence could be changed in such a way as to reduce inequalities of income.[1]

Taxation per head of the population has risen from Rs. 2. 4a. in 1891–92, Rs. 2. 6a. 6p. in 1901–2, Rs. 2. 11a. 6p. in 1911–12, to Rs. 4. 2a. 9p. in 1924–25, excluding land revenue.[2] Including land revenue it works out at Rs. 5. 9a. 9p. per head. If local taxation be added, it is increased to about Rs. 8. (12*s.*) per head.[3] Hence, although the incidence per head has increased substantially of recent years, it is still low in comparison with that of other countries, although it is frequently asserted that in relation to *per capita* income it is high, and that India has been heavily burdened with taxes in order to maintain her military and civil services at a higher standard than she needs or can afford.[4]

In the absence of accurate figures of *per capita* income it is impossible to calculate the burden of taxation in proportion to income. Moreover the relative burden of taxation varies greatly in different districts. In order to come to any conclusions as to the burden of taxation it would be necessary to make detailed estimates for a number of representative areas, but no such estimates have yet been made.[5]

From the scanty material available I can only conclude that, on the face of it, India does not appear to have been obviously overtaxed.[6] Taxation has been neither capricious nor uncertain, and, as a rule, good use has been made of the revenue obtained. On the whole, as argued above,[7] increased taxation for expenditure upon directly and indirectly productive services would probably eventually prove to be in the true interests of the masses.

With regard to the incidence of taxation (and of allied revenue demands, such as the land revenue), it has already been seen

[1] V. *Report of the Indian Taxation Enquiry Committee* (1924-25).

[2] V. *Moral and Material Progress of India*, 1901–2 and 1911–12, and *Statistical Abstract for British India*, 1924–25, p. 192.

[3] *Moral and Material Progress of India*, 1924–25, p. 237.

[4] Military expenditure has been calculated to cost, in 1921, 2*s.* 6*d.* per head in India, as compared with 16*s.* per head in Japan, and 75*s.* per head in the United Kingdom (*Journal of the United Services Institution*, vol. iii, October 1922).

[5] One such calculation was made by Mr. J. C. Jack with reference to the Faridpur district of Bengal just before the war (*The Economic Life of a Bengal District*, p. 117). In that district the total revenue demand from all sources worked out at approximately 5 per cent. on income, or 1*s.* in the pound. This low incidence was ascribed by Mr. Jack partly to the " extreme economy and efficiency of the Central Authority " and partly to the neglect of local administration.

[6] This does not, of course, imply that the distribution of taxation might not be improved, nor that in certain districts or instances the burden is not excessive.

[7] *V.* chap. xiv, § 5, where the need for increased expenditure is discussed.

that the burden on the poorer classes has recently diminished,[1] and that there has been an improvement (from this point of view) in the nature of the main resources of the State. We have also seen that with the extension of representative government it might be possible to improve these resources still further, but that under existing political circumstances it is difficult to suggest any such fundamental changes.

§ 3. PRICES, WAGES, AND THE COST OF LIVING

More light can be thrown on the problem of whether there has been any tendency towards increased prosperity in India by an examination of price and wage movements than by considering the unreliable estimates of *per capita* income at various dates. Price movements during the period have been complicated. Firstly, there has been a tendency towards a rise in the general level of prices throughout the period as a whole, whilst, secondly, there have been short-period price fluctuations, and differential changes in the prices of particular classes of articles and in the internal and external price levels, respectively. The results of these various types of price movements on prosperity have not always been in the same direction and it is necessary to distinguish between them. Let us begin by considering the effects on prosperity of the tendency towards a rise in the general level of prices throughout the period as a whole.

Neither rising nor falling prices are necessarily associated with either an improvement, or a decline, in the position of the labouring classes,[2] but it is the causes and conditions of such changes that determine their effects. Most economists are agreed not only that fluctuations in prices cause economic loss, but that any rapid change in the level of prices is harmful. Either complete stability or a very gentle rise or decline (as the case may be) is considered to be desirable. Ignoring for the moment the undoubtedly evil effects of rapid price changes, let us consider the effects on the prosperity of the masses in India of a tendency towards a gradual and continuous rise in prices.

It is generally admitted that every change of prices means that one section gains at the expense of others. A rise in prices injures creditors and all with a fixed money income. On the other hand, all debtors stand to gain, and when the upward trend of prices "is concomitant with active trade," high profits are earned.[3] Moreover, while it is true that wages lag behind prices,

[1] *V.* chap. xiv, p. 388.

[2] A. C. Pigou, *Essays on Applied Economics*, VII.

[3] *Monetary Stability*, by T. R. Bellerby, p. 82. Similarly, as a debtor country, India stands to gain by a decline in the rupee value of sterling (*i.e.* by a rise in exchange) and to lose by an increase.

the wage-earning classes gain in increased employment, and in the increased opportunity of passing into a higher-paid grade of employment. Hence, in a period during which rising prices coincide with active trade, enterprise is encouraged, capital accumulates and is freely utilized. On the other hand, a tendency towards falling prices checks enterprise, injures debtors, and benefits those with a fixed income.

In India the bulk of the people belong to those classes which are benefited by a rise in prices.

The number of persons with fixed incomes is exceptionally small, and the bulk of the creditors are money-lenders, who—although they perform certain useful functions—on the whole act as "blood-suckers," and obtain incomes out of all proportion to their services to society. The number of debtors is exceptionally great—especially amongst the cultivators—and the burden of debt undoubtedly militates against the introduction of better agricultural methods. The mass of the population still consists of peasant cultivators, who, in the main, produce subsistence crops and sell their surplus. If the rise in prices is equally spread, they gain on their sales as much as they lose on their purchases by higher prices, whilst a large proportion of them gain as debtors. They also gain as regards land revenue, as the rate of assessment is altered only at long intervals. Even then the increase in assessment is strictly limited, and does not absorb the whole of any gain that may have accrued to the cultivators. Cash rents also "lag" in relation to prices. Finally, as one of the crying needs of India is for more capital and for the investment of existing capital in productive enterprises, the stimulation to such enterprises of rising prices should be welcomed.

The conclusion is that, other things being equal, a tendency towards a gradual rise in prices in India is beneficial. Further, although during such a period a large share of the benefits tends to fall in the first place into the hands of only a small proportion of the population—namely, the capitalists and leaders of industry—yet indirectly this benefits the country as a whole (including the labouring classes), as it enables capital to be invested in undertakings which increase the demand for labour and the value of the total resources of the country.[1] In a country such as India, where there is such a scarcity of capital goods, any addition to the latter yields rich returns, although it is important that the benefits of prosperity should be extended as quickly as possible to the manual workers, particularly in a form which will increase their efficiency and improve their standard of life.

The main available facts and figures of recent changes in

[1] The application of this theory to countries of advanced economic development I consider to be of more doubtful validity.

prices and earnings in India are the official price statistics, certain rather incomplete wage statistics, and some of the data collected by Mr. Datta in the course of his investigation into the causes of the rise of prices in India between 1890–94 and 1912.[1] The price statistics may be considered as fairly representative of the general trend of price movements,[2] but the wage statistics are admittedly incomplete. Full and regular wage statistics upon an adequate basis have never been collected in India, but one or two reliable reports on wages in particular industries and areas have been issued.[3]

Prices rose rapidly in India between 1900 and 1914—namely, from 118 to 150 (on the basis of prices in 1890–94). The rise was particularly rapid after 1904–5, except during the temporary slump in 1907–8, and the rise was more rapid in India than elsewhere.[4] After the outbreak of the war, prices continued to rise up to a peak in 1920, but during this period the rise was less rapid in India than in most other countries. When the great post-war slump set in, prices fell in India, but the drop was less than elsewhere. Professor H. S. Jevons has shown [5] that if we consider the fall in prices from the highest monthly figure in 1920, down to June 1921, the drop was only 12 per cent. in India, as compared with 41 per cent. in England and 47 per cent. in the United States. From 1922 until the middle of 1924 rupee prices remained fairly steady, after which they again fell during the following twelve months (*i.e.* until June 1925). Since the latter date they have remained fairly steady, with a tendency to fall in sympathy with world prices. Before 1914, therefore, the Indian price level was changing (*i.e.* rising) more rapidly than elsewhere, but since 1914 it has been steadier than the external price level.

In order to realize the significance of these price changes, it is necessary to analyse the figures more closely. The main points to notice are, in the first place, that prices rose on the whole throughout the period; secondly, that up till 1914 internal prices rose more rapidly than the prices of imported goods, and that the prices

[1] *Report on the Enquiry into the Rise of Prices in India* (1914), five volumes. Mr. Datta's report has to be used with caution as his reasoning is unsound. The fallacies in his reasoning have been clearly exposed by H. L. Chablani, *Indian Currency and Exchange*, p. 145 *et seq.* Nevertheless, Mr. Datta's investigations help to throw light on the changes in the prosperity of the people during the period.

[2] V. *Index Numbers of Indian prices*, 1861–1918, with addenda for subsequent years, and Appendix xxiii, vol. iii, of the Committee on *Indian Exchange and Currency*, 1919.

[3] Until 1923 the Government published annually figures of *Prices and Wages in India*, but the figures of wages were admittedly unreliable, and the publication has been discontinued, in accordance with the recommendation of the Inchape Committee. V. *Prices and Wages in India*, 1923, No. 1719, thirty-seventh issue. Wages are given up to 1922 in this publication.

[4] *V.* Table XXIII, pp. 547, 548 and Fig. IX, p. 456.

[5] *The Future of Exchange and Indian Currency*, p. 212.

of exports rose much more than the prices of goods mainly sold in the internal market; and thirdly, that after 1914 the price of imports rose very much more than the price of Indian products, and that the price of goods exported rose even less than the price of goods mainly sold in the internal market. Thus the relation between internal and external prices underwent an abrupt change after the outbreak of the war.

The pre-war rise in Indian prices attracted much attention and caused great uneasiness. Critics of British rule in India asserted that the exceptional rise in Indian prices was a symptom of deep-rooted disease in the body economic. On the other hand, the world-wide rise in prices was accepted as more or less inevitable, and as not entailing any specially evil consequences in India or elsewhere.

The main explanations offered were that British rule had resulted in a shortage of foodstuffs and of raw materials, increased the pressure of population on the soil and hence brought about a lowering of the standard of the life of the people. It was asserted that the construction of railways had stimulated the export of foodstuffs, whilst at the same time the pressure of taxation, and of land revenue, had necessitated the cultivation of inferior land and led to a deterioration in methods of cultivation; and that the increase in food prices was due to scarcity of supply and increased cost of production within the country.

Others asserted that the main cause of the differential rise in Indian prices was the currency system, which enabled the Government to issue rupees (and notes) in excess of the commercial needs of the country.

In view of these criticisms the Government called upon Mr. Datta to investigate the whole question, with special reference to the following points: Had the rise affected all prices equally, or had it affected food-grains in particular? To what extent had it been due to world factors or local conditions respectively? Was the rise of a permanent or temporary nature? If it appeared to be more or less permanent, what would be its probable effects on the country as a whole and on different sections of the population?

In order to carry out his investigations he divided India into twenty-four economic circles,[1] excluding both Burma and the Indian (Native) States. He took as his basis of comparison the average (wholesale) price of each group of commodities for the years 1890–94.[2] His results as regards prices agreed in the main

[1] Namely, twenty fairly wide areas, and the four principal ports: Calcutta, Bombay, Karachi, and Madras.

[2] The sources of Mr. Datta's price quotations were the published records of Government, the chambers of commerce and local authorities, and the account books of merchants and trade imports.

with those published by the Government, and need not be quoted in detail here.[1] Apart from the two exceptional years, 1907 and 1908, he calculated that by 1910–12 there had been a rise, in comparison with the average prices of 1890–94, of no less than 65 per cent. for hides and skins, 58 per cent. for raw cotton and raw jute, 49 per cent. for oilseeds, 45 per cent. for building materials, 30 per cent. for food-grains, 31 per cent. for cotton manufactures, and 22 per cent. for metals. This list included both the principal exports and the staple articles of consumption. The rise had been greatest (38 per cent. and over) in parts of Madras, Berar, Sind, Bombay, Deccan, the Punjab, and in Karachi, and had been least (less than 33 per cent.) in the large ports (with the exception of Karachi) and in Assam. Where the rise had been least, as a rule prices had been exceptionally high before 1890. It was shown that, although the level of prices had risen throughout the world, the extent of the rise had been greater in India than in any other country.[2] The problems to be solved were how to account for, and what had been the main effects of, this rise in prices.

Mr. Datta attributed the world-wide rise in prices to the increased production of gold, the development of credit, the destruction of wealth in recent wars, increased expenditure on armaments even during peace, and to one or two minor contributory causes.[3]

That Indian prices should have risen in correspondence with the rise in world prices is only what might have been expected from the prevailing exchange policy, which maintained the sterling value of the rupee at or about 1*s.* 4*d.*, and necessarily involved the maintenance of a correspondence between the Indian and the English level of prices. The rise in the level of sterling prices therefore necessitated an addition to the currency of India. Had no additions to the currency been made, other things being equal, exchange would have risen.[4] There is no evidence that there was any arbitrary or unnecessary addition to the circulating medium. Rupees were only minted when the Government rupee reserves began to be depleted, and there is no reason to think that currency

[1] *Datta Report*, p. 29, gives a table of index numbers from 1890–1912. The table compiled in Appendix xxviii of the Committee on *Indian Exchange and Currency* (*V.* Table XXIII C, p. 548) has been quoted in preference to Mr. Datta's figures, as it agrees in essentials and covers a longer period.

[2] *Datta Report*, p. 50.

[3] For instance, to the emigration from old to new countries (the latter having a higher standard of living); the sinking of capital in new countries and the growth of trusts which restricted production.

[4] The volume of the purchasing medium was increased during the period not only by the coinage of rupees but by the increase in banking facilities and the extended use of credit. The paid-up capital and reserves of the Presidency and Joint Stock Banks (excluding the Exchange Banks) increased 55·7 per cent. during the decade ending 1911, and private deposits and the use of credit instruments also rose rapidly.

had increased more than in proportion to the growth of business transactions.[1] How, then, can one explain the fact that Indian prices rose more than external prices?

The explanation of this phenomenon, as also of the relative rise in the prices of imports (as compared with Indian products) after the war, lies mainly not in any peculiar aberration of the Indian price level, but in the differential price changes of great groups of commodities, caused by factors which operated throughout the world as a whole.[2] Thus, whereas before 1914 the world rise in prices was composed of a comparatively small increase in the prices of manufactured articles and a very rapid increase in the prices of foodstuffs and raw materials, after 1914 it has consisted of a very great increase in the prices of manufactured articles and a comparatively small increase in the prices of foodstuffs and raw materials. Now it happens that foodstuffs and raw materials form the bulk of Indian products (and particularly of Indian exports), whilst manufactured articles form the bulk of the products of industrialized countries, such as the United Kingdom (and particularly of Indian imports). The result has been that before 1914 India's price level appeared to be rising more rapidly than external prices, and that since 1914 the process has been reversed.[3] We must, therefore, consider the effects of the relative rise in Indian prices before 1914, and of the relative rise in external prices since 1914, in connection with the changes in the relative price levels of large groups of commodities.

It was the rise in the price of foodstuffs that attracted most attention and also caused the greatest uneasiness. The most important factor affecting food prices and trade (both internal and external) in foodstuffs during the latter part of the nineteenth and early part of the twentieth century, had been the development of communications—particularly the construction of railways[4]—and the fall in the cost of transport. Increased transport facilities caused a rise in the general price level of foodstuffs in many areas, which in consequence never fell to the very low level formerly prevalent in good seasons "up-country," as foodstuffs could now

[1] This conclusion is opposed to that of many Indian writers, including C. N. Vakil and S. K. Murayan, in their *Currency and Prices in India*, pp. 328, 329. The argument of the latter, however, appears to be based on the fallacy that the effects of currency inflation can be confined to the prices of certain groups of articles. Actually such inflation by its very nature must, in the long run, affect the *general* level of prices.

[2] The complementary explanation is to be found in the improvement and fuller utilization of the means of transport, which reduced the difference between the low Indian price levels and the higher levels abroad.

[3] Other disturbing factors were, of course, at work after 1914 modifying this general statement. These will be discussed below.

[4] Between 1890 and 1912 the railway mileage increased from 15,865 to 31,981; passengers and goods more than trebled; freight charges fell more than 28 per cent., and metalled roads increased from 36,400 to 51,900 miles.

be transported from district to district, or to the ports for export. Food prices had become equalized throughout the country and closely related to world prices. The injury due to a higher level of prices to the consumers in rural areas was offset by the equalization of prices between district and district and between season and season, and by the profits on export and on sales in urban areas. Mr. Datta admitted that there was a tendency towards a shortage of foodstuffs in relation to the demand, but he denied that the relative shortage was due to increasing poverty, a deterioration in cultivation or an increase in the cost of production. On the contrary he asserted that the shortage was less serious and probably more transient than it appeared on the surface, and that it was in the main due to increasing prosperity. The demand for Indian foodstuffs and raw materials had increased both within India, owing to the prevalence of a higher standard of life, and from abroad—partly owing to improved transport and export facilities, and partly to the ever-increasing demands of industrialized countries. The upward movement of food prices was thus approximately synchronous with the world rise in prices of similar crops. In addition, the period included one or two peculiarly unfavourable harvests, for instance, at the turn of the century and in 1908. Further, the demand on behalf of certain foreign countries for certain raw materials such as cotton, jute, and oil-seeds, had led to some substitution of non-food (or, at least, export) for food (or, at least, subsistence) crops. Although it was no doubt true that the increase in population and in demand for agricultural produce had entailed an increase in the area under cultivation and therefore resort to inferior land, yet this was only quite a minor factor in the situation.[1] These conclusions were endorsed by the Government,[2] which pointed out that the total area occupied by commercial crops in substitution of food crops was extremely small in comparison with the total area under food crops,[3] the proportion of exports to the total production of foodstuffs was not much more than 4 per cent. even in a very good season, and that, although some inferior land had been brought into cultivation, improvements in transport and the spread of irrigation had increased both total production, product per acre, and the value of the produce to the cultivator. It was probable,

[1] Calculations as to the relative increase of land under cultivation and of population showed that since the basic year the total area under cultivation had increased 106·9 per cent., population 103·4 per cent., and the area under food-grains 102·2 per cent.—that is, the correspondence between the increase in population and in food cultivation had only very slightly diminished, and that to the advantage of the more profitable crops. As irrigation and transport facilities had been greatly extended, this pointed to the production on the average of a larger food supply.

[2] Government Resolution preceding the Report, p. 8.

[3] *V.* Table II, p. 517.

in other words, that even if some inferior land had been brought under cultivation, there had been no decrease, but rather an increase in the average produce per acre.[1] There was no evidence whatever that the fertility of the land in general had deteriorated.

To summarize, it can be said that there had been a world-wide increase in the quantity of money (in its broadest sense) in relation to the supplies of food crops and raw materials; and that this caused an apparent relative increase in the Indian price level, because these articles bulked particularly large in proportion to the total production of India, whilst an actual relative increase in the Indian price level was caused by the improvement of communications which brought Indian prices into close correspondence with world prices.[2]

Let us now attempt to estimate the effects on general prosperity of these changes, by considering how they affected the net earnings of various sections of the population.

It can be assumed that the ryots (by far the most important section of the population) were, on the whole, no worse off as regards subsistence crops. The only way in which we can judge how price changes affected their prosperity is by adding up and comparing the price changes in the most important items of their money incomes and expenditure, *i.e.* in produce sold, rent or land revenue, wages, and commodities purchased. In so far as rent was paid in grain, the cash value of the payment increased *pari passu* with prices, but this did not constitute any additional burden on the cultivator. It merely prevented him from realizing increased profits on the sale of that part of his produce due as rent. On the other hand, cash rents lagged behind the rise in prices, and only comparatively small, if any, enhancements of land revenue were made.[3] The agricultural wage bill of the cultivator who employed labour, as we will see in a moment, rose rather more than in proportion to prices. The main commodities purchased by the cultivating classes changed in the following proportions: cotton manufactures rose 25 per cent., metals rose 20 per cent., sugar rose 9 per cent., kerosene oil no change; salt

[1] On the other hand Mr. Datta thought it possible that the efficiency of cultivation might have been decreased in certain areas owing to scarcity of labour and of cattle, pp. 67, 68.

[2] The fact that the Indian price level rose more rapidly than that of such other agricultural countries as Canada and Australia (*V.* Vakil and Murayan, *Currency and Prices in India*, p. 324) can be explained by the different conditions in "old" and "new" countries. In India production preceded transport improvements, in Canada and Australia it succeeded them. In India, in years of good rainfall, internal prices ruled very low in earlier years; whilst in Canada and Australia prices were very high. Hence a closer approximation to the world-level of prices had a different effect on the Indian than on the Canadian and Australian price levels.

[3] In many cases the rate of assessment was reduced, in most it remained unaltered.

fell 8 per cent. in price apart from duty, and in addition the duty was reduced during the period from Rs. 2. 8a. to R. 1. This represents the increased expenses of the cultivator due to the rise in prices. On the revenue side his income in kind was unaffected by price changes, but the prices of the main commercial crops rose as follows: raw jute 43 per cent., raw cotton 15 per cent., hides and skins 59 per cent., oilseeds 45 per cent., food grains (cereals) 42 per cent., and food grains (pulses) 43 per cent.[1] It will be seen that on balance, considering that wages form only a small proportion of the normal cultivator's expenses, the majority of the cultivators must have gained in real income.

Mr. Datta has shown that nominal wages rose rapidly throughout the period for all classes of labour.[2] General conditions favoured the wage earners: the demand for agricultural labour, for labour on public works, and for factory labour, increased, and the labour supply was diminished by the depredations of the plague, which made its appearance in Bombay in 1896 and particularly affected industrial wage earners.[3] The wages of all rural workers nearly doubled, those of city and urban labourers and domestic servants increased by something like 75 per cent., of factory, railway, and canal workers by some 40 per cent., and the general average increase was about 60 per cent. It is noticeable that the wages of industrial and transport workers increased least rapidly, possibly because in the previous decades they had been above the general level.

In order to decide whether there had been any improvement in the economic position of the wage earners, it is necessary to adjust the nominal wages quoted in relation to the increased cost of living. Even when the increased cost of living had been taken into account the earnings of every class of labour had appreciably increased. Here again the increase was greatest in the case of "rural" and "urban" labour, where it increased about 34 per cent. and 30 per cent. respectively, and was considerable even for "city" and "industrial" labour; *i.e.* about 23 per cent. and 7 per

[1] *V.* Resolution on the *Datta Report*, p. 40.

[2] *Report on the Enquiry into the Rise of Prices in India*, 1914, vol. i, pp. 169, 170. In order to compile these figures Mr. Datta undertook the collection of special wage statistics on a much broader basis than had previously been attempted. Up to this time the principal record of wage statistics was the Government publication *Prices and Wages*, which gave figures for the average monthly wages of so-called "unskilled" and "skilled" labour in certain selected (but not always typical) districts, and the quinquennial wage-census started in 1911–12. These figures were, however, extremely unsatisfactory from several points of view. For instance, the occupations selected as representative of certain classes of labour were not in reality at all typical, and urban and rural wages were not clearly distinguished but were all thrown in together. After careful consideration Mr. Datta concluded that it was impossible to utilize the figures. Government has recently recognized the truth of this criticism by discontinuing the publication of these wage statistics since 1922.

[3] Between 1896 and 1913 nearly 7,000,000 deaths from plague occurred.

cent. respectively; but in the latter cases it was slightly less in 1912 than it had been in 1910.

The conclusion is that wage earners of all classes and in all circles had secured increased "real" wages with the exception of domestic servants in urban centres in some districts, and of wage earners in one or two particular industries.[1]

Full figures were not forthcoming with regard to the upper and middle classes and only a very rough idea of the changes in earnings can be gained. Traders, manufacturers, and cultivators benefited owing to the rapid growth of trade, both internal and external,[2] and to the fact that rents (and land revenue) had risen less rapidly than prices. On the other hand, all who depended upon fixed incomes—whether salaries or fixed incomes from property—were adversely affected. Probably the professional classes should be included amongst those whose real income had decreased.

The conclusion is that world causes had predominated with regard to the rise in Indian prices, largely through the increased demand for Indian products,[3] because India had by improved communications been brought into much closer contact with world markets, and that on the whole the effects of the rise in prices had been beneficial. There had "undoubtedly been a real progress, an increase of wealth and a general diffusion of it . . . an increase in the profits of agriculture and a remarkable increase in wages greater than the cost of living in almost all parts of India during the period of rising prices."[4]

This conclusion is borne out by the circumstantial evidence of observers of the most varied description. More clothing was bought (and worn), houses had improved, brass and other metal vessels had been to a great extent substituted for coarse earthenware, spare cash for railway travel, etc., had increased, and expenditure on miscellaneous articles had risen.[5] Trade had increased by leaps and bounds, the returns from land revenue in relation to the rate of assessment had greatly increased, and life insurance[6] and savings banks had made great headway.

The improvements took place in rural and urban districts alike.[7] In rural districts the most striking evidence of increased prosperity was the change in the behaviour of the cultivators in

[1] *I.e.* in the brewing, tea, and sugar industries.

[2] The railway returns showed that the internal trade in millets, pulses, etc., had increased as rapidly as that in articles of foreign trade, such as wheat, cotton and oilseeds.

[3] *Datta Report*, pp. 184–186.

[4] This is admitted in a footnote by Vakil and Murayan (*op. cit.*, p. 324) although their main argument is that the currency was inflated.

[5] The increased internal trade in articles of (comparative) luxury such as sugar, tobacco, and spices was remarkable.

[6] Policies taken out increased from 2,242 in 1895 to 14,723 in 1912.

[7] G. Keatinge, *Agricultural Progress in Western India*, p. 44.

times of famine. The one fly in the ointment was the increase in rural indebtedness, but, as we have seen, an increase in indebtedness cannot by itself be taken as evidence of decreasing prosperity.[1]

We can now turn to the post-1914 period.[2] Critics of the Government have asserted that the exchange policy adopted during and after the war not only caused a direct loss of some Rs. 35 crores to the Government, and enhanced the burden of India's payments in England by preventing a rise in the sterling value of the rupee, but also had an adverse effect on prosperity, by artificially keeping down the level of prices in India between 1914 and 1920 as compared with world prices.

By 1919 prices had risen seriously, including the prices of all the necessities of life.[3] The rise was greatest—from an index figure of 98 to 213—amongst imported goods. The group average of goods exported but experiencing little or no competition had risen from 91 to 164, that of goods mainly sold in the internal market from 90 to 161, whilst that of goods exported but experiencing competition had risen only from 92 to 152. If we consider the rise in prices between 1914 and 1919 of the most important items of consumption, we find that food grains had risen by 93 per cent., imported piece-goods by 187½ per cent., and Indian-made piece-goods by 61½ per cent.[4] The relation between these price changes and the exchange policy of the Government was discussed by the Currency Committee in 1919, when the latter requested Mr. Findlay Shirras to prepare a memorandum on price movements in India during the past decade, with special reference "as to how far the effect of a rising exchange has tended to keep Indian prices down, and to prevent them from rising to the full extent in sympathy with the rise in world prices." [5]

In his memorandum Mr. Findlay Shirras pointed out that before answering this specific question it was necessary to take into consideration the general effect of exchange movements upon foreign trade, and the existence in India of certain factors which tended to obscure the effects of currency and exchange influences on prices.

As the rise in prices was greater in the United Kingdom and other belligerent countries than it was in India, other things being equal, the tendency would have been for exports to increase, imports to decline, and for the inward remittance of funds to be stimulated. In course of time this would have tended to increase

[1] *V.* chap. viii, p. 187. [2] *V.* Table XXIII, pp. 547, 548, and Fig. IX, p. 456.
[3] In Table XXIII C, and in Fig. IX, the average prices for the decade 1900 to 1909 are taken as 100.
[4] *Report of the Committee on Indian Finance and Currency*, 1919. Cmd. 527, p. 161.
[5] *Op. cit.* Appendix xxvii, p. 159. Cmd. 529, 1920.

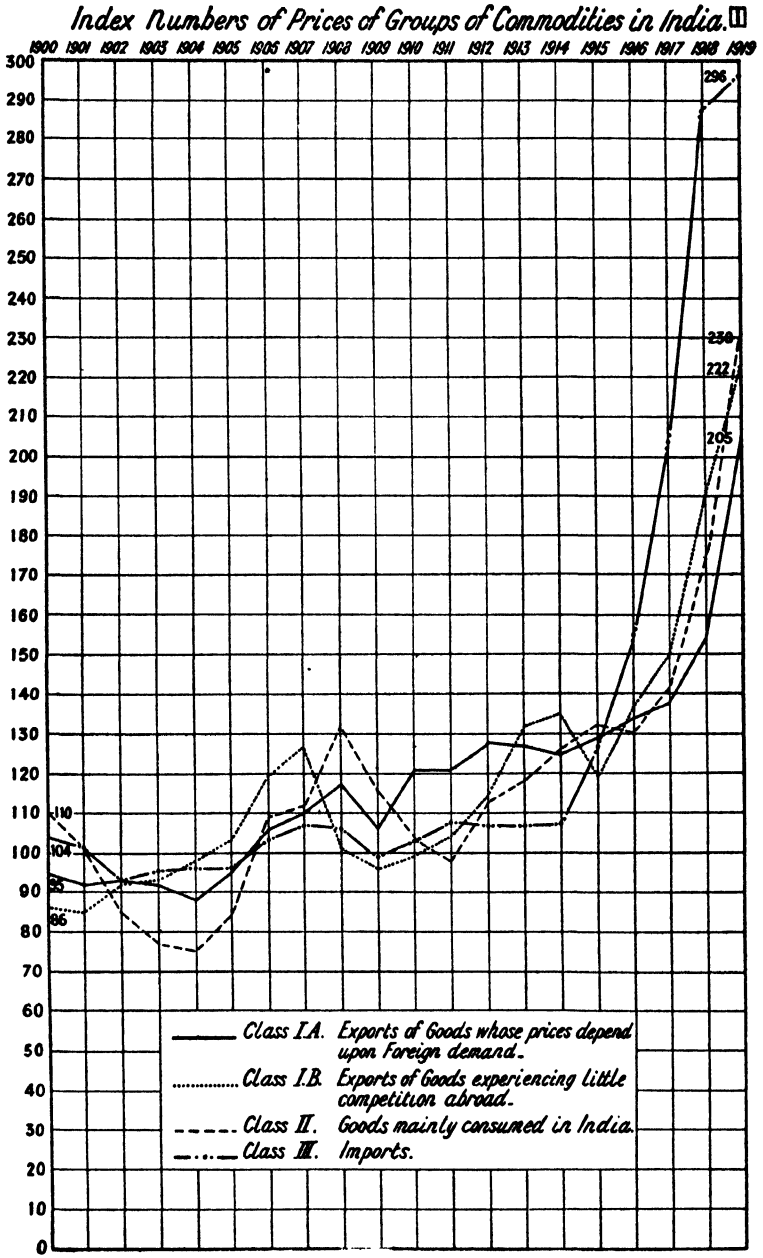


FIG. IX.—Index Numbers of Prices of Groups of Commodities in India, 1900–1919.

[1] The average price for 1900–1909 is taken in each case as 100. V. *Report of the Committee on Indian Exchange and Currency*, 1919, vol. iii., Appendix xxxiii.

the currency in circulation and to cause internal prices to rise, until equilibrium had been reached, that is, until the internal price level equalled the external price level.[1] "Other things," however, were not equal. The import of specie was drastically restricted, and at the same time exports were artificially limited by Government control. The latter was particularly stringent in the case of food grains, the export of which was prohibited except under Government permit. The result was an enormous discrepancy in the price of food-grains abroad and in India. At the same moment rice sold for 39*s.* per cwt. (for "brokens") in London, and at a "controlled" price of 11*s.* per cwt. in Rangoon. In Ceylon £60 per ton had to be paid for rice from Siam, whereas Burmese rice at controlled rates could be landed for less than £14 per ton.[2] This meant that the tendency towards attaining an equilibrium by increased exports at enhanced prices was artificially stopped. Indian exporters (and cultivators) failed to reap the advantage of increased exports at higher prices, whilst importers had to continue to pay relatively high prices. The export of other important staples was also checked by the priority system and freight control.[3] Meanwhile the tendency towards an increase in internal prices was further checked by Governmental contracts for the output of the textile and leather industries, for many of the products of the Tata Iron and Steel Company, and for various other Indian products, which were purchased throughout the war at prices far below those which would have had to be paid for similar articles obtained from other sources (*i.e.* from abroad). This meant that here again Indian producers were prevented from reaping full war profits. At the moment this appeared to be a justifiable restriction of profiteering, but there is little doubt that this prevented firms—such as the Tata Iron and Steel Company—from building up reserves which could be drawn upon during the subsequent depression, and therefore placed them at a disadvantage as compared with importers of competitive articles.[4]

The import of specie having been stopped, the demand for remittances to India became so intense that the Secretary of State was obliged to restrict his issue of Council Bills. In the absence of control over the exchange, the result would have been a rapid rise in the exchange value of the rupee. But "owing to the institution

[1] *Op. cit.*, Appendix xxvii, p. 162. It may be noted that Mr. Findlay Shirras states that "the principles to be applied in considering the effect of external prices on silver prices in India under a gold exchange standard do not appear to differ from those which would have governed the position had her standard been a complete gold standard or a purely silver standard."

[2] *Op. cit.*, Appendix xxvii, p. 160.

[3] For instance, the export of hides and skins was restricted, and that of coffee entirely prohibited.

[4] *Op. cit.*, Appendix xxvii, p. 163.

of control an immediate breakaway was avoided, though a fractional advancement was made in the rate." [1] That is, instead of demand being checked (and therefore satisfied) by a rise in exchange, only a certain fraction of the demand for remittance was satisfied at all, and that at less than the economic rate—involving a loss of potential revenue to the Government of India.

Actually the " breakaway " in exchange began seriously in August 1917, when, owing to the hectic rise in the price of silver, the bullion value of the rupee rose above its face value, and the melting down of rupees and export of silver became a dangerous possibility, so that it was necessary to allow exchange to rise to 1*s.* 5*d.* Further rises occurred subsequently from time to time.[2] Had not Government interference taken place, exchange would have begun to rise rapidly as early as 1916, and this would have tended to stimulate imports and limit exports, and to check the relatively greater rise in the price of imports.[3] India would not then have suffered from the evils arising out of the excessive rise in the price of imports and the small returns received by Indian producers for exports. This would have greatly reduced the capital costs of the post-war reconstruction.[4] " If this view is correct," said Mr. Findlay Shirras, " it follows that the linking of the rupee on to a depreciating sterling standard [5] has been an important element in the reduction of its purchasing value, and that this has consequently been in part responsible for the economic and social effects referred to . . . above." [6]

On the other hand, had exchange risen rapidly from 1916 onwards, serious trade dislocation would have occurred at a critical stage of the war, and to avoid such dislocation was no doubt worth some sacrifice.

We are now in a position to consider the effects of the price changes between 1914 and 1919 on the various sections of the community. It is obvious that whilst the evil effects on certain sections of the community of the rise in the price level over the whole period (such as the infliction of hardship on all with fixed incomes, the increased cost of production, and the temporary hardship on wage earners of the " lag " in wages) were the same as during the pre-war period, the effects on the cultivators, industrialists, and wage earners engaged in industry were precisely

[1] *Op. cit.*, Appendix xxvii, p. 163.

[2] *V.* chap. xv, p. 423.

[3] Other things being equal " a rising exchange admittedly tends temporarily to stimulate imports and to check exports, and a falling exchange to stimulate exports and to check imports." (*Op. cit.*, Appendix xvii, p. 165.)

[4] For instance, the capital expenditure of the Tata Iron and Steel Company on new plant would have been less exorbitant. At this time Indian industrialists were buying plant and other industrial necessities at a great disadvantage.

[5] That is, the artificial maintenance of a 1*s.* 4*d.* rupee.

[6] *Op. cit.*, Appendix xxvi, p. 163.

reversed. Whereas during the pre-war period the effect of the rise in prices was to cause on the whole an increase in the incomes of the cultivators in proportion to expenditure, since 1914 it had tended to cause a relative increase in expenditure ; *i.e.* the cultivators saw their increased money earnings more than swallowed up by a relatively greater increase in the price of those commodities which they purchased. During the war, despite certain adverse price factors, industrial enterprise was encouraged by the strong demand for special types of manufactured goods and by the monopolistic position, but after 1920–21 industrialists were also seriously affected and enterprise was checked. Indian large-scale manufacturers still depended substantially on imported machinery, plant, implements, and stores, and during the post-war reconstruction they extended their works and replaced plant at the top of the market. Then came the depression and fall in prices which made it impossible for them to earn normal profits on their capital expenditure. The wage earners felt the pressure of increased prices before they obtained wage increases, and have latterly also suffered from the trade and industrial depression. Meanwhile the increased cost of production and enhanced pay of officials entailed a strain on Government finances, and led both to an increase in taxation and to a curtailment of Government aid to industry and enterprise. The trade depression necessarily further reduced Government revenue and increased the financial strain. The result was, for a time, hardship for the small cultivators and wage earners, labour unrest and discontent, the checking of industrial enterprise, and high taxation, combined with restricted Governmental stimulation of economic development. Since the collapse of the attempt to control exchange (in 1920) Indian prices have tended to adjust themselves to world prices, and the effects of the discrepancy between Indian and world prices have, therefore, tended to disappear. But some discrepancy between the prices of raw materials and foodstuffs as compared with manufactured articles, and hence between the prices of the staple Indian exports, as compared with the staple imports, still remains. This accounts, for instance, for the continued depression in the Lancashire cotton piece-goods trade in India.

Both the movement of prices and the effects of price changes have thus been much more complicated since 1914 than during the pre-war period. It is, indeed, impossible to estimate their net effects on prosperity. Against the disadvantage to the producer of a relative rise in the price of imports must be set the advantage to consumers in general of a relatively stable price level—in comparison, that is, with the external price level. Mr. Keynes has argued that " stability in the internal price level is so superlatively desirable in such a country as India, that the fact of her having

got through the recent cycle with so small a fluctuation of internal prices is a great deal to be set against the inconveniences to merchants engaged in foreign trade from the fluctuations in exchange." [1] This is an argument in favour of permitting exchange to fluctuate freely without altering the amount of currency in circulation in order to stabilize the internal price level. As a matter of fact Government policy was directed towards preventing exchange from fluctuating freely, and from this point of view, therefore, it was lucky it was frustrated. On the other hand, had exchange fluctuated even more freely, the "inconvenience" to merchants, and consequent speculation and trade dislocation might have been even greater.[2]

It appears then that on balance the evidence upholds the wisdom of the policy of exchange stabilization during the pre-war period, but points to the advantages of price stabilization under the conditions that have prevailed since 1914. During a period of comparative stability (such as the pre-war period) a slight continuous rise in prices stimulates trade and economic development in general, without causing great hardship to any sections of the community, whilst a stable exchange steadies trade and prevents speculation and dislocation. On the other hand, during an extremely unstable period (such as set in towards the end of the war), violent price fluctuations cause severe hardships to many sections of the community, which are probably not counterbalanced by the gains accruing from a stable exchange, even if a "stable exchange" can be attained, which, under the circumstances, hardly appears to have been possible.

The only conclusion that can be drawn is that considerable suffering would have been caused whatever policy had been adopted, and that under the circumstances some hardships due to price and exchange fluctuations were inevitable. The Government's exchange policy was ineffective and could not be maintained, but its result, as far as prices were concerned (apart from the expense of attempting to control exchange, and the part it played in aggravating the crisis of 1920), was to strike a not unsatisfactory balance between fluctuations in prices and in exchange respectively.

To summarize, it can be said that on the whole the increase in the general level of prices, and the relatively greater increase in internal prices, between 1900 and 1914 reacted favourably on general prosperity and on the condition of the labouring classes in particular, whereas after 1914—although other factors were

[1] *Economic Journal*, March 1923, p. 63.

[2] This is, however, unlikely, as much unnecessary dislocation was caused by the belief that the Government could maintain a 2*s.* rupee.

at work economically favourable to India—the rise in prices accompanied by the relative increase in the price of imports, tended to be unfavourable.[1]

It must not, however, be assumed that because price changes since 1914 have been unfavourable, there has been, on balance, general economic deterioration over the period. Other factors have stimulated production and trade, and tended to increase prosperity during part, at least, of the period. It appears that, on the whole, up till 1920–21, favourable influences predominated, but that since then there has been a general set-back to prosperity, from which a tendency towards recovery is now becoming apparent. Conclusive evidence is lacking, but there is no reason to suppose that the depression since 1920–21 has caused the general economic condition of the people to decline to a level lower than that of 1914. Circumstantial evidence with regard to diet, clothing, housing, etc., tends to show that on the whole the rise in the standard of living that had undoubtedly taken place before 1914, has been continued, but at a slower rate. It has been said that a permanent rise in the standard of life can best, and perhaps only, be attained by improved education and travel.[2] Undoubtedly the war promoted the education of those who took part in it. The Indian sepoys who returned from Europe and Mesopotamia have undoubtedly introduced a higher standard of life to their families and their villages. That this is true of the Punjab at least has been conclusively proved by Mr. Darling, who gives detailed circumstantial evidence to this effect.[3]

No data exist for forming a comprehensive and accurate view of changes in real incomes in India and in the standard of life of the labouring classes since 1914, nor even of the present level of nominal incomes and standard of life throughout the country

[1] India being a debtor country gains by a rise in world prices, and this gain is intensified when foodstuffs and raw materials rise in price more than manufactured goods, but is neutralized if manufactured goods rise in price more than foodstuffs and raw materials.

[2] *V.* Professor H. Stanley Jevons on "The Consolidation of Agricultural Holdings in the United Provinces" (1918), *Bulletin* No. 9 of the Economics Department, University of Allahabad.

[3] *The Punjab Peasant in Prosperity and Debt.* By M. L. Darling (1925), chap. xiv. "The Punjab peasant is not quite what he was ten or twenty years ago. He has been through the Great War, and no one who has had that experience is quite the same as he was before. The railways had already brought the modern world to his gates, but the war brought it to his sight. Nearly half a million Punjabis served, and most of them served abroad. The return of these men could not fail to have an effect upon the village. Outwardly the latter is unchanged . . . But the great wind which has blown across the world since the war, laden with the pollen of new and strange ideas, has passed, ever so lightly, along its narrow, twisting lanes; and in the evening, when the day's toil is done and men gather at the village gate to smoke the huqqa and exchange the latest gossip, the talk is no longer entirely of crops, cases, and neighbours. The village is, in fact, stirring with a new spirit . . ." (p. 14).

as a whole.[1] Nevertheless one or two intensive studies of wages and the cost of living in particular areas and industries have been undertaken and throw some light on the subject.[2]

At one time it seemed probable that the collection and collation of labour statistics would be undertaken by the Central Government of India on a sound and thorough basis. The labour unrest of recent years and the work (including the institution of inquiries, collection of facts and the promotion and administration of social and industrial legislation) occasioned by the International Labour Organization stimulated the formation of official organizations to collect information and deal with labour problems.[3] A Labour Bureau was established within the Central Department of Industries, under a "Controller."[4] Unfortunately, the Inchcape axe fell on this bureau, which was consequently abolished. Shortly afterwards the Department of Industries and Labour was created and given control of labour as well as of industrial problems, but whilst labour legislation came within the sphere of this Central Department, the administration of labour and industrial legislation was considered to be the function of the Provincial Governments. Consequently, the collection of facts and figures was left to the provinces. So far only two labour bureaux have been set up, namely in Bombay and in Bengal. In Madras a Commissioner of Labour was appointed, chiefly as a conciliator in labour disputes, but in the other provinces the Department of Industries undertakes any recording work that may be carried on. Unfortunately this provincial "labour" work began during a period of drastic retrenchment, and has, therefore, been considered a luxury and cut down to a minimum. The result is that the Bombay Labour Office is the only one that carries out important and extensive statistical work. The *Bombay Labour Gazette* is the principal periodical publication dealing with labour matters, and most of the special inquiries that have so far been made with regard to wages and the cost of living have been undertaken in the Bombay Presidency and published by the Bombay Labour Bureau. It was suggested that in 1921 an index

[1] We have already noted that no reliable wage statistics exist for the country as a whole, and that the monthly wages publications of Government have been discontinued since 1923 (*i.e.* giving wages for 1922).

[2] These consist of an "Enquiry into Agricultural Wages in the Bombay Presidency" (1924), an "Enquiry into Working Class Budgets in Bombay" (1923), two "Enquiries into Wages and Labour in the Cotton Mill Industry" (1923 and 1925), and "Provincial Wage Censuses in Madras" (1921–22), the Punjab (1921–22), and—for agricultural labour only—in Bihar and Orissa (1924). Information with regard to money wages is given in the Provincial Annual Reports of Factory Inspectors, and cost of living figures are published by the *Bombay Labour Gazette*. One or two other calculations and estimates will subsequently be mentioned.

[3] R. N. Gilchrist, *The Payment of Wages and Profit-Sharing*.

[4] It is interesting to note that a lady adviser was attached to the Bureau to deal with female labour.

number of the cost of living should be constructed for the whole of India, but owing to the great size of the country, and to the great variety of local conditions, the task was abandoned. It was felt that one figure for the whole country would represent conditions in no part of it, and therefore would be useless for any practical purpose.

Let us, therefore, consider the available information with regard to wages in the Bombay Presidency. This may be considered under three headings: (i) Agricultural wages, nominal and real; (ii) Wages in the cotton mill industry; (iii) The cost of living in Bombay city.

(i) The inquiry into agricultural wages in the Bombay Presidency covered all wage earners engaged in agricultural and industrial work in rural areas, and employed as artisans (not factory workers) in urban areas, who were paid on a wage basis mainly in cash. It was thus comprehensive in scope, covering practically all wage earners except factory hands and domestic servants.

The main object of the inquiry was to ascertain the annual changes in so-called "agricultural" wages since 1900 throughout the Presidency. "Agricultural" wage earners were classified as "field," "ordinary," and "skilled" labourers,[1] and their wages were considered separately for urban and rural areas. The results of the inquiry may be summarized as follows: (*a*) The daily average wages of field labourers in urban areas rose from 3 annas in 1900 to 4 annas 9 pies in 1913 and 9 annas in 1922; that is, they increased 58 per cent. during the pre-war period, and 89 per cent. between 1913 and 1922. Between 1900 and 1922 they increased 200 per cent. (*b*) The daily average wages of ordinary labourers in the urban areas increased from 4 annas 3 pies in 1900 to 6 annas 3 pies in 1913 and 12 annas in 1922; *i.e.* by 47 per cent. during the pre-war period and by 92 per cent. between 1913 and 1922; in all by 182 per cent. between 1900 and 1922. (*c*) The daily average wages of skilled labourers in the urban areas increased from 10 annas 9 pies in 1900 to 13 annas 9 pies in 1913, and R. 1. 10a. 9p. in 1922; *i.e.* by 28 per cent. in the pre-war period, and by 95 per cent. between 1913 and 1922; in all by 149 per cent. (*d*) The daily average wages of field labourers in the rural areas increased from 2 annas 6 pies in 1900 to 4 annas

[1] The definition of "field-labourer" included all ploughmen, reapers, sowers, weeders, and transplanters, who work as casual labourers, not as permanent farm hands. Permanent farm hands are paid partly in cash and partly in kind, and it is therefore difficult to estimate their earnings. "Ordinary labourers" include all engaged in embankment, well-digging, and canal-silt clearing in rural areas, and as masons, bricklayers, assistants, and load-carriers in urban areas. "Skilled labourers" included all village artisans, who are normally also skilled agricultural labourers, and urban artisans (not factory hands). The latter are not normally agricultural workers at all, but the rates paid to them govern the rates paid to village artisans in the neighbourhood.

3 pies in 1913, and to 7 annas 8 pies in 1922 ; *i.e.* by 70 per cent. in the pre-war period and by 71 per cent. between 1913 and 1922 ; in all by 190 per cent. (*e*) The daily average wages of ordinary labourers in the rural areas increased from 3 annas in 1900 to 5 annas 3 pies in 1913, and to 8 annas 6 pies in 1922 ; *i.e.* by 75 per cent. in the pre-war period, and by 62 per cent. between 1913 and 1922 ; in all by 183 per cent. (*f*) The daily average earning of skilled labourers in the rural areas increased from 9 annas in 1900 to 11 annas 9 pies in 1913, and to R. 1. 5a. in 1922 ; *i.e.* by 31 per cent. in the pre-war period and by 79 per cent. between 1913 and 1922 ; in all by 133 per cent.

From these figures real wages were calculated, and it was concluded that " real wages in urban areas, as compared with the pre-war level, have increased with all classes of labour ; in rural areas real wages have also risen for skilled labour, but have slightly fallen in the case of ordinary and field labour." [1] We thus see, in as far as reliance can be laid on these figures,[2] that since 1913 the balance of change has been in continuance of the pre-war increase in real wages, and that even in the minority of the cases, where real wages have not actually increased since 1913, the fall has been but slight, which—in view of the war dislocations and post-war depression—leads to the conclusion that, when the present revival has made more headway, the underlying forces tending towards an increase in real wages will reassert themselves.

Indirect evidence also points to the fact that the marked pre-war tendency towards an increase in the prosperity of the agricultural classes has continued since 1914, but unevenly, with fluctuations and at a much retarded rate, owing to the disturbed conditions of the times.[3] As we have seen, the testimony of those who are brought into close contact with the ryots tends to show that the improvement in housing, utensils and clothing, and the increase in savings obvious during the pre-war period, have been continued.[4] Scientific agricultural methods, co-operation and irrigation have spread, and are spreading, and there are now more alternative occupations by which the ryot can obtain a living apart from his land.

Apart from the Bombay Presidency, the only available estimates of changes in the purchasing power of the rural population of India are those undertaken in the Punjab for the decade ending 1922, and one quoted by the Indian Trade Commissioner.[5] The

[1] *Enquiry into Agricultural Wages in the Bombay Presidency*, p. 32.

[2] It is doubtful how far they can be taken as truly representative.

[3] Reference has already been made to the evidence during the scarcity of 1918 of improved economic resources.

[4] *Moral and Material Progress of India*, 1926–27, p. 137.

[5] *D.O.T. Report on the Conditions and Prospects of British Trade in India*, 1923–24, p. 109.

former concluded that the position of labour had slightly improved during the decade,[1] and the latter showed that the position of the rural population of India was slightly better in 1923 than just before the war, except as regards clothing. The price of imported piece-goods had risen 150 per cent. above the pre-war level,[2] so that in 1923 the ryot could probably not afford to purchase more than two-thirds of his pre-war consumption of cotton piece-goods. But in a country such as India it is comparatively easy to cut down, for a time, expenditure on clothing, and as the absorption of bullion was phenomenal at this time, it seems probable that the ryot reduced his purchase of cloth (spending no more on it than he did in 1914) and invested the balance of his revenue and expenditure in bullion or jewellery until such time as cloth prices should fall.

(ii) Two inquiries into the wages and hours of labour in the cotton mill industry throughout the Bombay Presidency have been undertaken and the reports published in 1923 and 1925 respectively.[3]

The main object was to ascertain the amount actually earned by all classes of workpeople in the industry in one selected month (May 1921 in the first case, and August 1923 in the second case) and to compare these with the corresponding earnings in 1914. If these actual earnings could have been adjusted in accordance with the cost of living, it is obvious that changes in "real" earnings could have been ascertained.

In 1921 a "cost of living index number" and an index figure of "real wages" were prepared, which showed an increase of from 3 per cent. to 45 per cent. since 1914 in the real wages of all classes of cotton workers.[4] But the improved methods utilized in 1923 threw grave doubt on the reliability of the 1921 estimates, which consequently will not be quoted in detail here.[5] Broadly speaking, however, they indicate a considerable rise in earnings since 1914.

The "Report on Wages and Hours in the Cotton Industry in 1923" (published in 1925) concluded that the average monthly earnings for all workpeople in the cotton industry for the whole Presidency had slightly decreased since 1921 (*i.e.* from Rs. 28. 14a. 4p. to Rs. 28. 9a. 1p.).[6] They had increased slightly in some centres and declined slightly in others. In Bombay city they had remained

[1] V. *Moral and Material Progress of India*, 1927–28, p. 97.

[2] Of course, all clothing is not imported, but the internal prices of cloth are naturally influenced by external prices.

[3] *Report of an Enquiry into the Wages and Hours af Labour in the Cotton Mill Industry* (prepared by the Labour Office, Government of Bombay), 1923 and 1925.

[4] The only exception was that of time workers in spinning mills, whose real wages had declined by 1 per cent.

[5] "With the data before us, it will never be possible to use either 1914 or 1921 as a base for real Wage Index Numbers" (*op. cit.*, p. 25).

[6] *Ibid.*, p. 11.

practically the same. The monthly bonus and special allowances, which are regarded " as of the nature of wages " were included in the calculation, but overtime pay, the annual bonus, and " all remuneration in the form of grain or clothing or accommodation at rates below market prices or rentals " were excluded.[1] In both the latter respects the worker had suffered, as after the slump of 1920–21 overtime ceased to be worked, and the annual bonus which had been granted between 1918 and 1922 was not paid after the latter year. Furthermore, the losses due to strikes must be taken into consideration. On the other hand the cost of living index number fell (for Bombay city) from 164 in 1921 to 154 in 1923, so that real wages (apart from overtime and the annual bonus) had slightly increased.

The cessation of the war bonus did not, of course, affect the comparison with 1914, as it was not granted until 1918. Between 1914 and 1923, therefore, it is clear that the real income of workers in the cotton industry had improved.

The information with regard to the cost of living in Bombay city obtained from the inquiry held in 1923 remains to be considered. An intensive inquiry was conducted into the family budgets of 3,076 families on the " random sample method." The following table shows the percentage of families within each important income group :

Percentage of Families within each income group.	Total Family Income
2·7	Less than Rs. 30 per month
11·0	Between Rs. 30-40 ,,
33·7	,, Rs. 40-50 ,,
21·8	,, Rs. 50-60 ,,
29·2	,, Rs. 60-90 ,,
1·6	Over Rs. 90 ,,

It will be noticed that three-quarters of the average family incomes were above Rs. 40 per month. The average family income was Rs. 52. 4a. 6p , whilst the average earnings of men were Rs. 42. 5a. 7p., of women Rs. 16. 11a. 6p., and of children Rs. 13. 13a. 5p. per month.

It is impossible to draw any conclusions from a direct comparison of these earnings with those of other countries or even with those of other provinces and cities in India. For instance, it was calculated in 1917 that a Madras family (consisting of a man, wife, and two non-earning children) would be in a condition of primary poverty if the family earnings were less than Rs. 17 per month.[2] Allowing for an increase in the cost of living since 1917 of 10 per cent. (about R. 1. 8a.)[3] it is obvious that on this standard

[1] *Ibid.*, p. 6.

[2] See a letter to the *Madras Mail*, January 22, 1917, by Dr. Gilbert Slater and the Rev. D. G. M. Leith.

[3] The Cost of Living Index for Bombay city rose by 10 per cent. between 1918 and 1922.

Bombay workers would all be exceedingly well off. Unfortunately, this is not a conclusion that would be reached by anyone cognisant of conditions in Bombay.[1] It is therefore evident that the cost of living in Madras must be entirely different from that in Bombay. Mr. Findlay Shirras, however, had recourse to another method of comparison.[2] On the basis of the family budgets collected he estimated the percentage of the total earnings spent on each item of expenditure, and compared the percentage expenditure on food with that typical of other countries. According to his estimates the percentage of total income spent on food in Bombay city was 56·8 per cent.; 9·6 per cent. was spent on clothing; 7·7 per cent. on house rent; 7·4 per cent. on fuel and lighting; and 18·5 per cent. on miscellaneous articles and purposes. The reason for attempting an international comparison on the basis of the percentage expenditure on food is the belief in the essential truth of "Engel's Law," that the greater the real earnings the smaller the percentage of the total spent on food.[3] Mr. Shirras' first comparison was with the figures issued by the Ministry of Economic Affairs for Ireland. The Irish percentage expenditure on food per wage-earning household was 57·05 per cent.—slightly more than the Bombay figure.[4] Mr. Shirras also estimated that the percentage expenditure of the working classes on food in Bombay city was less than that in Trinidad, Egypt, and China, more than that in the United States, United Kingdom, and Australia, and about the same as that in Italy and the Argentine. These estimates he compares with some compiled for earlier years.[5] According to these latter figures the percentage expenditure on food in Bombay city was 68·7 per cent. for 1914,[6] in comparison with 67·1 per cent. in France, 65·2 per cent. in Ireland, 62·5 per cent. in the United Kingdom, and only 55·1 per cent. in Tokio and 42·4 per cent. in Berlin. This appears more favourable to India than might be expected. Similarly, Lord Ronaldshay's comparison of the average incomes in Madras and in England, *i.e.* £10 and £30 to £40 per annum [7] respectively, may—considering climatic and social conditions, and the very much higher rate of taxation in England—lead one to conclude that possibly the real

[1] *V.* for instance, *Labour and Housing in Bombay*, by A. R. Burnett-Hurst.

[2] He also quotes figures from a publication of the International Labour Office entitled *Wage Changes in various Countries*, No. 2, showing the rise in nominal and real wages in a number of countries between 1914 and 1921. According to these figures real wages in Bombay city had risen to 112 (100 = 1914) and those in the Presidency as a whole to 117, whilst those in the United Kingdom had only risen to 110.

[3] Engel was Director of the Statistical Department, Berlin, 1860–1862.

[4] The expenditure on the various articles of diet differed greatly, the Irish spending far more on fats and meats.

[5] See Table XXI, p. 121, of Mr. Shirras' Report.

[6] As compiled by the 1921 Census Authorities.

[7] *India, A Bird's Eye View*, p. 168.

incomes, at least in certain areas, in the two countries may not be so far apart as one is sometimes led to believe.

In my opinion, however, these figures only confirm the opinion that a comparison of this description is little or no more reliable than a direct comparison of average incomes per head. The standard of living, needs of the people, and social circumstances in general, are too different to enable one to calculate any statistical index to the conditions of the working classes. For instance, it is absurd to suppose that the general economic condition of the Japanese and German was so superior to that of the English. Expenditure on rent would be an equally unreliable index to conditions in different countries, even though within a country like England it may be a useful index to the economic position of different families. Within India itself, payments for housing accommodation vary enormously in rural and urban districts. For instance, in the Punjab, whereas rural accommodation may be estimated as costing 4 annas per month, rent in urban areas costs at least Rs. 3 per month.[1] It is pointed out that this in many cases more than compensates for the difference in wages.

(iii) Overcrowding is tolerated in Bombay city that would not be borne in Western countries, although one would expect the tropical conditions of Bombay to necessitate more, rather than less, elbow-space. At the same time the Bombay expenditure on social ceremonies is far greater than any similar expenditure in the West. The average expenditure in Bombay city (according to Mr. Shirras) is Rs. 214 per marriage, Rs. 35 per funeral, and Rs. 18 for each special festival or anniversary. If the income of Bombay wage earners is spent on the payment of interest for loans incurred for such purposes rather than on improved housing accommodation, who can say that it is his income rather than his consumption or expenditure that is to blame? One other source of expenditure should be noted, namely, the remittances sent from Bombay to their families up-country. On the average, "single" men [2] remit 26·2 per cent. of their incomes, and men accompanied by dependents 3·2 per cent. Moreover, it is very questionable whether the decline in the percentage expenditure on food in Bombay from 68·7 per cent. in 1914 to 56·8 per cent. in 1923 represents anything like the improvement suggested. Was it not rather due to overcrowding and the consequent rise in rents?[3]

No attempt can be made to give any idea of the money wages earned by particular classes of workers or paid for particular

[1] *Punjab Wage Census*, 1922 (1923). As no actual "rents" are paid in rural areas, presumably the 4 annas is the estimated cost of upkeep and repairs.

[2] Namely, men who have not got their dependents with them.

[3] Were not also high rents the part explanation of the comparatively small percentage expenditure on food in Germany?

jobs for the country as a whole, as the variations are too wide to permit of the use of averages. The reported wages of common labourers in urban areas varied in 1916 between a minimum of 4 annas and of 13 annas 4 pies; those of carpenters in urban areas between 5 annas 4 pies and 1 rupee 8 annas; and those of workers in iron and hardware in urban areas between 5 annas 4 pies and 2 rupees 4 annas.[1] Careful investigations, on the model of those already quoted, will have to be carried out in many parts of the country before it is possible to generalize on the subject. At present no figures exist from which estimates can be made of recent changes in the real earnings of wage earners in India as a whole.

If we consider the period covered by the facts and figures quoted above as a whole, it is incontestable that economic progress has been made, both as regards the country as a whole and the working classes in particular. Between 1900 and 1914 it was no less than remarkable. Since 1914 prosperity has fluctuated, and while rapid advance has been made in some directions little or no progress seems to have been achieved in others. The balance is, however, undoubtedly on the side of progress, despite the world-wide depression after 1920–21. Agriculture, plantations, and large-scale industries have markedly developed, and foreign trade has recovered sufficiently from the depression to overtake the level reached in 1914, after making allowances for changes in the price level. The condition of the labouring classes has undoubtedly improved, although the poverty of the masses is still a by-word throughout the world. In conclusion it may be suggested that, if a more rapid and spectacular improvement is to be secured in the future, this can only be by measures aiming at far more than mere material progress.

[1] *Prices and Wages in India*, 1923, p. 172 *et seq.* The wages of rural workers varied just as much.

CHAPTER XVII

CONCLUSIONS

§ 1. RECENT TENDENCIES IN ECONOMIC DEVELOPMENT AND POLICY, p. 470.

Summary of the questions to be answered as a result of the inquiry undertaken above—Conclusion that a state of arrested economic development is still to be found in India, but that there are signs of social disintegration which may hasten the transition from the mediaeval to the modern—A short summary of the main lines of economic development since the beginning of this century, leading to the conclusion that there has been an increase in total production and a slight but definite improvement in the standard of life of the masses—The improvement, during the same period, in economic policy, and the conclusion that in consequence this policy can no longer be held to be an important factor in India's arrested economic development.

§ 2. THE ECONOMIC OUTLOOK, p. 473.

The obstacles to a great forward economic movement in India are to be sought not in the material, technical sphere, but in the sphere of social organization—The three fundamental obstacles are the tendency towards an excessive increase in population, the uneconomic outlook of the people, and the lack of co-operation between the Government and the governed.

§ 3. POSSIBLE LINES OF PROGRESS, p. 478.

On the assumption that India should aim at a better balanced economic system, she should attempt to stimulate industrial development—Her primary necessities are for the increased application of science to production, increased revenue (and hence productive expenditure), and an extended and improved educational system—The importance of co-ordinating economic policy—The need for and potentialities of reviving local life and effort.

§ 4. THE ECONOMIC UNIFICATION OF INDIA. CONCLUSIONS, p. 485.

The present extent of economic unification in India—The position of the Indian (Native) States—The desirability of economic unification —India may be considered to be an economic unit in the making.

§ 1. RECENT TENDENCIES IN ECONOMIC DEVELOPMENT AND POLICY

HAVING considered the fundamental social factors affecting Indian economic life, and each of the main aspects of that life, we must now draw conclusions from the evidence adduced with reference to the topics singled out in Chapter I for special inquiry.[1] These

[1] P. 8 *et seq.*

fall under eight main headings: (i) The extent to which India is still suffering from arrested economic development, and the causes thereof; (ii) the nature, extent, and results of the economic changes that have occurred since 1900; (iii) whether or not any improvement can be traced in the general standard of life; (iv) the extent to which the policy of the Government is responsible for the unsatisfactory features of the present economic situation; (v) whether or not India is on the brink of a great forward movement, which will bring her into line (economically) with the West; (vi) the main obstacles to more rapid economic progress; (vii) possible remedies for existing defects; (viii) the potentialities of economic unification.

The first four of these questions relate to the past, and will be considered in the present section, by summarizing briefly recent tendencies in economic development and policy. The likelihood of a great forward economic movement in the near future, and the main obstacles thereto, will be considered in section 2, followed (in section 3) by a discussion as to the most important lines of progress. Finally (in the concluding section), the potentialities of economic unification will be discussed.

In Chapter I the assertion was made that India is suffering from arrested economic development, and is still, in many respects, mediaeval.[1] This assertion, modified by the statement that there are signs of social disintegration, tending to hasten the transition from the mediaeval to the modern, is justified by the conclusions reached at every stage of our inquiry. We have seen that certain religious ideas and conventions, and the rigid social stratification and conservatism based upon those ideas and conventions, still pervade every sphere of life, and limit economic development at every step.[2] The resulting weakness of the "economic motive," and lack of economic enterprise, have prevented full advantage from being taken of existing knowledge, and have prevented adequate use from being made of India's great natural resources. India still has exceptionally high and exceptionally fluctuating birth and death rates[3]; the tendency continues for population to increase up to the margin of subsistence; the bulk of the population is still over-concentrated upon the land, and suffers from a heavy burden of permanent debt.[4] The general standard of health (and therefore of efficiency) remains exceptionally low, and the position of women calls loudly for condemnation.[5] Primitive means of production continue to prevail both in agriculture and in industry (with certain exceptions).[6] The workers in the organized industries live under cruel conditions, and, although some

[1] P. 2 *et seq.*
[2] See in particular chap. iii, § 2.
[3] Chap. iii, p. 39.
[4] Chap. viii, § 1.
[5] Chaps. iii and iv.
[6] Chaps. vii and ix.

improvement can be traced in the general standard of life, that standard remains pitifully low.

To some extent the self-sufficing, isolated village has been displaced as the basis of economic life, especially since the construction of the railways, but most cultivators still produce the bulk of what they themselves consume. The hold of caste—also mainly on account of the improvements in communications—tends to be weakened, but those effectively emancipated form but a negligible proportion of the total population.[1] The organized industries give employment to a larger proportion of the population, but mainly at the expense of the unorganized industries,[2] so that there is still little outlet for the surplus population on the land, and hence little to stimulate the adoption of labour-saving devices. The prevailing land systems fail to secure the best use of the land, or a satisfactory life for those dependent upon its cultivation. Millions are still born into already overcrowded homes, to claim a share in the family's (often) ill-chosen and insufficient food supply, only to eke out an under-nourished and disease-ridden existence, before they prematurely leave an unkind world.

The obvious failure to take advantage of existing and accessible knowledge, in spite of close contact with more materially advanced countries, is a sure sign of "arrested development."

Nevertheless certain hopeful signs have recently appeared, since the beginning of this century. The transport system now forms a fairly complete and efficient network, although the meshes of that network are not yet sufficiently fine. Improved types and varieties of crops and improved methods of cultivation have been adopted by a small but increasing proportion of the cultivators, great assistance having been rendered to this end, and in relief of indebtedness, by the co-operative movement. Certain indigenous industries have been reorganized and revivified. Considerable progress has been made by a number of large-scale industries, and some protection has been afforded to the workers therein. Foreign trade is prosperous and expanding. The pressure of taxation and of the land revenue on the masses has been lightened, and new, more elastic, less burdensome sources of revenue have been discovered.[3] Permanent expenditure upon unproductive objects, in spite of the natural increase in indebtedness during the war, has been decreased in proportion to expenditure upon productive and cultural objects. Credit facilities have been somewhat, though not adequately, extended, and—after alarming

[1] In spite of the attacks on caste it has recently been said that there are "no very convincing reasons for believing that caste is breaking down, despite the great changes in Indian material and social conditions during the last two or three generations." (*Moral and Material Progress of India*, 1925–26, p. 237.)

[2] Chap. iii, p. 64.

[3] Chap. xiv, p. 400.

vicissitudes, due to war conditions—a stable and tolerably efficient currency system has been established.[1]

These changes have resulted in a great increase in total production, and—as far as can be measured or judged—by a slight, but definite, improvement in the general standard of life.[2]

No less striking has been the change, since 1900, in the economic policy of the Government, which nowadays, whatever may have been the case in the past, is undeniably guided primarily by the interests and desires of the people—in so far as these can be, or have been, understood or ascertained. Whatever criticisms may be made with regard to the details of the policy pursued—and what Government is not open to such criticisms?—it can no longer be truthfully maintained that industrial development is deliberately hindered, that trade is consciously guided into channels designed to benefit foreigners, or that the revenue demands of the Government impose an intolerable burden on the masses. On the contrary, the Central and Provincial Agricultural Departments, together with the co-operative movement, have been the chief means of spreading improvements in cultivation.[3] Similar, though as yet less extensive work has been undertaken by the Provincial Departments of Industries.[4] Much has been done by legislation to protect the poorer classes (agricultural and industrial) from unfair exploitation and to improve their working and home conditions. Government efforts are largely responsible for the medical discoveries and for the improvements in general health and sanitation. Certain Indian industries have received protection to the detriment of British exporters,[5] and—when allowance has been made for the change in the price level—the unavoidable contributions per head of the poorer classes to the State have been lessened.[6] Still more might, no doubt, be done to stimulate development along desirable lines, but the main blots on Governmental policy in the past have now been removed, and it would be a gross travesty to represent the policy now in force as in opposition to the interests and ascertainable wishes of the people. The present economic policy of the Government cannot be considered as an important factor in India's arrested economic development, or as fundamentally responsible for the unsatisfactory features of the economic situation.

§ 2. THE ECONOMIC OUTLOOK

Having answered the questions posed with regard to past developments and policy, we must now consider those referring to the present and the future, of which the first is whether or not the

[1] Chap. xv, p. 426. [2] Chap. xvi, p. 469. [3] Chaps. vii and viii.
[4] Chap. ix, § 3. [5] Chap. xiii, § 2. [6] Chap. xiv, p. 400.

way has been prepared for a great forward movement that will bring India into economic line with the industrialized countries of the West.

My own conclusion is that from the purely material, technical point of view there is no reason why rapid advance should not be made. India has at least her fair share of natural advantages, and there is no evidence to show that under favourable conditions Indian workers—supervisory, technical, and manual—are not capable of becoming as efficient as the inhabitants of other countries who work under similar conditions. The climate itself has advantages as well as disadvantages, and scientific research has already done much, and should do more, to reduce the latter and increase the former. But I am convinced that no such rapid advance can take place in the absence of fundamental social reorganization. No amount of protection, no efforts of Government to promote scientific research and propaganda, to assist new industries, or improve communications and public works, will effect any radical improvement in the economic condition of the people, unless certain obstacles are removed that affect economic progress fundamentally. Three classes of obstacles may be distinguished.

First and foremost, it must be definitely recognized that general prosperity in India can never be rapidly or substantially increased so long as any increase in the income of individuals is absorbed not by a rise in the standard of life, but by an increase in the population.[1] The population problem lies at the root of the whole question of India's economic future, and it is useless to try to bilk the fact. It is difficult to avoid the conclusion that no matter how productivity is increased, economic organization is improved, public health is promoted or industrialization progresses, the standard of life of the masses will not and cannot be raised to a satisfactory level until changes have been introduced which will enable the size of the population to be better adjusted to economic resources. At present, on account of the strength and universality of certain customs and institutions, no satisfactory adjustment is secured. The requisite reforms fall within the social rather than the economic sphere, and belong to a domain from which the present Government is excluded both by popular desire and deliberate policy. It is a curious paradox that nothing would end British rule in India more quickly than any attempt to introduce just those reforms which would do most to improve the well-being of the masses. A well-proportioned decrease[2] in the birth-rate would unquestionably result in an

[1] Chap. iii, § 2, p. 40.

[2] *I.e.* the decrease should not be confined to certain areas or certain classes. I have been told on first-hand authority that there is a distinct tendency in certain rural districts for the better-class families to decrease not only relatively to the poorer classes, but in absolute numbers.

increase in income per head, which would enable each individual to procure and utilize more knowledge and capital, and would enable the State to raise a larger revenue which it could expend in spreading economic, as well as general education, and in initiating and assisting new economic projects.

Where is the Indian Malthus who will inveigh against the devastating torrent of Indian children?[1] The problem of how the torrent can be checked at its source is not an economic one and cannot, therefore, be discussed here, but it should be clearly understood that the effects of the present increase of population are of fundamental economic importance, and that the benefits of the campaigns against dirt, ignorance, and disease will not be realized if the birth-rate continues at its present level.[2]

The second fundamental obstacle to economic progress in India is the present uneconomic outlook of the people. The results of particular economic tendencies and measures depend upon the milieu within which they work. In discussing the working of economic laws in India the same assumptions cannot at present be made as in America or Western Europe. Failure to recognize this fact can only cause disappointment by leading to the adoption of measures which have proved efficacious in the West, but which are not appropriate to Indian conditions. Even the laws of supply and demand depend upon certain assumptions with regard to social conditions and the economic nature of man, which, as a matter of fact, are not always justified.[3] For instance, it cannot be assumed in India (nor everywhere else for that matter) that an increase in the price of labour will necessarily lead to an increase in the supply of labour. New industries can only be a success if they attract a supply of labour suitable in quantity and quality to the requirements. To the extent that labour is not mobile and is not attracted by higher wages, it will be impossible, or at least extremely difficult, to extend large-scale modern industries on a commercial basis in India. "One cannot help feeling that, until you can push ahead with primary education and get the workers to find useful ways of spending their money, they are not going to have any incentive to earn more."[4]

[1] Even if the tendency towards over-population is not admitted it will be difficult for anyone to deny the economic disadvantage of the extraordinarily high death-rate, and particularly of the high infant mortality rate, that accompanies the present high birth-rate.

[2] "The obvious remedy," says Mr. Darling, "is to defer the age of marriage till wife and family can be properly supported. Unfortunately, in India it is a semi-religious duty to marry, and, like all religious duties, the obligation is apt to be undertaken without counting the cost." (*The Punjab Peasant in Prosperity and Debt*, p. 287).

[3] G. Cassel, *Fundamental Thoughts in Economics*, chap. i.

[4] "Proceedings of the Third Conference of Directors of Industries," *Bulletin of Indian Industries and Labour*, No. 18, p. 14 (1921). In this context the really remarkable effects of the agitation against the consumption of alcohol in the mining

Again, in India it cannot be assumed that if the Government stands on one side private individuals will seize the most promising openings and initiate enterprises that are likely to prove remunerative. Neither capital nor labour is mobile, and competition does not tend to produce an equality of returns from the marginal doses of labour and capital. The truth is that an economic outlook does not prevail, and that, as long as the economic motive cannot be relied upon, it is extraordinarily difficult to predict the results of economic measures or in any way to influence or to guide economic development. If there is to be economic achievement, there must be economic effort, and economic effort can only result from the adoption of an economic outlook and from a readiness to modify social customs and institutions in the interests of material development. A static social ideal cannot coexist with a progressive economic ideal. The ascetic hermit cannot expect his cell to be lit with electricity and warmed by central heating. Modern methods of production depend upon division of labour, large-scale production, and the application of science to production, and these presuppose a certain level of education, regular disciplined work and, above all, economic ambition.[1] An increase in prosperity can only be expected from the co-operative efforts of the members of a community in which the economic motive prevails. It need not, however, be assumed that the economic motive must prevail to the exclusion of all others.[2]

The conclusion is that a change in the outlook of the people, whereby they may become willing to modify their social customs and institutions in the interests of economic progress, is a fundamental condition of such progress in India. The chief social reforms that are relevant to the problem of economic development have already been considered at some length in previous chapters,[3] and include the removal of religious and caste hindrances to efficient production, to the mobility and efficiency of labour, and to economic expenditure and consumption; reforms with regard to the social ideals of the people, which will engender a more widespread and intense desire to render social service; and reforms with regard to the social and economic position of women.[4]

districts a few years ago may be noted. The miners literally did not know what to do with their surplus income and immediately disposed of the latter on sexual dissipation and in other undesirable ways.

[1] If it be asserted that the economic motive is mean and despicable, should it not be concluded that the results of economic effort are also mean and despicable? In that case there is surely no reason to deplore the low level of material prosperity.

[2] At present many Indians appear to want to have it both ways. They profess to despise material welfare, at the same time as they complain bitterly that material welfare has not been efficiently promoted.

[3] *V.* chaps. iii and iv.

[4] The importance to society of the efficiency of those in whose hands lies the management of the home and early training of the coming generation needs no elaboration.

The third fundamental obstacle to economic progress in India is the lack of co-operation between the Government and the governed. Apart from fundamental constitutional changes the Government can facilitate such co-operation only by adhering most strictly to a policy which definitely aims not only at good government, but also at the elimination of any possible causes of suspicion of its motives. Insufficient attention has often been paid in the past to the necessity of conciliating public opinion in economic matters, but a change in policy in this respect has recently appeared; for instance, in the adoption of "discriminating protection," the repeal of the cotton excise, the purchase of stores in India, the institution of rupee tenders, the limitation of direct financial aid to companies registered in India, and in the proposals to link the currency with gold and to establish a central reserve bank. Only by granting more extensive economic self-determination can what has been called the "popular overvaluation of political power" be overcome. A great forward step would be taken if it was realized how limited is the power of the Government over economic development, and what great need there is for voluntary economic effort on the part of individuals. To imagine, for instance, that all that is necessary in order to induce industrialization in India is to adopt protective tariffs, or grant bounties on production, is entirely to misunderstand the factors at work, and grossly to overrate the power of Government and the potentialities of Governmental economic policy.

Although the power of the Government has been overrated, it is none the less true that the part played by the Government in the economic life of the country must necessarily be greater in India than in most other countries, owing partly to the scarcity of natural leaders in economic matters, and partly to the attitude and position deliberately assumed by the Government in India. After all, it has been the political connection with England that has brought about intimate economic contact between India and the West, been responsible for the "opening-up" of India, the establishment of large-scale factory and plantation industries, and for the existence of economic anachronisms within the country. Many of India's most pressing present-day economic problems are due to this connection, and the Government ought, therefore, to assume at least part responsibility for finding a solution. The difficulty is that no solution can be found without the whole-hearted co-operation of the people, and that it is particularly difficult for a "foreign" Government to obtain that co-operation, and to raise the revenue necessary for the performance of extensive economic and social functions. It can be concluded that until fully responsible government is conceded it is to be expected, on

the one hand, that Government policy will be subject to drastic criticism, and, on the other, that too much reliance will tend to be placed upon it.

§ 3. POSSIBLE LINES OF PROGRESS

The most desirable lines of economic progress in any country depend upon the relation between the present economic situation and the economic goal of that country. It has been argued above that India should aim at greater national self-sufficiency, in the sense of endeavouring to attain a well-balanced economic system, capable of supplying the main necessities of life, agricultural and industrial.[1] If we assume this goal, it is obvious that it is of primary importance to stimulate industrial development, as India is still predominantly agricultural, and depends on imports for both many manufactured goods and for many of the elementary requisites of industrial production. Industrial development will not only help to produce a better balanced economic system, but will create a demand for the surplus labour that is at present dependent upon agriculture (and which will increase if modern labour-saving methods of cultivation are more extensively adopted), and lessen the competition for land, which at present tends to increase unduly both rents and the value of land. Hence it is a mistake to suppose that the improvement of agriculture and stimulation of industry are in any way antagonistic. On the contrary, both ideals can and should be simultaneously pursued. It has been said that "the problem of problems . . . is to supply some 'occupation' to a large proportion of the population which is wholly or partially idle, and, as a result, poor."[2] The development of industries would provide such an occupation, thereby relieving the pressure on the land, stimulating the use of labour-saving devices, and thus improving the position of the remaining cultivators, whose greater prosperity would enable them to invest more capital in the land, and to cultivate more intelligently. Thus the demand (of the cultivators) for manufactured goods would rise, at the same time as the productivity of the soil was increased.[3]

Granted the desirability of stimulating industrial development, the question arises how this can best be done. It appears that India has not yet reached a stage at which all that is necessary is to impose restrictions on the import of goods which it is desired should eventually be produced within the country.[4] Very few

[1] *V.* chap. xiii, p. 360.

[2] B. G. Sapre, *The Essentials of Indian Economics*, p. 113.

[3] Whether or not industrialization will help to raise permanently the standard of life of the population appears to depend in the last resort upon whether or not it is accompanied by that tendency towards a decrease in the birth-rate which has accompanied at least the later stages of industrialization in the West.

[4] *V.* chap. xiii, p. 362.

industries are in a position to benefit by such protection, and India's industrial deficiencies are likely to be remedied more quickly by untrammelled contact with relatively materially advanced countries, granting increased facilities for trade (external and internal), and by measures directed towards improving methods of agricultural and industrial production, rather than by placing difficulties in the way of importation.

India's primary needs for the improvement of both agricultural and industrial production are more science, more revenue available to assist the introduction of improvements, and better general and technical education.

In the agricultural sphere science is nowadays of primary importance. Agricultural progress depends upon the adoption of scientific plant and seed selection ; scientific breeding and care of cattle ; scientific sowing, tending, and harvesting of crops ; and the scientific preparation of products for the market, scientific packing, transportation, and marketing. The economic circle must finally be completed by scientific consumption of fresh and unadulterated foodstuffs of scientific dietary proportions.

Science is also of primary importance in mining, metallurgy, and industrial production. Efficient, profitable production in these spheres entails mass production by mechanical means, standardization, accuracy, and regularity, the use of chemical reagents for reduction and refining, and the utilization of by-products, often chemical in character. The industrial problems of India are thus to a great extent scientific technical problems, and, in particular, there is great need for scientific work in applying the principles already discovered in the West to the peculiar conditions of the East, and in discovering the methods of organization and arrangement most suitable to local circumstances.

Science is obviously also of primary importance in improving public health and sanitation, and in improving the home life and surroundings of the people.

In order to carry out the necessary scientific research, to spread a knowledge of scientific principles and methods, to establish experimental stations and pioneer works, and to assist private individuals to initiate novel enterprises, it is essential that the exasperating financial limitations of the past should be removed, and that Government should have a free hand to stimulate industrialization, and to ward against the possibly evil results of more rapid industrialization.[1] In this latter connection it may be suggested that the evil results of transitional periods should not be over-emphasized, as—great though they are—there are usually great benefits to be balanced against them. Sir Alfred Chatterton has recently suggested, for instance, that it is easy to attach too

[1] *Asiatic Review*, April 1923, p. 270.

much importance to the decline in the artistic handicrafts, and too little to the " advantages accruing from either the concentration of industry in suitable centres or of the cultivation of crops in areas where climate and soil conditions are favourable to their growth." [1]

Scientific work of the type outlined above, whether supervisory or manual, cannot be expected from either the Indian labouring classes, or from the products of the secondary or higher schools, under existing educational conditions. A different type of rural education, indeed of primary and secondary education in general, is absolutely essential for more efficient and scientific production, as well as in order to change the social ideals of the people. From this point of view both the conditions and necessary preliminaries of economic progress can all be condensed into one primary need —the need for education, more education, and better education.[2]

The present system of education is undoubtedly exceedingly ill-balanced. The masses are predominantly illiterate,[3] and although the proportion of middle-class males in secondary schools is actually greater than the corresponding figure for England and Wales,[4] the type of education given is too literary, or rather " clerical," [5] and unsuited to the needs of most of those receiving it. Moreover, few children who attend school stay long enough to retain literacy in adult life. Primary education should shortly be considerably extended, as Primary Education Acts, permitting local bodies to introduce the principle of compulsory education have, since 1918, been passed (or introduced) in all the major provinces.[6] Although the principle has thus been extensively adopted, it has so far only been put into practice in a certain number of districts, and the Royal Commission on Agriculture reported that only in the Punjab has any measure of

[1] *Asiatic Review*, January 1926, review of D. R. Gadgil's book, *The Industrial Evolution of India*.

[2] " Unless the ideas of the people can be enlarged, and their outlook extended beyond the narrow bounds into which tradition at present confines them, the masses must remain poor and ignorant; the women-folk limited in their sphere of activity; the progress of sanitation, and the conquest of disease must be indefinitely postponed." (*Moral and Material Progress of India*, 1924–25, p. 276.)

[3] In 1921 only 18·3 per cent. of the males and 1·9 per cent. of the females of twenty years and over were literate. The percentage of literate adult males ranged from 62 per cent. in Burma to 8·9 per cent. in the United Provinces, and of literate adult females from 11·8 per cent. in Burma to 0·7 per cent. in the United Provinces and Bihar and Orissa.

[4] *Moral and Material Progress of India*, 1924–25, p. 276.

[5] A. Mayhew, *The Education of India*.

[6] *Moral and Material Progress of India*, 1924–25, p. 279. The Bombay Act of 1923 made it obligatory upon local bodies to frame a scheme for making elementary education compulsory within a definite period. The Bombay Government undertook to defray two-thirds of the total additional expenditure. V. *Social Service Quarterly*, October 1923, and v. *Times Educational Supplement*, February 9, 1929, "Indian Education."

success yet been achieved.[1] Many attempts at improving the type of education provided have recently been made, and it has been said that " revised methods of inspection ; increased pay of the staff ; the encouragement of manual training, of physical development and of the boy scout movement—all these are features broadly typical of the new regime in most parts of India." [2] The danger spot appears to be women's education, for which it is often said that there is no effective demand.[3] That it is possible to create such a demand has already been shown by Mr. Brayne.[4] A fundamental difficulty is the scarcity of women teachers, which may be attributed partly to the universality of marriage and the family system (which affects widows as well as wives), partly to the atrocious salaries offered, and partly to the social difficulties which beset independent women in India.[5] Until this problem is seriously attacked, the whole future of India is imperilled. Even those who maintain that the female is the weaker sex, would do well to remember that the strength of a chain depends upon its weakest link.

As far as rural education is concerned, it is encouraging to read that in many provinces proposals have recently been made " for the introduction or development of an agricultural element." [6]

The prevailing low standard of life amongst the people of India is obviously another serious bar to the development of the type of skill required in scientific occupations.[7] Especially in industrial areas, higher wages, better housing, a better diet and freedom from indebtedness are essential prerequisites for the establishment of an efficient labour force. Unless industrial labour is given a more adequate share of the wealth that it is instrumental in producing, substantial economic progress is not to be expected.

It is thus apparent that simply to pursue the accepted policy in each main sphere of economic life will not suffice to stimulate a big forward economic movement.[8] What is needed is a better co-ordinated policy, which shall include matters that are indirectly, as well as directly, economic, framed with the object of placing

[1] P. 64 of the *Abridged Report of the Royal Commission on Agriculture in India.* Nevertheless compulsion is now enforced in certain areas in almost every province.

[2] *Moral and Material Progress of India,* 1924–25, p. 280, and *Times Educational Supplement,* July 7, 1928, " Compulsory Education."

[3] *Moral and Material Progress of India,* 1924–25, p. 280, and *Times Educational Supplement,* February 9, 1929, " India, Women's Education."

[4] *V.* chap. vii, p. 183, and p. 483 below.

[5] V. *Times Educational Supplement,* July 7, 1928, " Compulsory Education."

[6] *Indian Educational Supplement of The Times,* November 26, 1927, " Indian School Gardens."

[7] Here, of course, it is a case of action and reaction.

[8] The details of the policy that has been and might be pursued in the agricultural, industrial, commercial and financial spheres and with regard to social and industrial legislation and public health have already been discussed, and need not be repeated here.

in their right perspective each particular branch of policy. The Government has already taken some of the necessary preliminary steps for eliciting and co-ordinating information with regard to each of the various aspects of Indian economic life, by appointing a series of committees and commissions of inquiry, such as the Economic Enquiry Committee, the Indian Taxation Enquiry Committee, the Royal Commission on Currency and Finance, the Royal Commission on Agriculture, and the Royal Commission on Labour Problems.[1] On the basis of information thus provided it should be possible to construct a better balanced policy than heretofore, and we have already noted the emphasis laid on the importance of co-ordination and co-operation in the agricultural, industrial, and financial spheres.[2] In several provinces special development boards have already been established, with the object of stimulating greater co-operation between the departments dealing with agriculture, industry, and the formation of co-operative societies in the narrower sense.[3]

In every case the extension of known improvements depends upon widespread propaganda, which is peculiarly difficult in a country such as India, if dependence is placed mainly on centralized control and administration.

What is needed is some means of uniting the genius of East and West by resuscitating the indigenous local community, in order that the exact science and technical ability typical of Western progress may be extensively applied to Eastern conditions. A vision arises of a new India composed of local groups still highly differentiated and dissimilar, it is true—because based on local initiative and sectional individuality—but mutually tolerant and centrally co-ordinated by means of the technical efficiency of the West.[4] The possibility of realizing some such vision is fostered by considering what has been accomplished by

[1] *V.* chap. xii, p. 324.

[2] *V.* chap. vii, p. 180, chap. ix, p. 232.

[3] "Third Conference of Directors of Industries," *Bulletin* No. 18 (1921), pp. 136–139. At present there is a difference of opinion as to whether it is preferable to have a formally constituted Development Board, or to have informal conferences and co-operation between the heads of the separate departments. The President of the Conference said that there "appeared to be two different ideas as to what system should be followed. One was that of a development board with advisory boards which would place proposals before the former. The other was that each department should go ahead on independent lines and that all should meet periodically to find out what the others were doing." The President favoured the latter system. *V.* chap. vii, p. 182.

[4] Mr. Matthai (*Village Government in British India*, p. 19) has shown that even to-day the old communal institutions survive to a limited extent. In certain districts the villagers still manage private schools, the construction and repair of school buildings, tanks and well, the distribution of water to irrigated land, the settlement of small disputes, the common enjoyment of grazing and wood-cutting in forests, and the administration of village co-operative credit societies, without external help.

the Gurgaon scheme,[1] and the work in certain districts of the union (*i.e.* village) boards since the passing of the Village Self-Government Act of 1919.

Mr. Brayne's work in Gurgaon shows that the system there adopted is capable of affecting the very roots of village life, by promoting realistic education, and hence improving public health, methods of production, and the whole standard of living. Disadvantageous social customs and institutions, such as wasteful expenditure on ceremonies, excessive litigation, and the formation of senseless hoards of jewellery, tend to be voluntarily relinquished, whilst certain improvements (such as consolidation of holdings, afforestation, and the improvement of pastures and cattle-breeding) follow almost as a matter of course. The great contribution made by the scheme is that it offers a solution to the problem of propaganda. " The only new thing is the co-ordination of effort, or rather the popularization and application, by a specially trained staff of propagandists, of the many benefits which the various departments of Government have in store for the village." [2] Mr. Brayne asserts that a five years' intensive campaign would " see the beginning of the end of all the uneconomic and unhealthy customs we were brought up to speak of with bated breath," [3] and points to the boy scout movement and the introduction of village broadcasting as invaluable adjuncts which might be utilized in the future.

In order to extend the system to British India as a whole it would be necessary to establish a special agency for village uplift, with its own staff, training institutions, and money. In certain provinces this would not be difficult, as the nucleus for such an agency already exists.[4]

Mr. Brayne has pointed out that there are three main lines of criticism of the scheme [5]: *i.e.* (i) the personal equation, and the difficulty of securing continuity; (ii) finance; (iii) the population problem. Continuity would be secured if a special agency were introduced, but it would still be necessary to secure the enthusiastic, unremitting personal service of officials and non-officials. Given a certain amount of financial aid from voluntary sources (such as the proposed " Village Welfare Association " [6]) Mr. Brayne contends that the villagers would be able and willing to raise the necessary funds once the efficacy of the system were clearly demonstrated. Others are more sceptical on this point, and suggest that what appears to be

[1] *V.* chap. vii, p. 183.

[2] *Asiatic Review*, January 1929, p. 125. [3] *Ibid.*, p. 122.

[4] For instance, in the Punjab the new provincial " Rural Community Board " and the district " Rural Community Councils " might provide the desired nucleus.

[5] *Asiatic Review*, January 1929, p. 124. [6] *V.* chap. vii, p. 184.

needed is the munificence of an Indian Carnegie.[1] The population problem, is, perhaps, a still more serious difficulty. Mr. Brayne's argument that "no rise in the standard of living has ever yet been accompanied by an abnormal rise in the birth-rate,"[2] hardly seems to meet the difficulty, because even if the birth-rate did not rise the population would increase, as the scheme would certainly lower the death-rate. This would inevitably enhance the difficulty of improving the standard of life.

The work of the union boards in certain areas has been vividly described by Lord Ronaldshay,[3] who points out that the power of levying additional taxation possessed by these local units is resulting in the undertaking of more and more productive work by the village as a community.[4] Local patriotism and public spirit are thereby fostered, as is shown by the fact that individual gifts for various secular purposes are by no means uncommon. Lord Ronaldshay cites one particular case, in which a communal discussion as to the ways and means of constructing a large tank or reservoir led to the offer of all his savings for this purpose by one of the oldest inhabitants.

The only alternative to the development of some such new "culture-type" appears to be the whole-hearted adoption by India of Western methods, organization, and ideals, such as has occurred in Japan—an alternative that can hardly attract those who value the best elements in Indian civilization. Indian social organization is of particular interest at the present time, when in the West the tendency appears to be to advocate functional organization. At the moment the most popular goal seems to be placed half-way between the stratified functional organization of the East and the more fluid but non-functional, centralized and unitary organization typical of the West. The problem in India is how to retain the existing functional organization and develop India's potential powers of decentralized administration, whilst dissolving the unyielding barriers which rigidly separate group from group. On the other hand the problem in the West is how to develop functional organization, but to avoid the dangers of "stagnation and imperviousness to the demands of the general public on the part of each group."[5] The fact that India's contact with the external world during the last one or two centuries has been mainly with a country whose social organization is diametrically opposed to her own, and whose agents have consequently undertaken their task at a serious disadvantage, may partially explain the disappointing cultural effects of the present

[1] *Asiatic Review*, January 1929, pp. 135, 137.
[2] *Ibid.*, p. 124.
[3] *India : A Bird's Eye View*, chap. xii.
[4] For instance, these unions sink wells and obviate the payment of middlemen's charges by means of the voluntary labour of the villagers.
[5] *V.* M. Ginsberg, *The Psychology of Society*, p. 150.

artificial union of Eastern and Western forces. Hence the announcement that Indian affairs would henceforward be considered from "a new angle of vision" represented a very real step towards the solution of the problem.

§ 4. THE ECONOMIC UNIFICATION OF INDIA. CONCLUSIONS

We now come to the last stage in our inquiry. Can it truthfully be said that India is "an economic unit in the making?"

The difficulties confronting economic unification are the vast size of the country, the political divisions and the extremely diverse social and physical elements contained therein.[1] On the other hand, India[2] forms a clearly marked geographical unit, a not inconsiderable extent of economic unification has already been achieved, and there are a number of strong unifying forces at work.

We have already concluded that, from the physical point of view, unified administration has become possible with the introduction of mechanical transport and communications.[3] Many important economic services, including the provision of currency,[4] the tariff system, and (above all) the railways, are already controlled in a unitary manner throughout British India, and to a great extent throughout the Indian (Native) States also. The barriers to free internal communication and trade, in and between British and Indian State territories alike, are now few and of minor importance, although there are still many local differences in the detailed regulation of industry and trade.[5]

It has been truly said, with special reference to the railways, that the Indian (Native) States "are so situated that the main arteries of communication, which are vital both for the safety and well-being of the Indian Continent, run principally through State territory,"[6] and most of the (Native) State railways, even if still State owned, are administered by the British Indian railway authorities.

Although the Indian States still possess the right to levy their

[1] *V.* chap. ii, p. 11.

[2] *I.e.* excluding Burma. There seems to be a good case for the separation of Burma from the rest of India. See, for instance, *Times*, April 3, 1929, "Sorrows of Burma."

[3] *V.* chap. ii, p. 13.

[4] The currency is provided and controlled by the Imperial Government for India as a whole, *i.e.* including the Indian (Native) States.

[5] For instance, industrial legislation differs in the various Indian States, whilst different weights and measures are in common use not only in the Indian States, but also in different parts of British India.

[6] *Asiatic Review*, October 1928, "The Indian States and the Crown," by H.H. the Maharaja Dhiraj of Patiala.

own customs, in practice this is of little importance, as the bulk of their overseas trade passes through British Indian ports, whilst most of the States have abolished transit and internal duties, and, indeed, all inland customs barriers.[1]

Difficulties still arise sometimes on account of a difference in the import duties and regulations in force in British India and in Indian State ports, respectively,[2] and it is felt to be unjust—especially since the increase in the general rate of import duties in British India—that although prices have been raised in Indian States on account of these duties, the States receive no share in the revenue derived therefrom. Nevertheless on the whole the existing system works smoothly, and any injustice might be rectified, without great difficulty, by means of adjusting grants between the Imperial and the State Governments. The Indian States remain financially independent, and have complete control over internal revenue and expenditure, but this does not seem to have engendered discontent or any strong sense of injustice. Yet the position of the Indian States and their relations with British India are in many respects anomalous, and this aspect of the constitutional situation is amongst the most vital of the problems that must be solved before any further step is taken in the direction of self-government for British India. Recognition of this fact led to the appointment, in 1927, of a Committee to inquire into the relationship between the Indian States and the Paramount Power, "and to suggest means for a more satisfactory adjustment of the existing economic relations between the Indian States and British India."[3] Thus it is certainly true, though often overlooked, that "the prosperity of India as a whole is very largely dependent upon effective co-operation between the governing authorities in British India and the governing authorities in the Indian States."[4] Although this problem is bound to have far-reaching economic effects, it is primarily a political question, and hence further discussion of it would be beyond the scope of these pages.

It is important to notice, in discussing the potentialities of economic unification, that in the past, even in the absence of political unity, there has long been a marked unity of cult and custom amongst the various layers of Indian society, owing to the

[1] *Asiatic Review*, October 1928, "Fiscal Inter-Relation of Indian States and the Empire," by Col. K. N. Haksar.

[2] Some of the Indian (Native) States have not adopted the British Indian tariff. V. *Indian Trade Journal*, July 14 and July 21, 1927.

[3] V. *Report of the Indian States Committee*, 1929. See also *Asiatic Review*, July 1928, "Joint Action among the Indian Princes," by L. F. Rushbrook-Williams; Report on the *British Crown and the Indian States* (1929); and Shah, K.T., *Federal Finance in India*, chap. v (1929).

[4] *Asiatic Review*, October 1928, "The Indian States and the Crown," by H.H. the Maharaja Dhiraj of Patiala.

horizontal distribution of differences due to religion, education, and caste.[1] British rule has stimulated the tendency towards unification by means of Western education, and in particular the English language, as well as by the introduction of centralized administration (in British India) and of the economic services mentioned above, throughout India as a whole.

The existence of very varied natural and social resources makes it all the more desirable and reasonable, if it should prove practicable, to aim at eventually welding India into an essentially self-sufficing economic unit, comparable with the United States. Localized production and marketing are not in consonance with the scientific exploitation of natural resources, and it would be an economic sin not to attempt to organize the economic life of India on the best possible basis. Hence the contention is that India is an economic unit in the making; that unification (in essentials) is both desirable and—in the absence of political catastrophe—possible; though it is an open question whether the best results will be obtained by retaining, as at present, a definitely unitary government for British India (delegating functions and powers to the provinces), or by forming a federal, or quasi-federal government, composed of more or less independent and self-determining provinces.[2] In settling this question it will be necessary to take into consideration what type of relationship is to be established between British India and the Indian States.

In conclusion it can be said that India's economic future depends, in the main, not upon the inauguration of particular schemes of development, or the adoption of particular lines of policy, but upon more fundamental social reforms and reorganization, directed towards controlling the size of the population, breaking up the existing over-rigid social stratification, stimulating enterprise and energy, promoting education, and replacing the forms by the spirit of religion. India is crying out for the persistent and unstinted efforts of her people—male and female—inspired by a clear vision of the potentialities of the future, unshackled by bitter and unavailing reflection upon the past, to help her to loosen the bonds of tradition, caste, and superstition. Thus and thus only will she at last attain her rightful position as a free—and free internally, not only externally—and prosperous member of the Commonwealth, not merely of the Empire but of the Nations of the World.

[1] *V.* chap. i, p. 3. [2] *Moral and Material Progress of India*, 1926–27 p. 41.

APPENDICES

A. Indigenous Midwifery, p. 489.
B. Infant and Maternity Mortality in Bombay, p. 491.
C. "Mother India," p. 495.
D. Sanitary Conditions in India, p. 496.
E. The Legal Position of Managing Agents, p. 501.
F. The Production of Steel at Jamshedpur, p. 505.
G. The "Drain" to England, p. 509.

APPENDIX A

Indigenous Midwifery

The following extracts from a paper written for the Delhi Infant Welfare Exhibition 1919, by Dr. Miss Jerbanoo Edalji Mistry, L.M. & S., will give some idea of the nature of the "medical" treatment at present meted out to Indian women at childbirth, and will serve to illustrate the urgent need for scientific education in India. Most Indian families owing to ignorance still prefer such treatment to European medical attention, even when the latter is easily accessible and not beyond the financial means of the patient.[1]

"*My Experiences of the Harm wrought by Indian Daïs*[2]

"The Daï is the one person who is looked upon as a saviour in all diseases of women by the illiterate Indian women. The daï considers herself qualified to attend all labours normal and abnormal, and all the pelvic diseases. Cleanliness is a thing unknown to her. Soap and water are her great enemies. Often she is so dirty that she stinks, and her hands and nails are covered with dirt, particularly the nails, which are long and perfectly black on account of the dirt underneath. To ask her to wash her hands before making an examination is to inflict on her a great unforgivable indignity.

"To witness her method of conducting a labour case is a liberal education. Generally the dirtiest and the dingiest room in the house is selected, or, if the family lives only in one room, a corner of it is curtained

[1] The following extracts illustrate only the violation of the ordinary rules of health and sanitation. Medical details are deliberately excluded as unsuitable to the scope of this book. The whole paper was published in the *Grant Medical College Magazine*, Bombay, April 1924.

[2] *I.e.* midwives.

off. The dirtiest rags in the house are used for linens and diapers, etc., and the dirtiest and the most useless 'Razai' or mattress is used for bedding. In short, everything that is unfit for domestic purposes and has been discarded is used at the time. . . . After delivery of the child and the placenta, the patient is made to stand up leaning against a wall, while the daï presses her head on the abdomen above the uterus to expel anything that may be left behind. In many instances the patient is given a bath at once. After this a big lump about the size of a tennis ball is prepared out of common salt and jaggery and inserted into the vagina. This preparation is used for ten days and is considered a sovereign remedy for preventing all the ailments incidental to labour. A part of this preparation removed from a labour case is considered the surest remedy for curing sterility, and often the daï removes it by stealth. . . . but woe to her if she is caught in the act, as it means getting into serious trouble because it is supposed to render the woman sterile in future. The patient is then put on a cherpoy [1] and covered with a warm blanket, seldom any clothes are put on her, all the doors and windows are closed most scrupulously to shut off light and air, as exposure to air is supposed to give fever, and then big trays about two feet square full of burning coal are arranged under the bed, a 'shigri' [2] is kept burning in the room, and heated bricks or tiles are applied to the abdomen. For ten days, the daï attends morning and evening, rubs the patient's body and abdomen with sweet oil, inserts the above-mentioned preparation into the vagina, and takes away the soiled linen to wash at her house and bring them back the next day. Here she makes one bundle of all the clothes belonging to different cases, so that if she has one septic case all the rest of her patients stand the risk of catching the infection.

"In the way of food, a decoction of dill, fruit and jaggery [3] is given for the first five days. Bajra conji [4] without any milk for another five days and then gradually solid food. This goes on for twenty days. . . . During all this time the patient is kept confined to her corner, without light and ventilation, roasted alive with the heat, and on the above-mentioned highly nutritious diet. Nobody of course touches her. The child, after delivery, is then given some jaggery and put in a corner of the room on a low stool to which all sorts of insects have access. Once I found a scorpion on the cot and it is nothing unusual to see ants crawling all over it. Among some of the Hindu communities no clothes are put on the child for forty days even in the coldest weather. . . . Even when the daïs send for qualified medical aid, they do so so late that we are not able to save the patient, and then she gets an excuse to shift the blame on the doctor and impress upon the ignorant relatives and friends that it was our English method that killed the patient. Is it any wonder, after the above treatment, that so many women die during labour? To me the wonder is that so many survive!

"In my opinion it is futile to expect a daï who gets only Rs. 5 or 10

[1] A wooden bed with strings in place of springs.
[2] Small charcoal fire. [3] Raw sugar.
[4] A "pudding" made of millet and water.

or 15, without adequate supervision, to do everything in an antiseptic manner even after training her. She generally goes back to her old ways, and it is not altogether her own fault. Her surroundings, people's habits and superstitions have to be taken into consideration also. The old women are so used to old customs and practices, that if she tries her newly acquired methods, she sometimes stands the risk of losing her patients. I had a daï working under me in a charitable lying-in hospital for a couple of years. . . . She used to wash her hands with soap and water, then lotion, etc. One day I asked her if she carried out my instructions in her private practice and her answer was : 'Who is going to supply me with soap, lotion, clean towels, etc. ? Not certainly my patients.' Hence I say that we must not content ourselves by training the daïs only, but we must do our best to train public opinion in this matter . . . and . . . our endeavours must not be confined to women only, but men must be enlightened more than women, because a man is the lord and master at home . . . and if he choose . . . in a great majority of cases he can place the wife in the hands of a qualified person in preference to a daï."

APPENDIX B

Infant and Maternity Welfare in Bombay

In discussing Indian vital statistics[1] the facts have been noted that, on the one hand, recorded infant mortality and maternity death-rates in India are terribly high (in spite of defective registration which probably conceals the extent of the evil), and that, on the other hand, during the last few years considerable improvements have been effected in a number of cities, owing largely to the progress of the Infant and Maternity Welfare Movement.[2] In Bombay city, although the infant mortality rate is still very high, a steady reduction has been effected since 1921.[3]

In 1924 the deaths of 9,156 infants under one year were registered in Bombay city. Of these, 6,638 (or nearly 72 per cent. of the total) were recorded as due to diseases of the respiratory system, infantile debility and premature birth ; 1,016 to convulsions ; 674 to diarrhœa and enteritis ; 218 to smallpox ; 63 to malaria, ague and remittent fevers ; and 56 to measles.[4] It is clear that a large number of these deaths are due to preventible factors, including deleterious pre-natal influences, lack of skilled medical attendance, and insanitary surroundings.

The Executive Health Officer of the municipality cites, as the main causes of the city's high general death-rate, the defective water supply, insufficient sewers (and hence the contamination of milk and other food by flies from basket privies), syphilis, and overcrowding. These evils are particularly inimical to infants.

[1] Chap. iii, § 1. [2] Chap. iv, p. 88. [3] *V.* Table V, B. p. 521.
[4] The causes of the remaining 491 deaths are not given in the *Report of the Director of Public Health for the Province.*

The following figures showing the correlation between infant mortality and housing are significant, whether the cause of the higher death-rates be poverty in general, or actual overcrowding :

Infant Mortality Rates :[1] *Bombay City* 1925.

Single-room tenements [2]	503
Two-room tenements	242
Three-room tenements	236
Four or more room tenements	157
Hospitals	100

On the other hand, an analysis of the infant mortality rates of different sects and castes gives the following results, which suggest that, at least for Hindus, there is no very definite correlation between poverty and a high infantile death-rate :

Infant Mortality Rates per 1,000 *registered births in* 1925.

Brahmans	547	Bhatias	392	Parsees	156
Banias	469	Musulmans	361	Anglo-Indians	205
Hindus "other castes"	360	Indian Christians	373	Europeans	118[3]
" "low caste"	392	Jews	160		

The high rates for all communities, including Europeans and Parsees,[4] suggests the presence of specific adverse factors common to all communities. There does not, however, appear to be much force in the Executive Health Officer's suggestion that the explanation may be the prevalence of malaria and (in the case of the poorer communities) the custom of administering opium to infants, as these factors are present throughout the greater part of India. The true explanation appears to be the prevalence of those conditions, mentioned above, which affect adversely the general, as well as the infantile mortality, rate. This view is supported by the fact that the general and the infantile death-rates invariably tend to rise and fall together.

It is remarkable that the higher classes of Hindus, *i.e.* the Brahmans and Banias, have much higher rates than any other communities ; rates that greatly exceed those of the low-caste Hindus. It is probable that a relatively large number of Brahman and Bania infants are born outside the city, and allowance should certainly be made for an error of this type,[5] but the custom of going home to be confined is certainly not limited to the higher caste and more prosperous women, so that there is

[1] Per 1,000 births. (*Annual Sanitary Report* (Bombay Presidency), 1925, p. 12.)

[2] In 1921 66 per cent. of the population of the city lived in one-room tenements.

[3] 1925 was an exceptionally favourable year for European infants. In 1924 the rate was 204.

[4] The registration of infantile births and deaths is practically complete for these two communities, and the proportion of the poor and very poor among them is low. (*Annual Sanitary Report* (Bombay Presidency), p. 12.)

[5] No light is thrown on this possibility by the Report.

certainly reason to suspect the existence amongst Hindus of some factor which prevents the higher classes from benefiting, as regards infant mortality, from a superior social and economic position.

This factor may well be sought, to some extent at least, in the Hindu customs, so forcibly pilloried by Miss Mayo, with regard to girl marriage and child-birth.[1] It should be noted, however, that the infant mortality rate for Musulmans, no doubt aggravated by the purdah system, is about the same as that for "Hindus, other castes," and that, as far as can be judged, the average age of marriage is higher, and more women receive skilled attendance at child-birth, in Bombay, than throughout the country as a whole. One would, therefore, expect the ill-effects of early marriage and of mismanagement of confinements to be less in Bombay than in many other districts and cities.

Both municipal and voluntary infant and maternity welfare work have made rapid progress in Bombay since their start during the war, and much more readiness is shown now than at first to take advantage of the facilities offered.

Ten municipal "District Nurses" visit and advise expectant mothers, attend confinements, and visit the new-born. Three municipal maternity homes[2] and two infant milk depots (which distribute pure milk free, or at a nominal price) have been established; relief is administered to poor women during confinement in the form of necessaries and comforts,[3] and ten voluntary welfare centres have been started by the Infant Welfare Society. This Society provides, through the centres, advice and instruction to mothers, medical aid to infants, and a staff of trained nurses who visit the homes.[4]

In 1925 the municipal nurses visited and verified 45 per cent. of the total registered births. Of these 45 per cent., no less than 27 per cent. took place in hospitals, 15 per cent. were attended by municipal midwives, 9 per cent. were attended by other qualified midwives, 43 per cent. were attended by unskilled women, and 6 per cent. were unattended. Even if we assume that all the births that were not "verified" were unattended or attended by unskilled women, it appears that 17·3 per cent. of the total births received skilled attendance (*i.e.* 11 per cent. in hospitals and 6·3 per cent. by municipal and other qualified midwives). Considering the recent origin of the whole movement this must be considered evidence of very satisfactory progress. In outlying and rural districts in the Presidency much less has been done, although welfare societies have been started in various centres; baby shows are held throughout the Presidency, and there is a scheme for training village daïs.

In Madras city the number of welfare centres (twenty-three in 1923, forty-five in 1924, fifty-eight in 1925, and fifty-three in 1926)[5] is much

[1] *V.* Appendix C, *Mother India* p. 495.
[2] In 1925, 1,676 women were admitted to these homes.
[3] 426 cases were thus assisted in 1925.
[4] *Annual Sanitary Report* (Bombay Presidency), 1925.
[5] The decrease in 1926 is reported as "most disappointing in view of the great necessity for a wide expansion of the activities carried on by these Centres." (*Annual Report*, p. 29.)

greater than in Bombay, and in 1926 no less than 38 per cent. of the labour cases were attended by trained midwives,[1] but in rural districts only 3 per cent. were thus attended. On the other hand the infant mortality rate in Madras has not shown a steady decline, but has tended to rise in accordance with greater accuracy of registration.

Space forbids detailed treatment of the figures for other presidencies, but it can be said that the infant welfare movement is undoubtedly spreading throughout the country as a whole, and that, at least in urban areas, skilled advice and attention have now been made available for an appreciable proportion of mothers and infants.

The registration of the deaths of women at child-birth is still so incomplete that no general figures can be quoted. In certain districts of Madras city 15·6 maternal deaths occurred per 1,000 registered births, whilst in Bengal it was estimated on the basis of Calcutta figures that there were three maternal deaths per 1,000 registered births.[2] One can only conclude that at present it is impossible to infer anything from the inadequate data available.

It is worth noting that in the United Provinces the infant mortality rate has considerably and steadily declined since 1906,[3] and that in the Central Provinces it is reported that "in most of these cases the mortality is due to interference by the untrained daïs, who attend the labour and also on account of the want of proper care and treatment after delivery."[4]

The following figures show the registered infant mortality (per 1,000 registered births) in 1926 for each province:

Infant Mortality Rates.

Central Provinces	253·3
Punjab	203·4
Burma	201·4
Bengal	196·7
Bombay	194·6
Madras	189·5
Assam	181·9
United Provinces	177·3
Bihar and Orissa	147·7
North-West Frontier Province	146·5

It may be noted that the Punjab has nearly the highest rate, in spite of relatively great economic prosperity, and that the North-West Frontier Province—where girl marriages are unusual—has the lowest. But the defectiveness of registration, which is general, but which differs to an unknown degree in different provinces, precludes safe deductions.

[1] Thirty-two per cent. in all municipalities throughout the Presidency.
[2] These are amongst the more accurate estimates.
[3] *I.e.* from 250·9 to 177·3 per 1,000 births.
[4] *Annual Sanitary Report* for 1926.

APPENDIX C

"MOTHER INDIA"

MISS MAYO'S widely read book, "Mother India," deals with many of the problems discussed in chapters iii and iv. Her central thesis is that "the whole pyramid of the Indian's woes, material and spiritual—poverty, sickness, ignorance, political minority, melancholy, ineffectiveness . . . rests upon a rock-bottom physical base. The base is, simply, his manner of getting into the world and his sex-life thenceforward." [1] In support of this thesis she describes and discusses the position of Indian women, the marriage system, child-birth and the caste system (in its various ramifications).

In calling attention to the gross and widespread evil results of certain customs connected with girl marriage, caste, and child-birth, and to the urgent need for reform of these institutions and customs, Miss Mayo has performed a real service to India. But by presenting her facts in such a way as to lead to unwarranted conclusions, by omitting altogether the idealistic and brighter side of the picture, and by entire lack of understanding of the Indian point of view, she has failed to produce a fair and well-proportioned representation of the facts, and has rendered a disservice to the cause of better mutual understanding between East and West.

Miss Mayo suggests to the reader generalizations based not on typical instances, but on exceptional pathological cases, as when she infers that sexual intercourse (involving gross physical cruelty) is common between adult husbands and their wives of eight, nine, or ten years old, or when she implies that most Indian men are decrepit and querulous old wrecks at the age of thirty.[2] At other times she makes apparently quantitative statements about matters for which accurate figures do not exist, as when she says that seven to eight out of every ten average male Hindus (who have sufficient means to command their pleasure) are impotent between the age of twenty-five and thirty.[3]

The lack of adequate data often makes it difficult to contradict Miss Mayo's statements, except by simple denial that she has any basis for her assertions. It is not known, for instance, what is the statistical average, or the normal age of consummation of marriage in India, nor to what extent venereal disease prevails.

With regard to the consummation of marriage, Miss Mayo asserts that "the Indian girl, in common practice, looks for motherhood nine months after reaching puberty—or anywhere between the ages of fourteen and eight." [4] This certainly gives the impression that many mothers of eight, nine, or ten years old can be found in India, and that few (if any) first-born have mothers over fourteen. Complete figures do not exist to which reference can be made, and it is probable that throughout India as a whole the "norm" may be fourteen or thirteen years, but it is worth while to quote Dr. Balfour's evidence given in a letter to the *Times* of October 10, 1927. She quoted from just on

[1] *Mother India*, p. 29. [2] *Ibid.*, p. 25. [3] *Ibid.*, p. 34. [4] *Ibid.*, p. 30.

6,000 hospital cases of primiparæ. The average age was eighteen to nineteen years; twelve only of these mothers were thirteen (none younger) and thirty-five were fourteen years old. It is true that hospitals tend to attract a large proportion of members of the "enlightened" classes, and also that Bombay is probably not representative of India as a whole in this respect, but at the same time we know that maternity hospitals are growing rapidly in popularity in cities all over the country, and that the movement for raising the age of marriage and of consent has recently made great headway, especially in Indian (Native) States. In Baroda, Mysore, and Bundi, legislation has recently raised the legal age of marriage. In Rajhot a Bill has just been introduced to penalize all marriages below the age of nineteen for the bridegroom and fifteen for the bride. The Rajah Sahib of Mandi has just announced his intention of abolishing child marriage.[1]

Again, Miss Mayo dismisses, as almost beneath contempt, Dr. Hariprasad's contention that a main cause of the high death-rate in India is lack of sanitation.[2] Other causes there may be, but we have seen that lack of sanitation at least deserves "honourable mention." Presumably it is her contempt for matters of this kind that induces her to ignore the excellent and successful welfare work that has recently made such remarkable and encouraging strides in Indian cities.[3] The sin of suppression of pertinent fact is not far removed from that of mendacity.

Miss Mayo's picture of Indian family life and of the relations between members of the family certainly does not correspond with the impression of prevailing kindliness and affection which strikes those who have lived in India. In fact Miss Mayo indicts the whole nation, instead of the institutions and customs of certain (though certainly large) communities.

It may be suggested that it was not in the least necessary to exaggerate the facts in order to depict the existence of grave abuses, and to prove the urgent need for reform. The facts are quite bad enough in themselves, and were it not for the existence of nobler aspects of Indian life than those presented by Miss Mayo, it would indeed be futile to appeal to Indians to venture upon the thorny path of reform.

APPENDIX D

Sanitary Conditions in India

The best way to give an idea of the conditions prevailing at the end of the nineteenth century and to-day will be to quote selected descriptive passages from inquiries that have been carried out with the object of revealing the evils of slumdom and lack of sanitation.

For an excellent and detailed description of the sanitary—or rather insanitary—conditions to be found in a great many towns scattered throughout the country at the end of the nineteenth century, the reader

[1] In British India the age of consent is fourteen within, and fifteen without, the marriage bond.

[2] *Mother India*, p. 37.

[3] *V.* Appendix B, p. 491 above.

is referred to Appendix III of the Report of the Indian Plague Commission, 1898–99. A few selections only can be quoted here, but even these will give some idea of the conditions that prevailed and of the widespread nature of the evils revealed. Big and little towns, cities and even villages, suffered from defective drainage and ventilation and from dirt, whilst in the larger centres these universal evils were aggravated by much greater overcrowding, worse pollution of the atmosphere, and greater difficulty in obtaining water. Let us start with a quotation describing conditions in Calcutta.

"It possesses few advantages except the proximity of the River Hoogly, being flat, low-lying, and alluvial. By making a large number of tanks the level[1] has been somewhat raised in parts, but most of these tanks are so exceedingly foul as to come within the category of nuisances. In the native quarters of the town, buildings have been run up under little control, so that they are crowded together on the site. Add to this an increasing population, defective system of sewage, and an insufficient establishment of scavengers, and no sanitarian will be surprised that in spite of a considerable expenditure on the part of the town authorities the health of the town has steadily deteriorated."[2]

The most conspicuous evils upon which emphasis was laid related to drainage and conservancy. The description quoted above continues: "The condition of the house drains and 'down-pipes' which were intended to convey latrine and house and sullage water, were in a deplorable condition. In a large number of cases, the down-pipe was broken at from five to fifteen feet from the ground, and the water, urine, and liquid sewage from the houses were simply splashing on the ground, fouling the whole gali or lane, and soaking the walls of the houses which, in many cases, were most thickly covered with filth. Many of the interiors of the dwellings were pitch dark even in broad daylight, and rats ran about fearlessly as if it were the middle of the night. Walls and floors alike are damp with contamination from liquid sewage which is rotting, and for which there is no escape."

If we now turn to Bombay we find that similar conditions prevailed. "Large areas of Byculla are without drains, and buildings in other portions, where there are no drains, are on such low grounds that they cannot be drained . . . and in Khetwadi, where two large plague hospitals are placed, a large area—more than one-half—has buildings that heavy rains leave standing in sewage and water." The worst descriptions apply perhaps to the great chawls in the industrial areas. "On the ground floor is a narrow central passage about three feet wide with mud floor running the entire length of the building. At one end of this passage is the opening into the street; at the other is a latrine common to the floor on the one side, and the fresh-water cistern on the other. From this central passage doors open on each side into small cubicles. The floor of the cubicles is of mud, the partitions of wood or of small sticks plastered with mud. There is no window, no chimney,

[1] Above the subsoil water.

[2] The death rate was 28·7 in 1889 and 36·1 in 1897. In 1914 it was 28·3, it rose again to 35·0 in 1918, and fell to 28·4 in 1923. In 1926 it rose to 34·7. It is, therefore, difficult to trace any permanent tendency to improve in spite of all reforms.

no light or ventilation, save such as penetrate through the doorway from the dimly lighted central passage. The interior was reported as pitch dark at midday. The cubicles were normally ten feet square and eight to ten feet high. The number of persons who sleep in them is usually limited by the floor space, for on a rainy night, sleeping out of doors being impossible, they are like sardines in a tin. It may be added to this, as a result of personal observations, that the central passages of many of the chawls that were visited were nearly dark and were filthy with moist mud and human excrement; and that, as the above description implies, the chief, and sometimes the sole, means for the admission of air into the small dwellings or cubicles was by the passages." These dwellings were ventilated solely from the "sweeper's gali" (*i.e.* the passage between the houses). "Over these galis there is a constant passage of fluid carrying excreta containing organic matter. There is a continual throwing out of the windows of solid matter on to the gali; in fact the galis are the ashpits of the houses in Bombay. To show that this was not an exceptionally bad area, it was said that not less than 80 per cent. in the adjoining ward, are in a similarly insanitary condition."

In another passage the dwellings were described as having their floors completely covered with sleeping forms, and as having in addition beds hanging from the roof into which people were crowded for whom there was no room on the floor.

It is significant that the average mortality of Bombay in the five years preceding the outbreak of plague varied from 50 per 1,000 in the worst, to 20, 15, and 10 per 1,000 in the wealthier portions of the city.

The description of a comparatively small town, namely, Cutch Mandvi (a seaport with 38,000 inhabitants at that time), shows that although circumstances were somewhat different the results were very similar.

"The so-called streets are in reality narrow and tortuous lanes, the widest part not being more than fourteen feet wide, and most of them very much less than ten feet wide. The houses are for the most part built of stone, and are usually one storey in height, and nearly all of them enclosed by high walls with gateways leading into the courtyard, which is surrounded by small rooms which are ill-ventilated, gloomy, and dirty. . . . One courtyard is generally used as a stable for cows and other animals, and, as it is not the custom to clean these yards, the smell from them is usually very offensive. The habits of the inhabitants are decidedly dirty, the latrines are usually the streets. . . . A great many cattle are also kept inside the houses."

Three more short quotations must suffice to illustrate conditions at the end of the nineteenth and beginning of the twentieth century. The first refers to Nasik, an ancient and famous town of the Bombay Deccan. "The poorer houses in Nasik, and the great majority of the houses in Malegaon, are one-roomed, overcrowded, and without any window, and the floors are of earth and cow-dunged, if the people are well-to-do."

Secondly comes a description of certain districts in Karachi. "The foundations of these houses are saturated with sewage and filth of every description. There is generally a cesspool below the house which has not been emptied since the house was built, and the neighbourhood is

honeycombed with rat holes. The cesspool is probably situated close to a well from which water is drawn for washing if not for drinking purposes."

Finally comes this account of a moderate-sized town in the State of Baroda : " The dwellings of the ordinary people are of a poor description. They are damp, ill-ventilated, and constructed without regard to sanitary precautions. People and cattle dwell under the same roof, and the soil is saturated with human and animal excreta. The pollution of the soil, air, and water is common." [1]

All these accounts are quoted from the Memorandum by the President of the Plague Commission, in which he says that " it is apparent from the evidence that a considerable amount of effective sanitary work has been undertaken in several of the cities and larger towns of India during the last twenty years, especially in the direction of improving the water supply and introducing sewerage systems " ! The fact is that, as improvements have been introduced into one district, the evil conditions seemed simply to change their habitation, and cropped up as bad as ever in another district to which, temporarily, less attention had been paid. This was the great difficulty met with by the Improvement Trust in Bombay during the war. Broad roadways were opened up, tenements were cleared of their surplus population and condemned buildings were pulled down and replaced by new ones, but the expelled population had to live somewhere, and they settled in neighbouringn areas, taking with them the evils of overcrowding, dirt, disease. For we find—in spite of all that has been done of recent years to improve sanitation—that areas can be found even to-day that do not differ radically in their complete disregard for health and sanitation from those just described as existing in 1898. In Bombay, for instance where more has perhaps been done to improve conditions than in any other Indian town, sanitation is still extremely primitive in certain districts. The water supply tends to fail in the hot weather in the poorer quarters of the town, and is frequently off except during certain very limited periods of the day.[2] The number of taps per chawl in these quarters is at all times entirely inadequate. Sewers have not yet been laid in some of the poorer quarters of the city, and the night-soil is removed by hand, in baskets by the " sweepers," who carry them down the narrow gullies, which are often the only spaces separating adjoining buildings. Down the centre of the gullies run open drains. " The contents of the basket receptacles in the privy frequently overflow into the open drains and foul the gullies. . . . At times the cesspits also overflow or the drains become choked." [3] The

[1] It is interesting to note that in the middle of the nineteenth century London still had an intermittent water-supply, where water was laid on at all. In many quarters water for all domestic purposes was taken from the Thames where " the most abominable impurities " were said to have abounded. As late as 1865 the filth in the streets of New York was unbelievable. C. E. A. Winslow, *The Evolution and Significance of the Public Health Campaign*, p. 8.

[2] In those quarters where one tap serves many dwellings and there is no means of storing water, the serious results of these measures can well be imagined. Where water-closets had been installed the flush system naturally failed to work when the water was cut off.

[3] A. R. Burnett-Hurst, *Labour and Housing in Bombay*. Mr. Hurst gives a vivid description of conditions of life in the working-class districts between 1916 and 1919.

" sweepers," who are supposed to remove the excreta to the night-soil depots, " frequently shirk their duties and empty the contents of the baskets into the open drains. Add to this the practice of throwing all kinds of household refuse and filth into the gullies by the people in the rooms overlooking them, and one can form some slight conception of the strength of the smell. . . . Is it surprising, then, that the windows of rooms which overlook the gullies have to be kept closed to shut out the stench ? The conditions under which the occupants of these rooms—one of which, be it noted, often shelters several families—have to cook, eat, and sleep, can well be imagined when it is remembered that the only sources of light and ventilation are the window opening on to the gully and the door by which they enter the room." These gullies are sometimes not flushed with water for months at a time. In addition, nuisance is caused by the fact that there are no dustbins in the poorer quarters of the city, and that refuse is dumped down anywhere and left to rot. A still more recent investigation—that carried out in 1922 by the lady doctor appointed to report on women industrial workers in Bombay, with special reference to the provision of maternity benefits [1] —reveals the fact, that in spite of manifold efforts at improvement made during the last few years, similar evils still persist. Dr. Barnes compares the conditions in the factories with those in the chawls, to the great detriment of the latter. " Observations made in the mills visited, in comparison with the chawls visited," she says, " proved that the hours spent in the mills were healthier and more hygienic for the women industrial workers, than those spent in their own chawls. . . . Every mill so far visited, had large, well-lighted, well-ventilated workrooms, whereas in the chawls every ventilation space was closed and the air full of impurities of every description." In addition, " nearly every chawl contained animals such as goats, fowls, dogs, cats, and, in some cases, monkeys. Rats were also in evidence in most rooms visited." One instance was quoted of a room fifteen feet by twelve feet in which no less than six families were living—each of which had its own separate oven—making in all a total of no less than thirty persons, including children. Three out of six women were expecting shortly to be delivered, and the district nurse who accompanied Dr. Barnes pointed out to her a space of some three feet by four feet " which was usually screened off for the purpose." The Census of 1921 gave evidence that overcrowding of a gross description was not uncommon in the city, as there were no less than 135 known instances in which a single room was occupied by six or more families.

Although conditions—especially as regards housing—are probably worse in Bombay city than anywhere else, overcrowding is by no means confined to that city. Some interesting sidelights on the housing conditions of jute workers in the Bengal tea districts and coalfields, and in other miscellaneous Bengal industries, have recently been given by Dr. Curjel, in her report on " Women's Labour in Bengal Industries." [2] Jute workers outside Calcutta live either in close proximity to the

[1] *Bombay Labour Gazette*, September 1922, " Final Report of the Lady Doctor on Maternity Benefits to Industrial Workers."

[2] *Bulletin of Indian Industries and Labour*, No. 31, 1923.

mills, in one-roomed houses owned by the mill authorities, and often in the mill compound itself or in the bazaar, or in the so-called " basti " houses—*i.e.* coolie lines built outside the factory area. The mill-owned houses are built as a rule in densely populated areas and are extremely closely packed, often being " back to back." It is here that overcrowding is worst. Not more than four adults are supposed to occupy these one-roomed houses, but frequently subletting is carried on and as many as eleven to sixteen persons were found in one room.[1] As a rule such dwellings had no outer yard or compound and there was absolutely no provision for privacy. The want of privacy in many of the mill quarters provided is such that respectable women, even of low caste, could not live there.[2] The result is that many of the " up-country " workers leave their wives at home, and have " temporary wives " whilst they are working at the mills. They go home from time to time to their real families, and often only work in the mills for a certain number of years, after which they leave the town completely. Their temporary wives are then left behind and have to make new arrangements. " As it is scarcely possible for a woman to live for any length of time alone in a mill compound, women workers, if deserted by one man, usually seek other male protection. This protection may consist not only of living with a man, but in working with him in the mill, in a position where he can keep an eye on the woman and prevent the attention of other male workers; in return the woman gives over her earnings to the man. Managers stated that when a woman worker left a man, or if her man took up with another woman, the men would ask that the working positions of the women in the mill might be readjusted." [3] In the bazaar and in the " basti " houses overcrowding is not nearly so great and privacy (of a kind !) can be secured, but the rents are higher. The usual rent charged by the mill authorities is only some 2 to 4 annas per week (*i.e.* 8 annas to R. 1 per month). The dwellings outside the factory compounds are not under the supervision of any sanitary authority as regards construction, but can be built anyhow. In the tea-gardens and on the coalfields housing accommodation is better. On the coalfields the owners themselves provide dwellings reported as " satisfactory " although " katchcha," [4] which are not—according to Indian standards—overcrowded. Of the accommodation for workers in the iron, engineering, pottery, and other miscellaneous industries in or near the coalfields, it is said that there is " little privacy and that the ' real ' wives do not as a rule accompany their husbands." [5]

APPENDIX E

The Legal Position of Managing Agents

The question of the reform of the managing agent system still remains one of the outstanding problems of commercial organization in India. It may be perfectly true that many, or even most, of the managing agents have performed their functions efficiently and with integrity,

[1] *Bulletin of Indian Industries and Labour*, No. 31, 1923, p. 15.
[2] *Ibid.*, p. 16. [3] *Ibid.*, p. 17. [4] *I.e.* " make-shift " or temporary.
[5] *Ibid.*, p. 33.

but this does not absolve from criticism a system which undoubtedly gives special opportunities for exploitation and even fraud. In any case it is generally recognized that the system is to a great extent responsible for the undoubted fact that industrial and commercial enterprise in India mainly rests with a comparatively small group of private individuals, both Europeans and Indians.[1]

Consider, for instance, the position of the famous firm of Andrew Yule & Company, which acts as managing agent for a large number of industrial and commercial concerns, including at least ten jute mills, fifteen coal companies, two hydraulic companies, two oil mills, a flour mill, navigation, rubber, sugar, brick and pottery, and miscellaneous concerns of all descriptions.[2] It is obvious that incidental earnings must be large and that it must at times be difficult to reconcile the various interests, and still more difficult for any one firm to control the destinies of such a vast and heterogeneous collection of businesses. Where the earnings of the managing agents are based on output or sales, the position is obviously even less satisfactory and may lead to chronic over-production and glutting of the market.[3]

The functions of the managing agents vary greatly from industry to industry. "The system is loose in its application and the position of the managing agents varies from that of secretaries to that of managers or directors; but in practice the managing agents direct the directors, administer all the concerns of the company, and in some cases they have been actually known to take power in the Articles of Association to dispense with directors altogether."[4] Moreover, it appears that the powers of the agents have tended to increase with the passage of time, as is shown by comparing certain recent Articles of Association with others of an earlier date. Their power seems to be peculiarly great in the Bombay cotton mill industry where—it is interesting to note—it is mainly Indian firms that are concerned.

"If a cotton mill is handed over for management to one of these firms, the managing agents are in a position not only of managing it, but of selling raw materials to it, contracting for its stores, effecting its insurances, and distributing its products. Thus it often happens that, though there be a loss on paper for the company, the managing agency in its various capacities accumulates profits."[5]

The Indian Press has frequently contained violent attacks on the system. "We have in these columns exposed again and again the rascality and rank dishonesty with which large sections of our mill industry are saturated."[6] These accusations have been repeated during the post-war labour troubles and depression in the Bombay cotton industry. "A ghastly network of inefficiency and corruption has grown up round the textile industry," says the *Bombay Chronicle*,

[1] V. *D.O.T. Report on the Conditions and Prospects of British Trade in India*, 1919, p. 109, and V. Anstey, *The Trade of the Indian Ocean*, chap. v.

[2] *Capital*, March 3, 1927.

[3] In India a commission on profits is the usual basis, except in the plantation industries.

[4] *Round Table*, March 1923.

[5] *Bombay Chronicle*, April 1925 (quoted in the *Labour Magazine*, December 1925).

[6] *Indian Textile Journal*, November 1899.

" and has made it unable to stand on its legs in a period of stress." [1] These are hard words, and one might feel inclined to dismiss them as exaggerations due to political opposition and class feelings, were it not for the veiled criticisms contained in the recent Report of the Tariff Board on the Cotton Industry.

The feeling against the managing agent system has become so strong in certain quarters that it has been suggested that an essential prerequisite of any real industrial progress in India " is the strict enforcement and, if necessary, revision of the Indian Company Acts. Managing agents, who are not mentioned in or apparently contemplated by the Act, are generally legally treated as directors or secretaries according to their status and powers. But their very wide powers require strict definition and curtailment, their tenure should be subject to various legal safeguards, and the question should be seriously considered as to whether in the interests of the public their existing position and privileges should not be made illegal, and provisions should in any case be made for a substantial share qualification and the disclosure of interests." [2]

Although some revision of the Indian Company Acts might be beneficial, the assumption that " managing agents " are entirely ignored by the Indian Company Law and that no provision has been made for the disclosure of interests of managing agents seems to be based upon a misconception. Probably a number of the existing abuses could even now be prevented if full advantage were taken of the Acts of 1913 and 1914. Much could certainly be done if the shareholders could be induced to take an active interest in the concerns in which their capital is invested. As, however, there seems to be little hope of this, the question remains whether special legislation might not be undertaken instead.

The existing legislation on the subject is contained in the consolidating and amending Act VII of 1913, as modified by the clauses added in 1914.[3] This Act amended the Indian Companies Act of 1882, as modified in several subsequent but minor Acts,[4] and, like these earlier Acts, was based on English Company Law. Its main object was to give increased safeguards to shareholders by enforcing publicity as regards the interests of directors and the contents of contracts entered into on behalf of the company, and by giving shareholders greater control over the activities of the companies during the earlier stages of their formation. In two respects the Act actually went beyond English law: (*a*) it gave the Registrar of Companies the power to call for additional information and, if necessary, appoint an inspector to inquire into the accounts of the company, without waiting for an application from a certain number of the shareholders; and (*b*) it laid down provisions as to the qualifications necessary for auditors, with the object of " eliminating the unfit." [5] The member of Council in

[1] *Bombay Chronicle*, April 1925 (quoted in the *Labour Magazine*, December 1925).
[2] *Round Table*, March 1923, pp. 385, 386.
[3] *Unrepealed General Acts of the Governor-General-in-Council*, vol. vii (1914). Note the Corrigenda showing the amendments of 1914.
[4] *I.e.* the Indian Companies (Amendment) Act, 1887; the Indian Companies (Memorandum of Association) Act, 1875; the Indian Companies (Branch Registers) Act, 1900; and the Indian Companies (Amendment) Act, 1910.
[5] V. *Gazette of India*, 1912, Part VI, p. 589.

introducing the Bill pointed out that the status and function of any managing agent would be affected by the provisions of the Bill, because a managing agent must be either a director of the company or not a director; as a director, he would be subject to all the safeguards and penalties prescribed in the case of directors; if he were not a director, then his relationship with the company must be governed by contract, and the Bill provides that every "material contract" should be disclosed in the prospectus. In this way full publicity could be secured as to the status and functions of managing agents.

The Bill was circulated for consideration throughout the country, and was discussed again in the Legislative Council in 1913, on the motion that it should be referred to a Select Committee. On this occasion it was explained that the Government had reconsidered the question of including provisions dealing with managing agents, and had come to the conclusion that it would be necessary to make "some adjustments" to "fit in Managing Agents under the Bill." [1] "It is true that in some cases managing agents, when this Bill becomes law, would be assimilated to directors, and therefore would come under the provisions prescribing the various safeguards and penalties which apply in the case of directors. But their relationship to the company they manage is clearly not the same as the relationship of a director to his company in England." [2] Whereas in England "the Courts have laid down that a Director should not be placed in a position in which his interests might be prejudicial to those of his Company," in India "it is clear that, in the case of Managing Agents who are also Directors, such a position might easily arise." [3]

The proposals put forward to deal with the peculiar situation in India were that it should be compulsory for all companies to have directors, and if members of the managing agents' firm were also directors of the firm they manage there should be a majority of independent directors. A definition of "Managers" was to be included, which should cover "Managing Agents," and clauses were to be inserted to secure that "a Company managed by Managing Agents will have an independent Board to whom the Managing Agents will be responsible." The object of this provision was both to safeguard the interests of the company, and to relieve managing agents of a degree of responsibility which should not be placed upon them. It was proposed to give the utmost publicity to the provisions governing the relations between the company and the agents who manage it. In order to prevent a firm of managing agents from dealing on behalf of an "undisclosed principal," and then treating the transaction subsequently, according to its success or failure, either as a private one made on their own behalf, or as made on behalf of some business which they managed, it was proposed that a memorandum of every transaction should be communicated immediately to the company concerned, to form a record that the transaction has been made on behalf of that company.

These proposals were severely criticized by members of the Select Committee,[4] and were omitted from the Bill.

[1] *Gazette of India*, 1913, Part VI, p. 6 *et seq.*
[2] *Ibid.*
[3] *Ibid.*
[4] *Ibid.*, p. 106.

Subsequently the proposals were reconsidered by another Select Committee, which supported most of the proposals but deleted the clause which provided for a majority of independent directors.[1] It was urged on the one hand that such a clause would in fact be "inoperative" and would serve no useful object,[2] whilst on the other it was held that the shareholders already possessed the power, if they cared to exercise it, to elect an independent majority of directors on the board, and that there was no need specifically to insist upon an independent majority. It was decided to delete the clause until experience of the working of the Act had been gained. When the Bill was (later) presented to the Legislative Council it was even suggested that, if this clause were inserted, in effect the majority of the shareholders would be disfranchised for the sake of a minority, because in practice the majority of the shares in most of the concerns under consideration were held by the managing agents themselves, or by their friends and relatives.[3] The net results of the modifications passed in 1914 were, therefore, to enforce the disclosure of interests and prevent the fraudulent use of a company in the case of contracts made on behalf of undisclosed principals, but to omit the provisions necessitating the appointment of a majority of independent directors.[4]

It thus appears both that managing agents have been contemplated in framing the Indian Company Law, and that steps have actually been taken to prevent them from misusing their powers in certain respects. That the law has not been more effective has been due largely to the inertia of the shareholders. Apparently not even the "disclosure of interests," for which specific provision was made in 1914, is thoroughly enforced.[5] Even if it were made compulsory to appoint a majority of independent directors the problem would only be solved on condition that the shareholders exercised wisely their choice of directors, and that the latter exercised their functions actively and in the true interests of the shareholders.

The real problem appears to be that of educating public opinion. Meanwhile industrial organization is tending to become less strictly uniform, and it should gradually become easier for the general public to discover companies in which the shareholders hold a reasonable position.

APPENDIX F

The Production of Steel at Jamshedpur

The production of steel from iron-ore at Jamshedpur is divided into four separate processes. First, there is the preliminary process of converting coal into coke; second, there is the smelting of iron-ore with coke in the blast furnaces and the consequent production of pig-iron; third, there is the conversion of pig-iron into steel ingots in the "Open-Hearth" furnaces and in the Duplex plant; and fourth, there is the shaping of steel in the rolling mills into structural shapes. The

[1] Clause 83 C. [2] *Gazette of India*, 1914, Part V, p. 79. [3] *Ibid.*, Part VI, p. 744.
[4] *Unrepealed General Acts of the Governor-General-in-Council*, vol. viii, Act No. XI of 1914.
[5] *Report of the Statutory Enquiry into the Cotton Industry*; p. 88.

conversion of coal into coke is carried out in coke ovens built of silica and fire-bricks. During this process various by-products arise. Part of the gas that is given off is utilized immediately, that is, it is burnt and thus used to heat the ovens. The direct products of the " coking " of coal are coke and fuel gas. The coke is, of course, what is wanted in order to obtain pig-iron from iron-ore. The fuel gas contains tar, ammonia and other less important ingredients. The ammonia is separated out by means of sulphuric acid which combines with it to form sulphate of ammonia. The latter is a very valuable fertilizer which, unfortunately, is at present mainly exported to Java and Mauritius, instead of being utilized to increase the productivity of the Indian soil.

The coke is then placed in the blast furnace with the iron-ore and some kind of flux.[1] A blast of hot air is blown into the furnace to burn the coke, which melts the iron-ore and causes the iron to separate out. The impurities in the ore combine with the flux to form a slag, which floats on the top of the hot ore. The products of the blast furnace are, therefore, molten pig-iron—which can be run off from the bottom—molten slag, and " blast-furnace gas." The latter is combustible. At Jamshedpur each blast furnace produces about 1 ton of pig-iron to $\frac{1}{2}$ ton of slag: about $\frac{1}{3}$ to $\frac{1}{2}$ of the gas is used for heating purposes, and the rest forms a saleable surplus. About $1\frac{3}{4}$ tons of iron-ore and $1\frac{3}{8}$ tons of coking coal are required to produce 1 ton of pig-iron.[2]

The pig-iron thus obtained is placed with steel scrap, a little iron-ore and lime in the Basic Open-Hearth steel furnaces.[3] Quite recently the so-called Duplex plant has also been erected and has started operations. The Duplex Process is simply an improved form of the Open-Hearth Process.[4] The iron-ore and lime remove the remaining impurities from the pig-iron, producing steel and an entirely useless slag. Almost 2 tons of iron-ore and 1 ton of coking coal are required to make 1 ton of finished steel.[5] The steel thus produced is immediately cast into " ingots "—namely, great blocks of steel weighing about 3 tons each. The steel ingots are now ready for shaping in the rolling mills into structural steel of all sorts and descriptions.

The ingots are passed through one or other of alternative types of " blooming mills." [6] The one type produces so-called " blooms," which are passed on to the " rail and structural mill," and finally emerge as rails or structural sections (such as beams). The other type produces so-called " billets," which are passed on to the " bar-mills," from which they finally emerge as bars of the desired shapes and sizes.

The following tables show the actual and estimated production at Jamshedpur, and the costs per ton of finished steel, at selected dates.

[1] For instance, limestone, dolomite, or fluorspar.

[2] *First Report of the Tariff Board on the Steel Industry*, p. 7.

[3] Indian pig-iron contains a moderate amount of phosphorus (derived more from the coal than the iron) which is removed by the lime. The Basic Open-Hearth Process is the only one suited to Indian conditions, as the Bessemer (Acid) Process requires phosphoric-free pig-iron, whilst the Basic Bessemer Process requires a higher percentage of phosphorus than that contained in Indian pig-iron. (*Ibid.*, p. 4.)

[4] *Ibid.*, p. 7. [5] *Ibid.* [6] *Ibid.*

Actual and Estimated Production at Jamshedpur.[1]

	1916–17.	1921–22.	1924 Estimate for plant in full operation.[2]	1925–26.	1926–27.	1927–28.	Estimated Output.	
							When existing plant is in full production.	When plant added after 1928 is in full production.
	Tons	Tons	Tons	Tons	Tons	Tons	Tons	Tons
Coke	230,532	359,923	850,000	—	723,441	739,539	900,000	—
Pig-iron	147,497	270,270	610,000	573,196	612,775	644,296	800,000	—
Ferro-manganese . .	—	—	—	7,302	—	—	10,000	—
Steel ingots . . .	139,433	182,107	570,000	470,557	530,473	599,563	780,000	800,000
Finished steel . . .	98,726	125,871	422,000	319,957	374,221	408,343	560,000	600,000

[1] Prepared from the figures given in the *First Report of the Tariff Board on the Steel Industry* (p. 9), the *Applications received by the Indian Tariff Board from the Tata Iron and Steel Company*, 1926 (pp. 18 and 64), and the *Annual Reports of the Tata Iron and Steel Company*.

[2] This estimate is given in the *First Report of the Tariff Board*. The new plant came into full operation by 1926, so that this estimate should be compared with the actuals given for 1926–27.

Actual and Estimated Costs per Ton of Finished Steel.[1]

	1916–17.	1921–22.	After attainment of full production.	1923–24.	1926.	1923–24 (estimate).
Average works costs of finished steel	Rs. 77·24	Rs. 120·41	Rs. 130 to 100 [2]	Rs. 126·5	Rs. 98·4	Rs. 78·8
Overhead charges	32·17	38·24	30·70	—	—	Not given
Total costs	109·41	158·65	160·70 to 130·70	—	—	Not given
Manufacturers' profit	—	20·96	26·67	—	—	Not given
Overhead charges plus manufacturers' profit	—	59·20	57·37	—	—	39 [3]
Price necessary to cover costs and give fair profits	—	179·61	187·37 to 157·37	—	—	117·8

[1] Prepared from the *First Report of the Tariff Board on the Steel Industry* (pp. 38, 47, 51) and the *Statutory Enquiry into the Steel Industry* (1926, p. 10). The year 1916–17 was taken as the basis of the comparison because it was the year in which Tata's cost of production was lowest, as the old plant had just come into full production. It was at this time that the "greater extensions" were first projected, the idea being that they would be completed by 1921. Actually, the greater extensions did not come into full operation until 1925. The second year chosen, 1921–22, was taken as typical of post-war conditions before any large proportion of the new plant came into operation. This enables a comparison to be made of changes in costs owing to post-war conditions. It was recognized that after 1921–22, until the greater extensions came fully into operation, costs would be abnormally great. Hence the estimate of future costs was made for the first year in which the new plant should attain its maximum output.

[2] Tata's estimated their future works cost of production of all finished steel as Rs. 106·46, making a total price necessary to cover all costs and give a fair profit of Rs. 163·83 (*First Report of the Tariff Board*, p. 49). The Tariff Board thought that "the Tata Iron and Steel Company has always tended to be unduly sanguine as to the time within which results can be expected" (p. 50), and calculated that it was more probable that the works cost of steel would fall gradually from Rs. 130 per ton to Rs. 100 per ton, reaching the latter figure in 1926 or 1927 (p. 51). Actually a figure of Rs. 98·4 was reached in August 1926.

[3] This is based on an estimated output of 500,000 tons of finished steel.

APPENDIX G

THE "DRAIN" TO ENGLAND

OWING to the political, administrative, and commercial connections with England, the Government of India has commitments not only in India, but also in London, the latter being termed the "Home Charges." These payments include the interest in the management of debt (of all types), and annuities on account of railways and irrigation works; payments due in connection with Civil Departments in India; India Office expenses (including pensions); Army and Marine charges, effective and non-effective (*i.e.* pensions and gratuities); payments for stores purchased in India; and furlough allowances. Just before the war the total annual sum involved amounted to about £20 millions, and they now amount to some £30 or £35 millions.

The necessity of making these payments in England out of Indian revenues has given rise to the accusation that India's connection with England has involved her in an annual drain of capital from India to England, for which no adequate return is received, that India's capital resources have been depleted thereby, and that money which should have been utilized in productive expenditure within the country has been exported, and has therefore kept India in a condition of unnecessary poverty.

An account of the controversy which has raged for many years on this subject would fill a whole volume. It has recently been fully discussed from the Indian point of view by Mr. Vakil,[1] who gives references to a number of previous discussions on the subject, and rightly refers to Sir Theodore Morison's refutation of the theory of the "Drain" as the best exposition of that side of the argument.[2] It is impossible to make out an exact statistical balance-sheet, as the value of the "returns" received by India can be only subjectively, not objectively determined, except in the case of stores, where the ordinary commercial value is obtained.[3]

The interest on the productive debt forms the major part of the total Home Charges, and as (since 1900) it has normally brought in considerably more revenue than suffices to cover the interest charges, it is obvious that it does not cause any net drain from India. In addition, the railways and irrigation works have been of immense benefit to the country. The only doubtful point is whether or not it has been to India's interest to raise these loans in England rather than in India. The answer is that India has suffered from a chronic and severe difficulty in raising capital; that it would have been utterly impossible to raise, at any price, anything like the whole amount in India; and that, if more had been raised in India, it would have been at a very much higher rate of

[1] *Financial Developments in Modern India*, by C. N. Vakil.

[2] *The Economic Transition in India*, by Sir Theodore Morison, chap. viii.

[3] With regard to stores it can merely be argued that more articles of Indian make might have been purchased, and—as we have seen (p. 212 above)—the policy has now been adopted of obtaining as many goods as possible in India.

interest. Obviously, also, the money could not have been raised as cheaply anywhere else as in London.

The interest payable on account of the unproductive debt before the war was trifling, and the amount payable in England has not been increased by the war increase in unproductive debt, because the latter arose mainly out of India's war gifts to England, which were paid for largely by rupee loans. The interest payable in England on account of the unproductive debt services, together with the payments on account of pensions, and furlough pay of officers of the Indian Government, and the expenses of the India Office, arise out of India's political and administrative connections with England. In return for these payments India has received the benefits of naval defence, and of relative peace and security within the country.[1] She has also received the advantage of the services of English officials of every kind and description. It is argued on the one hand that the advantages of the naval protection, military security and prestige, and the highly trained and efficient services of the members of the Indian Civil Service, Indian Educational Service, European Police, Public Works, and of other English officials, have outweighed the corresponding payments, whilst, on the other hand, it is said that particular civil and military items have been unjustly debited to India, and that by Indianization of the various civil, military, and technical services, equally good work for much less pay might have been obtained. To conclude that the balance of financial advantages has lain with India is not the same thing as to maintain that no financial mistakes have been made, and that in no case has any item of expenditure been unfairly charged to India's account. For instance, it is reasonable to argue that payments on account of the military expenses of conquering India, and interest payments on the debentures of the East India Company, taken over by the Crown after the Mutiny, ought never to have been charged to the Indian revenues.[2] About the relative value of the services of English and Indian military and civil officials in the past—before the facilities for the higher education and technical training of Indians, which is still by no means satisfactory, had reached even its present level—there will probably always be a difference of opinion, but no one will deny that it would have been impossible entirely to dispense with the services of Englishmen, nor that it was necessary to pay them comparatively high salaries in order to obtain the requisite efficiency and morale. When due—or exaggerated—allowance has been made for minor financial extravagances and injustices, who can doubt in what direction the balance of financial advantages has lain ? Think of what the provision of a navy alone would have cost to India ! Even if one concedes all the Nationalist claims under each item of the Home Charges, it is obvious that the alleged " drain " does not consist of the

[1] It may be argued that unnecessary wars, for instance, frontier wars, have been waged. This may be ; no Government has a perfectly clean sheet in such matters. But it is certain that British rule has introduced greater security than had existed for centuries before its advent.

[2] It has lately been admitted by the transference of the expenses of the India Office from the Indian to the British revenues that some of the civil expenditure had been previously unjustly debited to Indian revenues.

total sum involved, but merely of what might hypothetically be saved, if the whole of the ordinary debt were remitted, if only Indian officials were employed, if nothing were paid for the upkeep of the India Office, if all stores were bought in India, if all loans were raised in India, but if India provided entirely for her own military and naval defence. It is surely obvious that the "saving" effected would be a negative quantity.

STATISTICAL TABLES

		PAGE
I.	*Population and its Distribution*—	
	A. Total Population	515
	B. Urban and Rural Distribution of Population	515
II.	*Agricultural Statistics of British India*—	
	A. Area under Cultivation, etc.	516
	B. Acreage under Principal Crops	517
III.	Mineral Production	518
IV.	Coal: Production and Trade	519
V.	*Vital Statistics of British India*—	
	A. Birth and Death Rates	520
	B. Infantile Mortality	521
VI.	Occupational Census, 1891, 1901, 1911, and 1921	522
VII.	Organized Industries, 1921	523
VIII.	*Railways*—	
	A. General Statistics	524
	B. Finance	525
IX.	Shipping	525
X.	*Irrigation*—	
	A. Development of Irrigation	526
	B. Distribution of Irrigation by Provinces and Types	526
XI.	*The Spread of Scientific Agriculture*—	
	A. Acreage under Improved Varieties	527
	B. Potential Additional Value of Improved Varieties	527
XII.	*Co-operation*—	
	A. Development of the Co-operative Movement	528
	B. Co-operation in 1926–27	528
	C. Non-Credit Rural Co-operative Societies	528
XIII.	Industrial Census, 1911 and 1921	529
XIV.	*Textile Industries*—	
	A. The Cotton Mill Industry	530, 531
	B. The Jute Mill Industry	532
	C. The Woollen Mill Industry	532
XV.	Industrial Disputes	533
XVI.	*Principal Imports* since 1900–1—	
	A. Value of Principal Imports	534
	B. Quantity of Principal Imports	535

PAGE

XVII. *Principal Exports* since 1900–1—
A. Value of Principal Exports 536
B. Quantity of Principal Exports 537

XVIII. Imperial Net Revenue and Expenditure, 1891–92 to 1921–22 . . . . . 538, 539

XIX. Net Revenue and Expenditure of the Central Government since the Reforms 540, 541

XX. Principal Sources of Revenue and Heads of Expenditure (Imperial and Provincial) since 1921–22 542, 543

XXI. Net Revenue and Expenditure of the Imperial Government in 1913–14, compared with that of the Central and Nine Main Provincial Governments in 1925–26 . . . . . 544, 545

XXII. Provincial Revenue and Expenditure, 1925–26 . . 546

XXIII. *Index Numbers of Prices in India*—
A. Index Numbers of Indian Prices based on 1873 . 547
B. Index Numbers of Prices in Calcutta based on 1914 547
C. Index Numbers of Prices of Groups of Commodities 548

TABLE I.—POPULATION AND ITS DISTRIBUTION.

A.—TOTAL POPULATION.[1] (In millions.)

Date of Census.	British India.	Indian (Native) States.	Total, All-India.	Apparent variation since previous Census.	Corrected rate of variation (allowing for the inclusion of new territory).
				%	%
1872 [2]	184·8	21·3	206·1	—	—
1881	198·5	55·3	253·8	+ 23·2	+ 1·5
1891	220·8	66·4	287·3	+ 13·2	+ 9·6
1901	231·2	63·1	294·3	+ 2·5	+ 1·4
1911	244·1	69·2	315·1	+ 7·1	+ 6·4
1921	247·0	71·9	318·9	+ 1·2	+ 1·2
1931					

N.B.—The real increase in population (allowing for the inclusion of new territory) in 49 years has been 53·8 millions, i.e. 20·1 %. Between 1911 and 1921 the increase in British Districts was 1·3 %, and in Indian (Native) States 1·0 %.

B.—DISTRIBUTION OF POPULATION IN GROUPS OF TOWNS AND IN RURAL TERRITORY.

Groups.	Percentage of Total Population in each Class.				1921.	
	1891.	1901.	1911.	1921.	Number of Places (towns or villages).	Actual Population (in millions).
Rural territory	90·5	90·1	90·5	89·8	685,622	283·5
Urban territory	9·5	9·9	9·5	10·2	2,313	32·4
Towns with a population of :						
(1) 100,000 and over	2·2	2·2	2·2	2·6	35	8·2
(2) 50,000 to 100,000	1·1	1·2	1·0	1·1	54	3·5
(3) 20,000 to 50,000	1·6	1·7	1·8	1·8	199	5·9
(4) 10,000 to 20,000	1·9	2·2	2·0	2·0	450	6·2
(5) 5,000 to 10,000	2·1	2·0	1·9	2·0	885	6·2
(6) Less than 5,000	0·6	0·6	0·6	0·7	690	2·3

[1] Prepared from the Census Report, 1921.

[2] The Census of 1872 was only a partial Census.

TABLE II.—AGRICULTURAL STATISTICS OF BRITISH INDIA.

A.—Area under Cultivation, etc. (In million acres.)

Areas.	1900–1.	1913–14.	1921–22.	1924–25.	1925–26.	1926–27.		1927–28.	1928–29.	1929–30.	1930–31.	1931–32.
						Area.	Percentage of total area.					
Total area by survey . .	549 [1]	619 [1]	663 [1]	667·6	667·6	667·6						
Net area sown with crops .	197	219	223	226·9	225·8	226·0	34					
							Percentage of area sown with crops.					
Area under irrigation . .	30	46	47·7	45·2	47·5	47·7	21·1					
							Percentage of total area.					
Area under forest . . .	66	82	85·0	86·5	86·9	87·0	12·9					
„ not available for cultivation . . .	138	147	153	150·9	150·1	149·0	22					
Cultivable waste . . .	105	115	151 [1]	152·8	151·8	152·5	22·8					
Fallow land	42	52	50	47·1	49·3	49·6	7					

[1] Note t hat the area under survey has increased considerably. In 1921–22 this affected particularly the "cultivable waste."

TABLE II. (*continued*).

B.—ACREAGE UNDER PRINCIPAL CROPS.

Crops.	1900–1.	1913–14.	1921–22.	1924–25.	1925–26.	1926–27. Area.	1926–27. Estimated yield.[1]	1927–28.	1928–29.	1929–30.	1930–31.	1931–32.
Area sown with grains and pulses including:	176·5	191·5	205	200·3	196 0	197·2	million tons					
Rice	69	70	79	79	80·1	78 5	29 6					
Wheat	20	18·6	22	25	23 9	24·1	8 9					
Jowar	22	22	24	22	20·6	21·1						
Bajra	15	13	15	12	12·2	13 8						
Ragi	7	4	4	4	3 8	3·8						
Barley	4	6	7	7	6·6	6·3						
Maize	6	6	6	5	5·5	5 5						
Gram	11	10	15	16	14·3	14·6						
Sugar	2·6	2·5	2·5	2·6	2·8	3·0	3·2					
Oilseeds	13	12	14	15	15 1	14 9						
Fruit, Vegetables, Condiments and Spices, etc.	not given	8	8	7 6	7 7	7·5						
Tobacco	0 9	0·9	1·0	1 0	1·0	1·0						
Fodder	3	3	8·6	8 8	8 9	8 9	million bales[2]					
Cotton	9 6	10·3	11·6	17·4	18 1	15·6	5·6					
Jute	2·2	2·2	1·5	2 7	2 9	3·6	12 1					

[1] The estimated yield includes the crops in certain Indian (Native) States. V. *Statistical Abstract.*
[2] Of 400 lb.
N.B.—(*a*) The sum of the acreage under the principal crops exceeds the "total area sown with crops" as double-cropping is frequent.
(*b*) All other crops (*e.g.* tea, coffee, etc.), are each sown over less than one million acres.
(*c*) These figures can be kept up to date from the *Statistical Abstract for British India.*

TABLE III.—MINERAL PRODUCTION. ALL-INDIA.

Values in Lakhs of Rupees.

Minerals.	1900.	1913.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
Coal	2,01	5,70	14,96	12,64	10,15					
Petroleum	22	2,58	10,50	10,29	9,78					
Manganese ore	11	1,81	3,78	3,48	3,47					
Lead	—	10·7	2,35	2,21	2,26					
Gold	2,84	3,44	2,54	2,22	2,17					
Salt	46	81	97	76	1,12					
Silver	—	4·6[1]	1,12	93·8	88·8					
Copper ore	—	—	16	34·8	48					
Iron ore[3]	—	6	39	44	47					
Zinc ore	—	—	11	20·7	43					
Mica	10[2]	17	20	22	22					
Saltpetre	—	32	22	19	—					
Wolfram	—	19	3	4	7·7					
Rubies	15[2]	8	4	3	4·6					
Monazite[4]	—	6	1	—	0·12					
Quantities.										
Coal (million tons)	6·1	16·2	21·1	20·9	20·9					
Petroleum (million gallons)	37·7	277·5	294·0	289·0	280·0					
Manganese ore (thousand tons)	127·8	815·0	803·0	839·0	1,015·0					
Lead (thousand tons)	—	5·8	51·7	47·0	54·0					
Gold (thousand ounces)	513·0	596·0	396·0	393·0	384·0					
Salt (million tons)	1·0	1·5	1·6	1·2	1·6					
Silver (million ounces)	—	0·2[1]	5·3	4·8	5·1					
Copper ore (thousand tons)	—	—	3·0	8·0	21.0					
Iron ore (thousand tons)	50·0	371·0	1,445·0	1,544·0	1,659·0					
Zinc ore (thousand tons)	—	—	15·0	21·0	43·0					
Mica (thousand cwts.)	16·2[2]	45·7	41·0	45·0	42·0					
Saltpetre (thousand cwts.)	—	301·0	143·0	126·0	—					
Wolfram (thousand tons)	—	1·6	0·7	0·7	1·4					
Monazite (thousand tons)	—	1·2	0·6	—	0·06					

[1] The figures for silver are for 1915.
[2] The figures for mica and rubies are for 1901.
[3] The bulk is produced in the Indian States of Orissa.
[4] All produced in Travancore.

N.B.—(*a*) The whole of the lead and zinc and the bulk of the petroleum, copper, and silver are produced in Burma.
(*b*) These figures can be kept up to date from the *Statistical Abstract for British India.*

TABLE IV.—COAL: PRODUCTION AND TRADE.[1]

Date.	Production of Coal. British India.	Imports, on private account.	Exports, excluding bunker coal and Government stores.	Persons employed, above and below ground.
	1,000,000 tons.	1,000 tons.	1,000 tons.	
In the year 1860	·285	154·2	—	—
Quinquennial average:				
1876–1880	·987	513·6	—	—
1881–1885	1·2	679·8	—	—
1886–1890	1·6	768·0	—	—
1891–1895	2·4	705·0	42·0	—
1896–1900	4·2	333·0	305·0	—
1901–1905	7·0	205·0	569·0	—
1906–1910	10·8	344·0	775·0	—
1911–1915	14·7	427·0	771·0	—
1916–1920	18·4	44·0	620·0	—
1921–1925	19·1	777·0	182·0	—
In the year				
1918	19·8	54·0	74·0	191,000
1919	21·7	48·0	508·0	203,000
1920	17·0	39·0	1,224·0	190,000
1921	18·3	1,090·0	275·0	205,000
1922	18·1	1,220·0	77·0	200,000
1923	18·8	624·0	136·0	200,000
1924	20·2	463·0	206·0	204,000
1925	19·9	483·0	216·0	189,000
1926	20·1[2]	193·8	617·5	185,749
1927				
1928				
1929				
1930				
1931				

[1] "Indian Coal Statistics" (Supplement to the *Indian Trade Journal*), November 17, 1927. This table can be kept up to date from this source.

[2] The total production for All-India in 1926 was 20·9 million tons. Note that the trade figures in 1926 were affected by the coal strike in the United Kingdom.

TABLE V.—VITAL STATISTICS OF BRITISH INDIA.

A.—Birth and Death Rates.

	1900.[1]	1914.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
I. *Birth-rate* (per 1,000 population)	36·5	39·6	35·3	30·2	32·9	32·3	31·8	35·0	34·4	33·6	34·7					
II. *Death-rate according to causes* (per 1,000 population):																
Cholera	3·7	1·2	2·3	2·4	0·5	1·8	0·5	0·3	1·2	0·5	0·6					
Smallpox	0·4	0·3	0·4	0·6	0·4	0·2	0·2	0·2	0·2	0·4	0·5					
Plague	0·3	1·1	1·8	0·3	0·4	0·3	0·3	0·9	1·5	0·5	0·8					
Fevers	22·8	17·2	46·7	22·9	20·7	19·7	15·3	15·3	16·6	15·0	15·6					
Dysentery and Diarrhœa	2·5	1·1	1·2	1·2	0·9	0·9	0·7	0·8	0·9	0·9	1·0					
Respiratory Diseases[2]	—	1·1	1·8	1·5	1·4	1·4	1·2	1·2	1·4	1·3	1·6					
Injuries	0·4	0·4	0·4	0·4	0·4	0·4	0·3	0·4	0·4	0·4	0·4					
Total of above causes	30·1	22·4	54·6	29·3	24·7	24·7	18·5	19·1	22·2	19·0	20·5					
Other causes	8·8	7·6	7·8	6·5	6·1	5·8	5·5	5·9	6·2	5·7	6·2					
Total Death-rate (per 1,000 population)	38·9	30·0	62·4	35·8	30·8	30·5	24·0	25·0	28·4	24·7	26·7					
III. *Death-rate*:																
(*a*) In towns	53·7	33·2	56·7	38·5	34·6	33·3	27·4	29·2	31·6	29·2	32·5					
(*b*) In rural districts	37·2	29·7	62·9	35·6	30·4	30·3	23·0	24·5	28·1	24·2	26·2					
(*c*) In certain cities:																
Calcutta		28·3	35·0	42·2	39·4	33·5	29·1	28·4	29·6	32·7	34·7					
Bombay		32·7	59·4	70·5	47·1	46·2	32·1	32·7	33·4	27·5	27·6					
Madras		47·0	61·2	53·1	41·8	38·6	43·1	38·0	41·9	47·9	45·3					
Benares City		50·6	81·3	60·4	61·0	66·8	48·8	53·8	52·1	46·1	57·7					
Benares Cantonment		19·3	30·9	16·5	20·0	17·2	11·7	15·9	10·7	12·3	20·8					
Poona City		40·7	82·5	59·2	47·7	47·6	42·8	38·5	45·5	34·4	43·5					
Poona Cantonment		22·1	20·0	15·8	16·3	17·6	13·6	14·7	17·7	11·6	11·1					

[1] 1900 was an abnormally unhealthy year owing to famine. Note the high cholera rate.

[2] Not given before 1902.

N.B.—This table can be kept up to date from the *Statistical Abstract for British India* (published annually).

TABLE V. (*continued.*)

B.—Infantile Death Rates. (Per 1,000 registered births.) [1]

	1924.		
British India	189	In various cities in 1921 : [2]	
England and Wales	69	Vienna	146
In the Cities of :		Cöln	140
Calcutta	317	Berlin	135
Bombay	275 [3]	Paris	95
Madras	264	Hamburg	95
Rangoon	353	London	80
Karachi	256	New York	71
Allahabad	239	Christiania	54
Benares	275		
Nagpur	235		
Cawnpore	477		

Infantile Mortality in Bombay City.[4]

	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.	1930.	1931.
Infantile Mortality Rate (per 1,000 registered births)	596	652	552	667	403	411	419	356	389					
"Corrected" Infantile Mortality Rate[5]	—	—	404	510	300	269	275	228	255					
Actual Deaths of Infants							9,156	7,212	8,200					
Deaths of Infants born in Bombay							5,997	4,614	5,376					
" " born elsewhere							3,159	2,598	2,824					

[1] V. *Annual Reports of the Public Health Commissioner with the Government of India.* The registration of births in India is notoriously deficient, and in cities the infantile mortality rate is swollen by the fact that many Indian women go home—"up-country"—to be delivered, subsequently returning with their babies to the cities. Hence in many cases the infant mortality rates are entirely misleading. An increasing infant mortality rate is an indication of improved registration, rather than of an increase in deaths. The *Sixty-third Annual Report of the Director of Public Health, Madras*, 1926, says "It is to be noted that since 1921 the registered rate," *i.e.* of infant mortality, "has increased year by year, but there is good reason to believe that the figures still under-estimate actual conditions." p. 12. Sufficient emphasis is not placed in the *Annual Reports of the Public Health Commissioner* on the unreliability of the data.

[2] V. G. Findlay Shirras, *Enquiry into Working Class Budgets in Bombay*, p. 80.

[3] For Bombay city two infantile mortality rates are estimated; the one based on registered births, the other, or "corrected" rate, making allowance for the fact that the infant population of the city is much greater than the registered births would lead one to suppose. The corrected rate is included in the *Annual Reports of the Public Health Commissioner* without warning or explanation. So far as I can discover "corrected" rates are not quoted for any other city.

[4] These figures are taken from the *Annual Sanitary Reports for the Bombay Presidency*, and are quoted from the "Report of the Executive Health Officer of the Municipality." They differ slightly from the figures quoted elsewhere in the Annual Sanitary Reports for Bombay city, but are preferred because the Executive Health Officer also gives the "corrected" rates and the other figures included in the above table. In any case the difference is negligible.

[5] The "corrected rate" is now calculated on the basis of the births in Bombay, but before 1923 it was based on an estimate of the infant population of Bombay. In any case the "corrected rate" is merely an estimate and cannot be treated as a reliable figure. It must be remembered that many of the babies born elsewhere are not brought to Bombay until they are one month, or several months, old, and that therefore they are not in Bombay, as infants, for a full twelve months, whilst as the highest death-rate occurs in the earliest months they have mostly already passed the most dangerous ages.

N.B.—The "Infantile Mortality" rates for Bombay city can be kept up to date from the *Annual Report of the Public Health Commissioner with the Government of India.*

TABLE VI.

Occupational Census.[1] (All-India.)

Classification of occupations.	1891.	1901.	Classification of occupations.	1911.	1921.	1931.
	%	%		%	%	
A. *Government*	2·36	1·9	A. *Production of Raw Materials*	72·4	73·15	
I. Administration (Br. India)	1·95	1·2	I. *Exploitation of Animals and Vegetation*	72·2	72·98	
II. Defence (Army and Navy)	0·23	0·13	(i) Pasture and Agriculture	71·5	72·43	
III. Service of Native and Foreign States	0·18	0·4	(ii) Fishing and Hunting	0·7	0·55	
B. *Pasture and Agriculture*	61·06	66·50	II. *Exploitation of Minerals*	0·16	0·17	
IV. Provision and Care of Animals	1·27	1·4	B. *Preparation and Supply of Material Substances*	18·5	17·59	
V. Agriculture	59·79	65·1	III. Industry	11·2	10·49	
C. *Personal Services*	3·91	3·6	IV. Transport	1·5	1·37	
VI. Personal, Household, and Sanitary	3·91	—	V. Trade	5·6	5·73	
D. *Preparation and Supply of Material Substances*	15·43	15·5	C. *Public Administration and Liberal Arts*	3·3	3·12	
VII, VIII, IX, X, XI, XII, XIV, XV, XVI, XVII (various materials)	14·10	14·2	VI. Public Force (Army, Navy, Air Force, and Police)	0·73	0·69	
XIII. Metals and Precious Stones	1·33	1·2	VII. Public Administration	0·82	0·84	
E. *Commerce, Transport, and Storage*	2·91	2·6	VIII. Professions and Liberal Arts	1·0	1·59	
XVIII. Commerce	1·63	1·39	D. *Miscellaneous*	5·5	6·14	
XIX. Transport and Storage	1·38	1·19	IX. Persons living principally on their income	0·17	0·15	
F. *Professions and Liberal Arts*	2·02	1·7	X. Domestic service	1·4	1·45	
G. *Unskilled Labour* (Including indefinite and disreputable occupations)	9·3	6·3	XI. Insufficiently described	2·9	3·51	
H. *Means of Subsistence* Independent of occupation	1·66	1·7	XII. Unproductive	1·0	1·03	

[1] This table gives the percentage of the total population dependent upon each type of occupation.

TABLE VII.—ORGANIZED INDUSTRIES

Organised Industries.[1] (All-India).	Number of persons employed.[2]	
	1921	1931
Tea plantations	747,000	
Cotton spinning and weaving mills	350,000	
Jute mills	287,000	
Collieries	181,000	
Railway workshops	112,000	
Cotton ginning and pressing	83,000	
Metal and engineering workshops	82,000	
Brick and tile factories	75,000	
Flour and rice mills	49,000	
Printing presses	49,000	
Coffee plantations	40,000	
Iron and steel works	39,000	
Petroleum refineries	33,000	
Stone and marble quarries	25,000	
Sugar factories	22,000	
Gold Mines	22,000	
Dockyards and Port Trust Workshops	21,000	
Saw mills	20,000	
Opium, tobacco, and condiment factories	20,000	
Iron foundries	18,000	
Lime kilns	18,000	
Mica works	18,000	
Manganese mines	17,000	
Rubber plantations	17,000	
Oil mills	16,000	
Brass, tin, and copper works	14,000	
Salt refineries	13,000	
Harra and lac factories	13,000	
Gas and electric works	11,000	
Jute presses	11,000	
Tanneries	10,000	
Motor car works	10,000	

[1] "Organized" industries are those employing in all not less than 10,000 persons. Establishments employing less than ten persons are excluded. In 1921 there were 15,606 establishments included in "Organized" industries employing 2·6 million persons in all.

[2] 1921 *Census I*, pp. 265, 266. The figures for 1931 will eventually be procurable from the Census for 1931.

TABLE VIII.—RAILWAYS (ALL-INDIA).

A.—General Statistics.

	1900–1.	1913–14.	1924–25.	1925–26.	1926–27.[1]	1927–28.	1928–29.	1929–30.	1930–31.
Route Mileage open for traffic :									
Broad Gauge	13,900	17,641	18,782	18,932	19,367				
Meter Gauge	10,110	14,389	15,765	15,873	15,932				
Narrow Gauges	742	2,626	3,723	3,774	3,749				
Total	24,752	34,656	38,270	38,579	39,048[2]				
Capital Invested in Railways (in crores)	Rs. 329	Rs. 495	Rs. 733	Rs. 754					
Net Earnings (in crores)	Rs. 16	Rs. 30	Rs. 45	Rs. 42					
Percentage of net earnings on capital outlay	4·99%	6·2%	6·19%	5·61%					
Total number of passengers	176,308,000	457,718,000	576,464,000	599,035,000					
Third-class passengers	153,954,000	410,960,000	555,368,000	574,501,000					
Average rate charged for goods per ton, per mile	5 pies	4·6 pies	6·0 pies	6·21 pies					
Railway Staff :									
Europeans	5,229	7,986	6,299						
Anglo-Indians	7,364	10,437	11,965						
Indians	337,383	614,882	722,590						
Total	349,976	633,305	740,854	741,860[3]					

[1] *Moral and Material Progress of India*, 1926–27, p. 163.
[2] Of this, 71·7 per cent. is owned by the State, and 40·3 per cent. is under direct State management.
[3] Detailed figures are not available in the same form as formerly for 1925–26. V. *Moral and Material Progress of India*, 1926–27, p. 173.
N.B.—This table can be kept up to date from the *Statistical Abstract for British India.*

TABLE VIII.—B.—FINANCE.

NET PROFIT OR LOSS TO THE STATE OF RAILWAYS IN RESPECT OF WHICH GOVERNMENT IS FINANCIALLY RESPONSIBLE.[1]

Date.	Net profit or loss.	Date.	Net profit or loss.
Average 1895–99	— Rs. 93 lakhs	1915–16	+ Rs. 6,11 lakhs
1899–1900	+ Rs. 11 ,,	1916–17	+ Rs. 11,22 ,,
1900–1	+ Rs. 48 ,,	1917–18	+ Rs. 14,87 ,,
1901–2	+ Rs. 1,27 ,,	1918–19	+ Rs. 15,85 ,,
1902–3	+ Rs. 33 ,,	1919–20	+ Rs. 9,34 ,,
1903–4	+ Rs. 1,27 ,,	1920–21	+ Rs. 5,63 ,,
1904–5	+ Rs. 3,14 ,,	1921–22	— Rs. 9.10 ,,
1905–6	+ Rs. 2,99 ,,	1922–23	+ Rs. 1,16 ,,
1906–7	+ Rs. 3,46 ,,	1923–24	+ Rs. 6,46 ,,
1907–8	+ Rs. 2,34 ,,	1924–25	+ Rs. 6,81 ,,
1908–9	— Rs. 1,86 ,,	1925–26	+ Rs. 5,49 ,,
1909–10	+ Rs. 1,23 ,,	1926–27	+ Rs. 6,01 ,,
1910–11	+ Rs. 3,02 ,,	1927–28[2]	+ Rs. 6,35 ,,
1911–12	+ Rs. 5,68 ,,	1928–29[3]	+ Rs. 5,48 ,,
1912–13	+ Rs. 7,20 ,,	1929–30	
1913–14	+ Rs. 7,18 ,,	1930–31	
1914–15	+ Rs. 3,23 ,,	1931–32	

[1] *I.e.* including interest charges, annuity payments and working expenses. V. *Statistical Abstracts of British India*, and *Moral and Material Progress of India*, 1910–11 and 1911–12.
[2] Revised estimate. [3] Budget estimate.
N.B.—This table can be kept up to date from the *Annual Budget for British India*.

TABLE IX.—SHIPPING.

TOTAL TONNAGE (IN 1,000 NET TONS) ENTERING AND CLEARING BRITISH INDIAN PORTS. (With cargoes and in ballast.)

Nationality.	1900–1.	Pre-war quinquennial average.	War average (1914–15 to 1918–19).	1924–25.	1925–26.	1926–27.	1927–28.	1928–29.	1929–30.	1930–31.	1931–32.
British . .	7,411	12,322	8,681	12,534	11,951	11,796					
British-Indian .	182	358	182	273	214	240					
Native Craft .	118	130	265	128	125	115					
Foreign . .	1,710	3,410	2,546	4,720	4,843	4,888					
Grand Total .	9,421	16,216	11,674	17,656	17,135	17,039					
Most important foreign countries:[1]											
Japanese .	65	389	941	1,197	1,383	1,358					
Italian . .	127	226	288	976	884	946					
Dutch . .	14	226	413	643	694	602					
American .	—	—[2]	49	618	586	513					
German . .	680	1,428	111[3]	605	715	765					
Austro-Hungarian	425	689	52[3]	—	—	—					

[1] Other nations represented included Denmark, Norway, China (after 1914), Greece, Sweden, France, Spain (during the war), Russia (not since the conclusion of the war).
[2] Only one American vessel entered and cleared during the whole period.
[3] The "war averages" includes the years 1914–15 to 1918–19, and therefore includes several pre-war months. German vessels again took part in Indian trade in the year 1920–21.
N.B.—This table can be kept up to date from the *Statistical Abstract for British India*.

TABLE X.—IRRIGATION.[1]

A.—Development of Irrigation in British India.

Years.	Total cropped area. (In million acres.)	Total irrigated area. (In million acres.)	Area irrigated by Government works (all kinds). (In million acres.)	Percentage of total cultivated area that is irrigated.
1894–95	197	24	Not given	12
1901–02	197	30	18·5	15
1924–25	226·9	45·2	27–28	19
1925–26	226·9	47·5	27–28	19
1926–27	226·0	47·7	27–28	19
1927–28	—	—	—	—
1928–29				
1929–30				
1930–31				
1931–32				

B.—Distribution of Irrigation by Provinces and Types. 1926–27.

Provinces.	Total irrigated area. (In million acres.)	Percentage of cultivated area that is irrigated.[2]	Types of irrigation works.	Area irrigated. (In million acres.)
Punjab	13·6	45	Government canals	21·0
United Provinces	10·3	24	Private canals	3·6
Madras	9·0	24	Wells	12·0
Bihar and Orissa	5·3	17	Tanks (Government and private)	5·6
Bombay and Sind	4·1	12	Other sources	5·5
Burma	1·4	8		
Bengal	1·3	5		
Central Provinces	1·0	4	Total	47·7

[1] Compiled from the *Statistical Abstract for British India* and the *Agricultural Statistics of British India*.

[2] The proportion of irrigated to total cultivated area is also large in the North-West Frontier Provinces and Ajmer Merwara, but the total cultivated area, and total irrigated area, is small, and is, therefore, not given here.

N.B.—Up to the end of 1921–22 the capital outlay (including works under construction) was Rs. 81 crores, and the net return on capital expended was 7·3 per cent. (*Triennial Review of Irrigation*, p. 11). This table can be kept up to date from the *Statistical Abstract for British India*.

TABLE XI.—THE SPREAD OF SCIENTIFIC AGRICULTURE. BRITISH INDIA.

A.—Acreage under Improved Varieties in each Province, 1926–27. (In 1,000 acres.)

Crops.	Bengal.	Bihar and Orissa.	United Provinces.	Punjab.	Bombay.	Madras.	Central Provinces.	Burma.	Assam.	North-West Frontier Provinces.	Total.
Paddy	139	6·1	...	...	189	145	104	287	9·8	...	879·9
Wheat	...	2·4	1,000	1,440	16	...	135	...	...	300	2,893·4
Barley	...	...	24	...	...	...	...	...	...	...	24·0
Jowar	...	...	...	...	...	...	80	...	...	...	80·0
Bajra	...	...	...	...	0·4	...	...	...	...	...	0·4
Sugar-cane	50	6·4	115	7·6	2	11	...	...	2·3	0·6	194·9
Gram	...	0·1	40	...	...	...	...	75	...	...	115·1
Groundnut	...	1·8	...	...	291	...	44	22	...	...	358·8
Potato	...	...	...	...	...	...	...	...	10·0	...	10·0
Cotton	...	...	210	1,543	1,074	393	500	5	...	...	3,725·0
Jute	500	...	...	...	...	...	...	...	4·8	...	504·8
Miscellaneous	0·8	7·2	66	...	1	51	7	...	...	16	149.0
Total	689·8	24·0	1,455	2,990·6	1,573·4	600	870	389	26·9	316·6	8,935·3

B.—Potential Additional Value of Improved Varieties.

Crops.	Estimated additional value per acre of improved varieties.[1]	Area at present under improved varieties. (In 1,000 acres.)	Approximate additional value per annum of improved varieties in 1926–27. (In £1,000.)	Total area in British India under each crop. (In million acres.)	Estimated additional value per annum if improved varieties were extended to 75 per cent. of the area under each crop. (In million pounds.)
Paddy	£1 0 0	879·9	£879·9	78	£58
Wheat	£1 0 0	2,893·4	£2,893·4	24	£18
Sugar-cane	£2 5 0	194·9	£438·4	3	£4·5
Jute	£1 10 0	504·8	£757·2	3	£3
Cotton	£1 0 0	3,725·0	£3,725·0	15	£11
Total		8,198·0	£8,693·9	123	£94·5

[1] The figures taken as representative of the additional value per acre of improved varieties are not maxima, but are approximates to what may be considered a fair average. The *Annual Review of Agricultural Operations in India* states that £1 is the additional value per acre of certain improved varieties of rice, wheat, and cotton; that the improved variety of jute yields 25 per cent. more than the old, bringing in £1 10*s.* more per acre, and that improved sugar fetches 6*s.* 10*d.* more per 500 lb., whilst improved types may yield 2,500 lb. more per acre (the present average yield is 2,820 lb.). If on an average improved varieties of sugar yielded 1,000 lb. more per acre, and fetched 6*s.* more per 500 lb., the additional value per acre would be £2 5*s.* (approximately).

TABLE XII.—CO-OPERATION.

A.—Development of the Co-operative Movement in India.[1]

Years.	Number of Societies.	Membership.	Approximate Working Capital.
1905–06 [2]	283	28,629	Rs. 31,548
1913–14	14,881	695,998	Rs. 49, 00,000
1925–26	80,182	3,058,025	Rs. 57,60,39,000
1926–27	89,081	3,670,320	Rs. 67,93,60,317
1927–28			
1928–29			
1929–30			
1930–31			
1931-32			

B.—Co-operation in British India and in Indian (Native) States in 1926–27.

	Number of Societies.		Membership (in thousands).		Working Capital (in lakhs).	
	British India.	Indian States.	British India.	Indian States.	British India.	Indian States.
Central Societies (including Supervising and Guaranteeing Unions)	1,872	126	225	23		
Rural Societies (credit and non-credit)	67,589	11,351	2,272	349		
Urban Societies (credit and non-credit)	6,910	1,223	698	102		
Total	76,371	12,700	3,195	474	Rs. 62,44,81	Rs. 5,48,79

C.—Non-Credit Rural Co-operative Societies (including Cattle Insurance) in 1926–27.[3]

Provinces.	Number of Purchase, Sale, and Production Societies, etc.	Membership of Purchase, etc., Societies.	Number of Cattle Insurance Societies.
Bombay	264	39,895	8
Bengal	588	50,797	—
Madras	432	28,864	4
Bihar and Orissa	118	28,357	—
United Provinces	6	73	—
Punjab	702	26,387	—
Burma	73	5,714	391
Central Provinces	19	1,420	—
Total	2,202	181,507	403

[1] V. *Statistical Abstracts and Annual Statements showing Progress of the Co-operative Movement.*
[2] The only Indian (Native) State with Co-operative Societies at this time was Mysore.
[3] *Annual Review of Agricultural Operations in India*, 1926–27 (1928), p. 133.
N.B.—This table can be kept up to date from the *Statistical Abstract for British India.*

TABLE XIII.

Industrial Census, 1911 and 1921.[1] (All-India.)

Establishments employing more than 20 persons.[1]	1911.		1921.	
	No. of establishments.	Persons employed (in thousands).	No. of establishments.	Persons employed (in thousands).
I. Growing of special products	1,687	810	2,034	817
II. Mines	562	224	927	265
III. Quarries of hard rock	53	12	188	26
IV. Textiles	1,487	557	2,098	760
V. Leather, etc.	158	13	177	13
VI. Wood, etc.	168	29	326	31
VII. Metal industries	372	71	632	164
VIII. Glass, etc.	453	49	825	78
IX. Chemical products	455	49	762	102
X. Food industries	720	74	1,451	92
XI. Industries of dress	90	10	140	8
XII. Furniture industries	50	3	100	5
XIII. Building industries	163	22	283	27
XIV. Transport and communication	242	125	395	154
XV. Production, etc., of physical forces	64	8	124	14
XVI. Industries of luxury	389	45	572	50
Total	7,113	2,101	11,034	2,606

[1] The Industrial Census for 1911 included only establishments employing twenty or more persons, that for 1921, establishments employing ten or more. Here only establishments employing twenty or more are included, for comparison's sake. See *Census Report*, vol. i, 1921, p. 266.

TABLE XIV.—TEXTILE INDUSTRIES. ALL-INDIA.

A.—The Cotton Mill Industry.

	Number of mills.	Paid-up capital (lakhs).	Looms.	Spindles.	Numbers employed.
1900–01	191	15,80·1 [1]	40,542	4,942,290	156,355
1913–14	264	18,60·6	96,688	6,620,576	260,847
1924–25	305	46,63·6	150,680	8,286,206	376,012
1925–26	303	47,50·0	154,591	8,403,336	370,617
1926–27	306 [2]	45,85·1	158,124	8,412,817	384,082
1927–28					
1928–29					
1929–30					
1930–31					
1931–32					

[1] "Capital employed." Paid-up capital is not given for this year.
[2] Of these, 258 were in British India (176 in Bombay Presidency, 23 in Madras, 22 in the United Provinces, 13 in Bengal, 11 in the Central Provinces, 5 in Delhi, 4 in Ajmer Merwara, 3 in the Punjab, and 1 in Burma).
N.B.—This table can be kept up to date from the *Statistical Abstract for British India.*

Production and Trade in Cotton Yarn.

Quinquennial average.	Indian mill production (1,000 lb.).	Imports (1,000 lb.).	Exports (1,000 lb.).
1909–10 to 1913–14	646,757	41,794	192,844
1914–15 to 1918–19	666,227	34,003	129,685
1919–20 to 1923–24	662,512	44,682	82,166
For the years:			
1924–25	719,390	55,907	36,532
1925–26	686,427	51,688	31,874
1926–27	807,116	49,425	41,514
1927–28	808,911	52,345	24,697
1928–29			
1929–30			
1930–31			
1931–32			

N.B.—This table can be kept up to date from the *Annual Review of the Trade of India.*

TABLE XIV. A. (*continued*).

PRODUCTION OF, AND TRADE IN COTTON PIECE-GOODS. (In million yards.)

	Pre-war average.[1]	War average.	Post-war average.	1925–26.	1926–27.	1927–28.	1928–29.	1929–30.	1930–31.	1931–32.
Indian Mill Production:										
Grey and Bleached	854	1,066	1,210	1,414	1,577	1,675				
Coloured	251	378	466	540	681	681				
Total	1,105	1,444	1,676	1,954	2,258	2,356				
Imports	2,631	1,809	1,335	1,563	1,787	1,973				
Available for consumption and export	3,736	3,253	3,011	3,517	4,045	4,329				
Exports of home produce	89	154	163	164	196	167				
Re-exports	65	74	71	35	29	34				
Total	154	228	234	199	225	201				
Balance available for consumption in India	3,582	3,025	2,777	3,318	3,820	4,128				

[1] In each case "average" indicates "quinquennial average."

N.B.—This table can be kept up to date from the *Annual Review of the Trade of India.*

TABLE XIV. (*continued*).

B.—The Jute Mill Industry.[1]

	Number of mills.	Paid-up capital (lakhs).	Looms.	Spindles.	Numbers employed.	Mill consumption of Jute (million bales).
1900	36	4,09 [2]	15,340	317,348	111,272	Not available
1913	64	7,65	36,050	744,289	216,288	4·5
1925–26	90	17,40	50,503	1,063,700	331,326	5·4
1926–27	93 [3]	17,34	51,061	1,083,816	333,659	5·5
1927–28						
1928–29						
1929–30						
1930–31						
1931–32						

C.—The Woollen Mill Industry.

	Number of mills.	Authorized capital (lakhs).	Looms.	Spindles.	Numbers employed.	Production (million lb.).
1900 [4]	4	44	—	—	2,874	3·4
1913	7	53	1,131	40,770	4,053	5·1
1925	16	3,18	2,003	90,083	8,773	Returns incomplete [5]
1926	18 [6]	3,87	2,011	92,213	8,748	Returns incomplete
1927						
1928						
1929						
1930						
1931						

[1] All in British India.
[2] "Capital employed." Paid-up capital is not given for this year.
[3] Of these, eighty-seven were in Bengal, four in Madras, one (now closed) in the U.P., and one in Bihar and Orissa.
[4] Figures incomplete.
[5] In Indian States 3·2 million lb. were produced in 1925, and 3·1 million lb. in 1926.
[6] Thirteen of these mills were in British India (five in Bombay Presidency, three in the United Provinces, two each in Bengal and the Punjab, and one in Bihar and Orissa), with an authorized capital of Rs. 2,70 lakhs, 1,834 looms, 80,614 spindles, 7,314 persons employed.

N.B.—These tables can be kept up to date from the *Statistical Abstract for British India.*

TABLE XV.

INDUSTRIAL DISPUTES.

Year from April 1 to March 31.	Number of disputes.	Number of workpeople.	Days lost in millions.	Principal subjects of disputes.	Results.	Principal provinces involved. (Number of disputes.)
1921–22	394	511,000	6·6	Pay 174 Bonus : Personnel, Leave and Hours	Unsuccessful 171 Successful 97 Partially successful 91	Bombay 156 Bengal 150 Madras 21
1922–23	284	435,000	3·9	Pay 129	Unsuccessful 190 Successful 35 Partially successful 26	Bombay 145 Bengal 93 United Provinces 12
1923–24	211	288,000	4·8	Pay 98	Unsuccessful 151 Successful 32 Partially successful 17	Bombay 107 Bengal 67 Madras 14
1924–25	133	312,000	8·7		Unsuccessful 88 Successful 23 Partially successful 21	Bengal 55 Bombay 51 Madras 16
1925–26	134	270,000	12·5	Pay 71	Unsuccessful 88 Successful 17 Partially successful 27	Bombay 69 Bengal 43
1926–27	128	186,811	1·1	Pay 60 Personnel 31	Unsuccessful 104 Successful 12 Partially successful 12	Bombay 57 Bengal 57 Central Provinces 4
1927–28	129	131,655	2·2[1]			
1928–29						
1929–30						
1930–31						
1931–32						

[1] Approximate figures.

N.B.—This table can be kept up to date from the *Bombay Labour Gazette.*

TABLE XVI.—PRINCIPAL IMPORTS SINCE 1900–1.

A.—VALUE OF PRINCIPAL IMPORTS.[1] (In lakhs of rupees.)

Articles.	For the year 1900–1.	Q.A.[2] 1899/1900–1903/4.	Q.A. 1904/5–1908/9.	Q.A. 1909/10–1913/14.	Q.A. 1914/15–1918/19.	Q.A. 1919/20–1923/24.	For the year 1924/25.	For the year 1925/26.	For the year 1926/27.	For the year 1927/28.	For the year 1928/29.	For the year 1929/30.	For the year 1930/31.	For the year 1931/32.
Cotton :														
Raw	70	31	57	1,02	44	2,00	4,24	3,64	5,03	6,74				
Twist and Yarn	2,48	2,40	3,29	3,77	4,94	9,32	9,66	7,76	6,62	6,78				
Piece-goods	27,34	28,32	38,19	45,23	44,40	58,25	68,73	53,80	55,01	54,18				
Other manufactures				4,68	3,05	3,56	3,93	4,09	3,42	4,17				
Total	30,52	31,03	42,06	54,70	52,83	73,15	86,56	69,31	70,08	71,87				
Iron and Steel Goods	4,57	4,80	7,82	11,17	9,31	21,00	18,92	18,06	16,72	21,43				
Sugar	5,65	5,12	8,79	13,17	14,70	19,98	20,90	15,83	19,16	14,90				
Machinery and Millwork	2,25	2,79	5,58	5,61	5,13	21,64	15,88	14,88	13,63	15,93				
Mineral Oil	3,69	3,54	3,30	3,94	4,23	8,28	9,67	10,73	9,18	10,43				
Including Kerosene	3,45	3,46	3,00	2,71	2,37	4,43	4,77	5,61	4,29	5,39				
Hardware	1,84	1,89	2,67	3,17	2,79	5,78	4,98	5,19	5,06	6,34				
Railway Plant and Rolling Stock	1,34	1,73	2,20	6,11	3,48	12,07	6,07	4,99	3,26	4,76				
Wool and Woollens	2,19	2,22	2,54	3,24	1,99	2,61	4,34	4,66	4,23	5,36				
Provisions and Oilman's Stores	1,97	1,99	2,65	2,05	2,14	2,95	3,91	4,51	4,46	6,40[6]				
Mechanically Propelled Vehicles and Parts[3]	Not available	Not available	46[4]	1,79[5]	1,11	4,79	3,21	4,48	5,09	6,34				
Chemicals and Drugs	60	61	70	1,93	3,21	3,94	3,89	4,15	4,51	4,39				
Silk (raw and manufactured)	2,67	2,54	2,85	3,94	3,93	5,73	4,91	3,74	4,59	5,05				

[1] In this table the articles are placed in order of their importance in 1925–26.
[2] *I.e.* Quinquennial average.
[3] Including motor cars, motor cycles, motor omnibuses, parts and accessories.
[4] Average of four years. Previously not entered as a separate item.
[5] Figure for 1913–14, as the quinquennial average is not forthcoming.
[6] A new basis of classification was adopted in 1927–28 for this heading.

N.B.—This table can be kept up to date from the *Annual Review of the Trade of India.*

TABLE XVI. (*continued*).

B.—Quantity of Principal Imports.

Articles.	For the Year 1900/1.	Q. A.[1] 1909/10–1913/14.	Q. A. 1914/15–1918/19.	Q. A. 1919/20–1923/24.	For the Year 1924/25.	For the Year 1925/26.	For the Year 1926/27.	For the Year 1927/28.	For the Year 1928/29.	For the Year 1929/30.	For the Year 1930/31.	For the Year 1931/32.
Cotton :												
Raw (1,000 tons)	11	12	2	12	20	21	46	66				
Twist and Yarn (1,000,000 lb.) .	34	41	34	44	56	51	49	52				
Piece-goods (1,000,000 yds.) . .	2,004	2,616	1,810	1,335	1,791	1,540	1,766	1,767				
Iron and Steel Goods (1,000 tons) .	262	695	325	651	869	884	843	1,197				
Sugar (1,000 tons)[2]	263	634	472	444	671	733	826	823				
Mineral Oil (1,000,000 gallons) . .	80	90	82	138	187	200	183	232				

[1] *I.e.* Quinquennial Average.
[2] Excluding molasses, confectionery, and saccharin. Including these latter the total figure for 1926–27 amounted to 924,000 tons.
N.B.—This table can be kept up to date from the *Annual Review of the Trade of India.*

TABLE XVII.—PRINCIPAL EXPORTS SINCE 1900–1.

A.—VALUE OF PRINCIPAL EXPORTS. (In lakhs of rupees.)[1]

Articles.	For the Year 1900/1.	Q. A.[2] 1899/1900–1903/4.	Q. A. 1904/5–1908/9.	Q. A. 1909/10–1913/14.	Q. A. 1914/15–1918/19.	Q. A. 1919/20–1923/24.	For the Year 1924/25.	For the Year 1925/26.	For the Year 1926/27.	For the Year 1927/28.	For the Year 1928/29.	For the Year 1929/30.	For the Year 1930/31.	For the Year 1931/32.
Cotton :														
Raw . . .	10,12	14,72	21,24	33,27	33,63	64,73	91,96	94,99	58,60	47,72				
Piece-goods .	1,53	1,69	2,29	2,27	4,53	8,00	6,84	6,72	7,67	6,80				
Twist and Yarn .	4,17	7,55	10,22	9,13	7,18	9,05	3,70	2,93	3,08	1,87				
Total .	15,83	23,96	33,75	44,68	45,35	81,80	102,50	104,64	69,35	56,39				
Jute :														
Raw . . .	10,86	10,71	18,74	22,20	12,80	19,52	29,09	37,94	26,78	30,66				
Manufactured .	7,86	8,28	14,42	20,25	40,19	43,15	51,76	58,84	53,18	53,66				
Total .	18,73	18,99	33,16	42,45	52,99	62,68	80,85	96,78	79,96	84,22				
Grain, Pulse & Flour	14,04	21,69	29,64	45,81	37,41	32,82	65,06	48,03	39,24	42,92				
Oilseeds . .	9,01	13,05	13,30	24,36	12,17	23,53	33,16	29,63	19,08	26,69				
Tea . . .	9,55	8,54	9,58	13,06	17,54	26,92	33,39	27,12	29,03	32,48				
Hides and Skins .	11,48	9,50	12,48	14,60	17,07	15,69	14,05	14,33	14,67	18,00				
Lac . . .	1,06	2,54	3,23	2,20	2,57	8,41	7,55	6,90	5,47	6,98				
Metals and Manufactured Metal Goods	Not available	Not available	82	54	82	2,55	5,00	4,92	4,93	5,87				
Wool and Woollens .	1,14	1,37	2,66	2,94	4,10	4,08	6,21	4,59	4,68	5,33				
Ores . .	Not available	Not available	1,14	1,14	1,89	3,03	2,18	2,36	2,27	3,09				
Opium . . .	9,45	8,93	9,48	9,96	2,16	2,32	1,47	1,93	2,11	1,99				
Oil (Mineral and Vegetable) . .	65	82	1,86	91	1,87	3,77	3,44	1,79	95	70				

[1] In this table the articles are given in order of their importance in 1925–26.

[2] *I.e.* Quinquennial Average.

N.B.—This table can be kept up to date from the *Annual Review of the Trade of India.*

TABLE XVII. (*continued*).

B.—Quantity of Principal Exports.

Articles.	For the Year 1900/1.	Q. A.[1] 1909/10–1913/14.	Q. A. 1914/15–1918/19.	Q. A. 1919/20–1923/24.	For the Year 1924/25.	For the Year 1925/26.	For the Year 1926/27.	For the Year 1927/28.	For the Year 1928/29.	For the Year 1929/30.	For the Year 1930/31.	For the Year 1931/32.
Cotton :												
Raw (1,000 tons)	178	430	391	521	594	745	569	480				
Twist and Yarn (1,000,000 lb.) .	118	192	129	81	36	31	41	24				
Piece-goods (1,000,000 yds.) . .	69	90	156	237	180	164	195	167				
Jute :												
Raw (1,000 tons)	620	764	464	554	696	647	708	892				
Grain, Pulse and Flour (1,000 tons) .	1,630	4,411	3,141	2,009	4,260	3,063	2,429	2,784				
Tea (1,000,000 lb.)	190	266	322	320	340	325	349	361				
Oilseeds (1,000 tons)	549	1,453	708	923	1,328	1,250	838	1,210				
Raw Hides and Skins (1,000 tons) .	73	50	57	53	48	51	51	64				
Metals and Metal Manufactures (1,000 tons)	136	52	72	133	437	494	468	617				
Ores (1,000 tons)		619	495	681	684	629	584	760				

[1] *I.e.* Quinquennial Average.

N.B.—This table can be kept up to date from the *Annual Review of the Trade of India.*

TABLE XVIII.

IMPERIAL NET REVENUE AND EXPENDITURE, 1891–92, 1901–2, 1911–12, 1920–21.[1] (In lakhs of Rupees.)

REVENUE		1891–92	1901–2	1911–12	1920–21
I. Land Revenue, etc.	Land Revenue	22,89	26,26	30,00	30,74
	Forests	1,45	1,73	2,91	1,66
	Tributes from Native States	72	83	59	60
II. Opium		6,14	4,86	7,84	2,30
III. Taxation	Salt	8,18	8,51	4,70	5,80
	Stamps	4,21	5,11	7,13	10,82
	Excise	5,05	6,02	11,29	20,14
	Provincial Rates	3,49	1,55	82	6
	Customs	1,63	5,60	9,43	30,95
	Assessed Taxes [2]	1,63	2,04	2,46	20,91
	Registration	39	46	66	1,11
	Total	24,62	29,31	36,52	89,81
IV. Commercial Undertakings	Railways	—	1,26	5,68	5,63
	Irrigation	Net	25	1,20	1,77
	Post Office and Telegraphs	Expenditure	20	17	18
	Total	—	1,72	7,06	7,60
V. Miscellaneous Receipts (including Mint)		24	7	37	44
VI. Exchange		1,06	3	15	7,61
Total Net Revenue		57,17	64,85	85,48	140,78

[1] The figures of the accounts as included in the Annual Budgets and as quoted in various Government publications are not identical, owing to changes introduced from time to time in the basis of computation and of classification. In order to obtain comparable figures I have taken the figures for 1891–92, 1901–2 and 1911–12 from the *Moral and Material Progress of India* Reports for those dates, and have converted the sterling figures given into rupees (at the rate of 1*s.* 4*d.*). As the figures for 1911–12 given in the *Moral and Material Progress of India* agree with those given in the Statistical Abstract, the figures for 1920–21 have also been taken from the latter source. One correction has had to be introduced—namely, in the case of the revenue from Forests. In the Statistical Abstract the mistake has been made of giving the gross instead of the net revenue from Forests.

[2] The "Assessed Taxes" are the equivalent of income-tax.

TABLE XVIII. (*continued*).

EXPENDITURE	1891–92	1901–2	1911–12	1920–21
I. Debt Services (dead-weight)	3,60	1,73	88	12,07
II. Military Services	23,58	24,24	29,33	87,38
III. Collection of Revenue	5,90	6,77	9,57	16,09
IV. Commercial Services — Railways	68	Net Revenue		
Irrigation	67			
Post Office and Telegraphs	−1			
Total	1,34			
V. Civil Services — Civil Departments	12,22	12,94	22,84	42,00
Miscellaneous	4,44	5,41	6,28	−1,43
Civil Works	4,58	3,48	7,69	12,02
Total	21,25	21,83	36,81	52,59
VI. Famine Relief and Insurance	1,26	1,32	1,50	1,50
VII. Provincial Adjustments: *Add* Increase of Provincial Balances by unspent grants	—	1,48	1,45	86
Deduct Portion of Provincial Expenditure defrayed from Provincial Balances	24	—	—	—
Total Net Expenditure	56,71	57,43	79,57	170,52
Net Surplus	46	7,42	5,91	—
„ Deficit	—	—	—	26,00 [1]

[1] The "face value" deficit on the figures given works out at 29,74, but the figure 26,00 is given both in the Budget and in the Statistical Abstract. The figures given for expenditure upon both Military Services and Debt Services are less in the Budget than in the Statistical Abstract, so that it is probable that a slight reduction should be made under both those heads. Otherwise the two sets of figures agree.

N.B.—The slight difference in some cases between the sum of the figures and the totals given is accounted for by the carry over from the thousands.

TABLE XIX.

Net Revenue and Expenditure of the Central Government since the Reforms.

(i) Net revenue. (In lakhs of Rupees.)

Heads of Revenue.	1921–22.	1922–23.	1923–24.	1924–25.	1925–26.	1926–27.	1927–28.	Revised estimates, 1928–29.	Budget estimates, 1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
Principal Heads of Revenue:													
Customs	33,75	40,64	38,98	44,98	46,96	46,57	47,37	49,11	50,22				
Taxes on Income	18,51	17,54	17,60	15,41	15,27	15,03	14,41	15,80	15,87				
Salt	4,77	5,31	8,65	6,19	5,08	5,50	5,37	6,41	5,04				
Opium	1,27	1,92	1,66	1,44	2,04	3,33	3,07	2,88	2,35				
Other Heads	1,17	1,65	2,13	1,63	1,52	1,61	1,75	1,57	1,57				
Total	59,49	67,07	69,04	69,66	70,87	72,04	71,97	75,77	75,05				
Commercial Services:													
Railways	—	1,21	6,44	6,78	5,49	6,01	6,28	5,46	6,25				
Posts and Telegraphs	—	45	70	80	1,88	—	—	—	—				
Irrigation	—	—	—	—	—	—	—	—	—				
Total	—	1,66	7,14	7,58	7,37	6,01	6,28	5,46	6,25				
Currency and Mint	3,30	2,57	2,12	3,28	3,94	3,39	1,90	1,94	2,35				
Miscellaneous Civil Services.	5,79	—	—	—	—	—	—	—	—				
Provincial Contributions and Miscellaneous Adjustments	12,98	9,22	8,83	8,74	6,08	5,13	2	3	—				
Extraordinary Items	—	—	—	2,54	38	57	—	25	28				
Grand Total	81,56	80,56	87,16	91,80	88,64	87,14	80,17	83,45	83,93				

TABLE XIX. (*continued*).

(ii) Net expenditure. (In lakhs of Rupees.)

Heads of Expenditure.	1921–22.	1922–23.	1923–24.	1924–25.	1925–26.	1926–27.	1927–28.	Revised estimates, 1928–29.	Budget estimates, 1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
Commercial Services:													
Railways	9,08	—	—	—	—	—	—	—	—				
Irrigation	8	2	6	11	8	5	8	10	9				
Posts and Telegraphs	1,09	—	—	—	—	5	47	52	23				
Salt, Forest and other capital outlay charged to revenue	—	—	—	17	7	7	13	5	8				
Total	10,25	2	6	28	15	17	68	67	40				
Debt Services	14,88	15,00	14,16	15,27	14,12	12,66	11,99	12,06	12,14				
Civil Administration	8,63	9,49	8,65	9,39	9,86	10,27	10,23	10,48	11,54				
Miscellaneous Civil Services (including Superannuation, Famine Relief, etc.)	4,18	4,57	3,55	3,89	3,71	3,36	3,23	3,29	3 21				
Civil Works	1,42	1,20	1,33	1,65	1,47	1,75	1,42	1,55	2,41				
Military Services	69,81	65,26	56,21	55,63	56,00	55,97	54,79	55,10	55,10				
Extraordinary Items	—	—	81	—	—	—	4	—	—				
Grand Total	109,16	95,58	84,77	86,11	85,32	84,18	82,38	83,15	84,80				
Surplus	—	—	2,38	5,69	3,31	2,96	—	30	—				
Deficit	27,65	15,01	—	—	—	—	2,21	—	87				

N.B.—This table can be kept up to date from the *Annual Budget for British India*. The slight difference in some cases between the sum of the figures and the totals given is accounted for by the carry over from the thousands.

TABLE XX.—PRINCIPAL SOURCES OF REVENUE AND HEADS OF EXPENDITURE SINCE 1921–22.

(i) PRINCIPAL SOURCES OF REVENUE (IMPERIAL AND PROVINCIAL). (Lakhs of Rupees.)

Heads of Revenue (net).		1921–22.	1922–23.	1923–24.	1924–25.	1925–26.	1926–27.	Revised estimate. 1927–28.	Budget estimate. 1928–29.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
I. *Land Revenue*[1]	P.	28,53	30,37	30,31	32,58	32,67	32,52	33,42	33,02					
II. *Taxation:*														
Customs	I.	33,75	40,64	38,98	44,98	46,96	46,57	47,78	49,29					
Excise[1]	P.	21,24	17,28	18,12	18,19	17,26	17,44	17,23	17,45					
Salt	I.	4,77	5,31	8,65	6,12[2]	4,90	5,50	5,52	5,77					
Opium	I.	1,27	1,92	1,66	1,62	2,03	3,33	2,91	2,66					
Income Tax[3]	I. & P.	23,32	18,30	18,30	15,89	15,87	15,72	15,66	17,03					
Stamps and Registration[1]	P.	10,47	11,95	13,10	14,57	13,96	13,64	14,11	14,09					
Total	.	94,82	95,40	98,81	101,37	100,98	102,20	103,21	106,29					
III. *Commercial Services:*														
Railways[4]	I.	−9,08	1,21	6,44	6,78	5,49	6,01	6,36	5,48					
Posts and Telegraphs	I.	−1,09	45	70	80	1,18	− 5	30	24					
Irrigation[1]	P.	− 48	1,45	1,12	1,15	1,23	34	24	41					
Forests[5]	I. & P.	1,35	1,40	1,63	1,99	2,16	2,34	2,07	2,33					
Total	.	−9,30	4,51	9,89	10,72	10,06	8,64	8,97	8,46					
Grand total of I, II and III		114,05	130,28	139,01	144,67	143,71	143,46	145,60	147,77					

[1] The receipts from land revenue, excise, stamps and registration and irrigation are entirely provincial where Dyarchy has been introduced, but the Central Government receives income from these sources from the minor provinces which have not yet been given a dyarchical form of government. This latter revenue is included in this table with the provincial receipts.

[2] In 1924–25 and the following years considerable capital expenditure on salt works was charged to revenue.

[3] The receipts from "Scheduled Taxes" (which are in force in one or two provinces only) are here included with the provincial receipts from income-tax.

[4] This excludes the transaction of the Provincial Governments with regard to subsidized railways, which on balance are negligible in amount. The provinces concerned are Bengal, the United Provinces, Burma, and Assam.

[5] In each year there was a small net deficit on forests on behalf of the Central Government.

N.B.—In every case the *net* revenue is given. This table has been compiled from the accounts of the Imperial and Provincial Governments, each published separately. P. signifies "Provincial"; I. signifies "Imperial."

TABLE XX. (*continued*).

(ii) Principal Heads of Expenditure (Imperial and Provincial). (Lakhs of Rupees.)

Heads of Expenditure (net).		1921–22.	1922–23.	1923–24.	1924–25.	1925–26.	1926–27.	Revised estimate. 1927–28.	Budget estimate. 1928–29.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
I. *Debt Services* [1]	I.	14,88	15,00	14,16	15,27	14,12	12,66	12,27	11,97					
II. *Military Services*	I.	69,81	65,26	56,21	55,63	56,00	55,97	54,92	55,10					
III. *Civil Works*	I. & P.	11,20	9,26	9,01	8,02	8,95	11,51	12,70	13,52					
IV. *Civil Administration :*														
(i) General Administration	I. & P.	10.96	11,22	11,30	11,83	13,09	11,55	12,74	13,39					
(ii) Justice, Police, Jails	I. & P.	18,80	18,72	17,78	18,02	18,09	17,46	17,50	17,79					
(iii) Superannuation	I. & P.	5,61	5,84	5,32	5,32	5,79	4,97	5,51	5,34					
(iv) Education	I. & P.	8,38	8,53	9,15	9,38	10,53	12,22	13,34	13,78					
(v) Medical and Public Health	I. & P.	4,40	3,74	3,64	4,36	4,90	5,16	5,25	5,74					
(vi) Agriculture	I. & P.	1,65	1,58	1,53	1,64	1,78	1,92	2,12	2,24					
(vii) Industries	I. & P.	36	39	37	95	1,28	1,31	74	67					
(viii) Scientific Departments [2]	I. & P.	1,14	93	87	79	84	93	1,02	1,04					
(ix) Ports and Pilotage [3]	I. & P.	23	34	30	30	18	23	28	27					
Total .	I. & P.	51,53	51,29	50,26	52,59	56,48	55,75	58,50	60,26					
V. *Famine Relief*	I. & P.	1,12	89	1,57	1,20	1,15	59	86	78					
Grand Total, I, II, III, IV, V .		148,54	141,70	131,21	132,71	136,70	136,48	139,25	141,63					

[1] Net Imperial Debt Charges only are included in this table, as they alone of the interest charges represent a dead weight charge on the revenues.
[2] Mainly Imperial.
[3] Imperial revenue from and expenditure upon ports and pilotage are almost equal, hence sums under this heading represent net provincial expenditure, less a slight Imperial surplus revenue. Provincial revenue from this source is very slight.

N.B.—I. signifies "Imperial"; P. signifies "Provincial."

TABLE XXI.

Net Revenue and Expenditure of the Imperial Government in 1913–14, Compared with that of the Central and Nine Main Provincial Governments in 1925–26.[1]

(i) Net Revenue. (In lakhs of Rupees.)

	Imperial Government. 1913–14.[2]	Central and Provincial Governments.	
		1925–26.	1925–26 on the basis of the price level in July 1914.
I. *Land Revenue*	24,95	32,67	20,54
Provincial Rates	27	—	—
Tributes from Native States	62	84	52
II. *Taxation :*			
Customs	10,62	46,96	29,53
Excise	12,53	17,26	10,85
Taxes on Income	2,86	15,87 [3]	9,98
Salt	4,22	4,90	3,08
Opium	91	2,03	1,28
Stamps and Registration	8,02	13,96	8,78
Total	39,16	100,98	63,50
III. *Commercial Undertakings :*			
Railways	7,18	5,49 [4]	3,45
Irrigation	1,77	1,23	77
Posts and Telegraphs	49	1,18	74
Forests	1,57	2,16 [5]	1,36
Total	11,01	10,06	6,32
IV. *Miscellaneous Receipts*	—	75 [6]	47
V. *Currency and Mint :*			
Currency and Mint	31	3,94	2,51
Exchange	18	—	—
Grand Total	76,50	149,24	93,86

[1] The Shan States, which received Dyarchical Government in 1923–24, are entirely excluded from the 1925–26 figures, as also from Tables XX (i) and (ii). In 1925–26 their net revenue amounted to Rs. 43,3 lakhs, and net expenditure to Rs. 43,7 lakhs.

[2] Compiled from the sterling edition of the Financial Statement for 1915–16, converted at the rate of Rs. 15 to the pound.

[3] Including provincial receipts from "Scheduled Taxes."

[4] Excluding the balance on provincial subsidized railways (a negligible sum, included under the heading IV "Miscellaneous Receipts").

[5] The Central Government in 1925–26 made a net loss on "Forests" of Rs. 11 lakhs.

[6] This includes Rs. 38 lakhs entered as "Extraordinary Items" in the Central Government Budget, and Rs. 37 lakhs of miscellaneous receipts by the Provincial Governments.

TABLE XXI. (*continued*).

(ii) Net Expenditure. (In lakhs of Rupees.)

	Imperial Government. 1913–14.	Central and Provincial Governments.	
		1925–26.	1925–26 on the basis of the price level in July 1914.
I. Debt Services . . .	24	15,63 [1]	9,83
II. Military Services and Defences	31,76	56,00	35,22
III. Civil Works	10,07	8,95	5,63
IV. *Civil Administration :*			
General Administration .	2,97	13,09	8,23
Justice, Police, and Jails .	12,21	18,09	11,38
Superannuation . . .	4,79	5,79	3,64
Education	4,39	10,53	6,62
Medical and Public Health .	1,89	4,90	3,08
Agriculture . . .	70	1,78	1,12
Industries	—	1,28	81
Scientific Departments .	61 [2]	84	53
Ports and Pilotage . .	8	18	11
Total	27,64	56,48	35,52
V. Miscellaneous Civil and Political Expenditure . . .	4,40 [3]	6,05 [4]	3,80
VI. Famine Relief and Insurance .	1,50	1,15	72
Grand Total . . .	75,61	144,26	90,72

[1] Including Rs. 1,51 lakhs net interest payable by the provinces.

[2] In 1913–14 this included "Miscellaneous," as well as "Scientific" Departments.

[3] Including Rs. 1,30 lakhs on Ecclesiastical, Political, and Miscellaneous Civil Expenditure, and Rs. 2,10 lakhs "Territorial and Political Pensions, Civil Furloughs, and Absentee Allowances, and Stationery and Printing."

[4] Including Rs. 1,25 lakhs expended by the provinces on "Miscellaneous Departments" (including Stationery and Printing), Rs. 1,06 lakhs expended by the Central Government on "Miscellaneous Civil Services" (including Stationery and Printing, and Territorial and Political Pensions); Rs. 7 lakhs expended by the Central Government on "Forest and other capital outlay charged to revenue"; and Rs. 3,67 lakhs expended by the Central Government on "Political and Ecclesiastical Purposes, and Aviation."

TABLE XXII.—PROVINCIAL REVENUE AND EXPENDITURE.

(SELECTED SUBJECTS.) 1925–26. (In lakhs of rupees.)

Provinces.	Forests.		Irrigation.		Education.	Agriculture.	Industries.	Medical.	Public Health.
Bengal :									
Gross Revenue	28	Revenue	0 4	Gross Expenditure	133	20	11	59	24
Net Revenue .	15	Expenditure	31	Net Expenditure	121	18	5	51	24
		Net Revenue	—31 [1]						
Bombay :									
Gross Revenue	75	Revenue	42	Gross Expenditure	196	27	1	47	25
Net Revenue .	32	Expenditure	94	Net Expenditure	186	24	1	41	20
		Net Revenue	—52						
Madras :									
Gross Revenue	51	Revenue	—36	Gross Expenditure	187	30	17	59	33
Net Revenue .	8	Expenditure	47	Net Expenditure	181	27	6	55	32
		Net Revenue	—83						
Punjab :									
Gross Revenue	41	Revenue	457	Gross Expenditure	142	38	7	35	16
Net Revenue .	15	Expenditure	115	Net Expenditure	130	31	6	32	15
		Net Revenue	342						
United Provinces :									
Gross Revenue	64	Revenue	85	Gross Expenditure	180	27	10	29	45
Net Revenue .	27	Expenditure	75	Net Expenditure	170	23	10	28	44
		Net Revenue	10						
Central Provinces :									
Gross Revenue	49	Revenue	1	Gross Expenditure	52	14	2	11	4
Net Revenue .	14	Expenditure	27	Net Expenditure	47	12	2	10	1
		Net Revenue	—26						
Burma :									
Gross Revenue	210	Revenue	44	Gross Expenditure	97	20	4	38	11
Net Revenue .	121	Expenditure	69	Net Expenditure	92	20	4	36	11
		Net Revenue	—25						
Assam :									
Gross Revenue	30	Revenue	0	Gross Expenditure	25	5	1	11	10
Net Revenue .	14	Expenditure	0·7	Net Expenditure	23	5	1	11	9
		Net Revenue	—0·7						
Bihar and Orissa :									
Gross Revenue	10	Revenue	22	Gross Expenditure	77	11	9	28	13
Net Revenue .	2	Expenditure	25	Net Expenditure	72	9	9	20	13
		Net Revenue	—3						
Total, Net Revenue .	2,38	Net Revenue	1,31	Net Expenditure	10,22	1,09	43	2,84	1,69

TABLE XXIII.—INDEX NUMBERS OF PRICES IN INDIA.

A.—Index Numbers of Indian Prices based on 1873.[1]

(Thirty-nine articles, unweighted.)

1873	100	1907	137	1916	184	1925	227
		1908	138	1917	196	1926	
1900	116	1909	124	1918	225	1927	
1901	110	1910	122	1919	276	1928	
1902	106	1911	129	1920	281	1929	
1903	99	1912	137	1921	236	1930	
1904	101	1913	143	1922	232	1931	
1905	110	1914	147	1923	215	1932	
1906	129	1915	152	1924	221	1933	

B.—Index Numbers of Wholesale Prices in Calcutta based on 1914.[2]

1914	100	1919	196	1924	173	1929	
1915	112	1920	201	1925	159	1930	
1916	128	1921	178	1926	148	1931	
1917	145	1922	176	1927	148	1932	
1918	178	1923	172	1928		1933	

[1] These index numbers are based on wholesale prices except for food-grains, for which wholesale prices were not available before 1897. The figures can be kept up to date from the *Statistical Abstract for British India*. The early figures are obtained from the *Index Number of Indian Prices*, 1861–1918, which also gives index numbers for other countries.

[2] These figures can be kept up to date from the *Annual Review of the Trade of India*, or the *Indian Trade Journal*. Figures for other countries based on 1913 are given in the League of Nations' *Bulletin Mensuel de Statistique*.

TABLE XXIII. (*continued*).

C.—Index Numbers of Prices of Groups of Indian Commodities.[1]

	1900-4	1905-9	1910-14	1915-19
Class I. *Goods for which the foreign demand is the main factor in determining the price.*				
(*a*) *Goods exported that experience competition from the produce of other countries.*				
Group average	92	107	124	152
Including:				
Food grains	89	111	111	136
Raw cotton (Broach)	96	104	132	195
Cotton yarn	92	108	128	210
Cotton piece-goods	101	99	110	121
(*b*) *Goods exported but experiencing little or no competition.*				
Group average	91	109	117	164
Including:				
Raw jute	83	117	143	144
Manufactured jute	89	111	127	207
Tanned skins	91	109	123	227
Tea	90	110	134	146
Class II. *Goods sold mainly in the Internal Market.*				
Group average	90	110	112	161
Including:				
Grains and pulses	87	113	107	152
Raw sugar	89	111	107	140
Coal	80	120	122	134
Class III. *Imported Goods.*				
Group average	98	102	106	213
Including:				
Cotton piece-goods	91	109	116	206
Woollen „ „	96	104	105	243
Java sugar	103	99	102	176
Galvanized iron sheeting	99	101	98	281

[1] Compiled from Appendix xxviii of the *Report of the Committee on Indian Exchange and Currency*, vol. iii, Cmd. 529, 1920, p. 159. These figures are based on the returns for January and June of each year, the average price for the decade 1900-9 being taken as 100.

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B. Official and Other Publications, p. 551.
C. Periodical Publications, p. 552.

II. AGRICULTURE, THE LAND SYSTEM, FAMINES, AND IRRIGATION.

A. Books and Works of Reference, p. 552.
B. Official and Periodical Publications, etc., p. 553.

III. INDUSTRY, COMMERCE, AND TRANSPORT.

A. Books and Works of Reference, p. 553.
B. Official and Other Publications, p. 554.
C. Periodical Publications, p. 558.

IV. WAGES, SOCIAL CONDITIONS AND MOVEMENTS, AND SOCIAL AND INDUSTRIAL LEGISLATION.

A. Books and Works of Reference, p. 558.
B. Official and Periodical Publications, etc., p. 559.

V. FINANCE: INCLUDING CURRENCY, BANKING, AND PRICES.

A. Books and Works of Reference, p. 561.
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INDEX

Absenteeism (of industrial labour), 127, 278
Acacia pods and bark, 208
Accounts (of the Government of India), arrangement of, 373, 383
Acids, 256, 257, 259
Acland, G., 279
Acworth, Sir Wm., 136
Aden, 236
Adulteration of produce, 290, 358
Advertisement and Indian trade, 224, 343, 344
Afforestation, *see* forests
Afghan War, 395
Africa, 29; East Africa, 266, 311; South Africa, 167, 235–237, 239, 240, 283, 310–312, 341; West Africa, 76, 227
Age, certificates of, 301; of consent, 56; of puberty, 57; of work in factories, 298, 299, 302; of work in mines, 308 (*see also* factory legislation, marriage and marriage system, mining legislation)
Agra, city, 37, 88, 283
Agra, Province, *see* United Provinces
Agricultural administration, 158, 165–169, 171, 172, 182, 473; and finance, 233, 401, 404
Agricultural machinery, 178, 351, 354
Agricultural occupations, 59–65; and by-employment, 156, 179, 180
Agricultural revolution, 158, 170, 177
Agriculture and agricultural production, 17–23, 40, 102, 107, 118, 119, 155–159, 164–172, 177, 181, 186, 210, 221–233, 255, 339, 360, 374, 377, 430, 434, 446, 464, 471, 472; and co-operative movement, 168, 172, 173, 183, 193, 195, 197, 205; and education, 165, 166, 168, 169, 177–179, 182, 183; expenditure on, 391, 392, 400; and health, 300, 301, 304; and hydro-electricity, 32, 179; in Indian (Native) States, 166; and policy, 160–184; and transport, 142, 143, 145; and wages, 463, 465
Ahmedabad, artistic industries of, 37; and cotton-mill industry, 36, 111, 261, 267, 274, 301, 355; and factory legislation, 298; and silk mills, 284; and trade unionism, 316, 318, 321; and welfare work, 88
Ajmer-Merwana, 196
Alcohol, duties on, 380, 381; and industrial power, 34 (*see also* drink problem)
Algeria, 167
Alien Government, difficulties of, 365, 399, 400, 477
Aligarh University, 59
Allahabad, 86, 88, 214, 406, 412; University, 59, 214
Alleppey, 149
All-India Maternity and Child Welfare League, 88, 89
All-India Trade Union Congress, 322
All-India Welfare Association, 91
Aluminium, 31, 210, 222
Ambala, 32
Ambedkar, B. R., quoted, 400, 415
America, 242 (*see also* United States of America)
American Civil War, 149, 150, 260, 435
American commercial crises, and Indian Trade, 394, 435, 436
American commercial methods, 343
American cotton, 268, 271, 272 (*see also* United States of America)
Amritsar, 37, 195, 283, 384
Anachronisms in India, 1, 68, 477
Andhra Valley Power Supply Company, 31
Andrew Yule and Company, 502
Anglo-Indians, 493
Animal life, sacredness of, 54
Animal produce, 23, 167
Animism, 46
Ankylostomiasis, 67
Anti-Asiatic legislation, 311, 312
Anti-malarial Societies, 198
Archer, Sir Wm., quoted, 13
Argentine, 446, 447
Arkonam, 131
Army, death-rate, 71, 75; health of, 92, 93 (*see also* military defence)
Army clothing and boots, 217, 283, 290 (*see also* wool and woollen industry)
Arrack, 226
Arrested economic development of India, 5, 8, 154, 399, 471, 472

Artel (Russian), 127
Arthas'āstra, 83
Artificial silk, 265, 278, 289, 291
Assam, 15, 16, 59, 108, 111, 286, 304, 398, 443, 494; resources of, 17, 25, 26, 174, 284; tea plantations and labour questions, 37, 124, 286, 308, 309
Assam Tea Company, 286
Associations of capitalists and employers, *see* commercial associations
Associations of workers, *see* trade unions
Atkinson, F. J., quoted, 439
Australia, 446, 447; and prices, 452; and sheep, 282; and trade, 167, 337, 341; and wheat, 337
Austria, 152, 153, 332, 333, 340
Ayurvedic medicine, 69, 95

Baden-Powell, B. M., 41, 375, 376
Badli system, 119, 120, 275
Bajra, 18, 21 (*see also* millets)
Bakshish, 120
Balance of trade, 116, 117, 344, 414, 419–424
Balfour, Dr., 495
Balfour and Scott quoted, 44, 93
Baluchistan coalfields, 25, 26
Bamboo, 291, 292
Bamulsapur cattle farm, 172
Bangalore, 27, 30, 37, 88, 168, 213, 214, 284
Bania, 108, 184, 493
Banks and banking system, 109, 198, 199, 403–409, 417
Barakar Iron Works, 27, 208, 242, 338
Bardoli Enquiry (land revenue), 370
Bareilly, 88
Barley, 18, 21, 22
Barnagore, 279
Barnes, Dr., quoted, 308, 500
Baroda, 88, 91, 496, 499
Bassein, 149
Bauxite, 31
Beggars and vagrants, 62
Begum of Bhopal, 59
Belgium, 139, 240, 246
Belting, 353
Benares, 37, 44, 134, 284, 285, 289
Bengal, 12–14, 16, 36, 56, 59, 108, 111, 143, 150, 163, 164, 168, 238, 240, 304, 345, 354, 390, 392, 397, 402, 404–406, 444; and co-operative movement, 173, 189, 190, 193, 196, 198; and health, 67, 91, 494; industries of, 210, 212, 215, 222, 242, 243, 279, 284, 290, 291; and labour and labour movement, 123, 125, 316, 317, 322, 462; and land system and legislation, 98, 99, 102, 374, 375; resources of, 25, 26, 29, 37, 135, 143, 176, 235–237, 288, 380; and women's institutes, 95, 327 (*see also* Calcutta)
Bengal Committee on Industrial Unrest (1921), 317
Bengal Iron and Steel Company, 27, 242
Bengal Iron Company, 242
Bengalis and jute industry, 125
Bentinck, Lord, 128
Berar, 449 (*see also* Central Provinces)
Betel-nut, 20, 402
Bhalla, R. L., quoted, 55
Bhatias, 493
Bhatta money, 108
Bhils, 195
Bhopal, 193
Bicycle construction, 292, 293
Bihar and Orissa, 12, 16, 56, 91, 98, 108, 111, 135, 150, 307, 348, 354, 392, 397, 494; and co-operative movement, 196–199; industries of, 36, 37, 222, 243, 289; and labour problems, 123, 322; resources of, 18, 25, 27, 29, 176, 240
Bijapore, 88
Bikaner, 283
Bills of exchange, 96
Bimlipatam jute, 285
Birth-rate, 39, 41, 43, 46, 57, 68, 69, 72, 87, 90, 94, 471, 475 (*see also* vital statistics)
Birth rites, 55 (*see also* ceremonies)
Births, registration of, 299 (*see also* birth-rate)
Blackett, Sir Basil, 396, 399, 424, 426, 428, 430
Blankets, 282, 283
Boards of Health, 306, 307 (*see also* public health)
Boer War, 311
Bohras, 108
Bombay, Baroda and Central Indian Railway, 131, 149, 320
Bombay City, 1, 6, 14, 17, 53, 55, 85, 89, 107, 111, 125, 126, 210, 213, 214, 237, 238, 284, 291, 327, 355, 406, 410–412, 416, 417, 422, 427, 430; cost of living and family budgets, 442, 460, 465, 467; cotton-mill industry, 230, 260, 264–268, 271–278 (*see also* cotton-mill industry); and health, 39, 44, 45, 70, 73, 84–86, 497, 498; and hydro-electricity, 30, 31, 33, 34; industries of, 37; labour and wage problems, 118, 119, 125, 299, 301, 314–319, 321–323; as port, 14, 36, 148, 149, 151; and railways, 131, 149; sanitation of, 497–500; trade of, 149, 150; welfare work in, 35, 88, 90, 91, 149, 325–327, 491–494, 496, 498 (*see also* Bombay Presidency)
Bombay Cotton Exchange, 276
Bombay Cotton Transport Act, 358

Bombay Improvement Trust, 499
Bombay Industrial Disputes Committee, 317, 318
Bombay Millowners' Association, 263, 267, 271, 273, 274, 277, 314
Bombay Presidency, 16, 36, 47, 56, 59, 108, 130, 135, 137, 142, 160, 164, 181, 238, 298, 303, 304, 314, 325, 390, 392, 397, 398, 402, 404–406, 440, 449, 462; and agriculture, 169, 171, 172; and co-operative movement, 173, 193, 195–200, 202; and cotton-mill industry, 124, 125, 260, 261, 268, 296, 297, 331; and health, 73, 76, 84, 85, 91, 453, 494; and hydro-electricity, 30–32; industries and industrialization, 62, 63, 215, 222–225; land problems and legislation, 101, 103, 189, 370; resources of, 18, 26, 29, 34, 157, 175, 176; wages in, 463 (*see also* Bombay City)
Bombay Stock Exchange, 111, 112
Boot factories, 36, 290
Borax, 24
Borer beetle, 287
Bose, P. N., quoted, 1, 189, 439
Bounties and bounty system, 246, 247, 277, 292, 352, 353, 362 (*see also* protection, tariffs, tariff policy and system)
Boycott of English goods, 437
Boy Scouts, 326, 481, 483
Brahmans and Brahmanism, 3, 46–49, 55, 108, 202, 290, 493 (*see also* Hindus and Hinduism)
Brahmaputra, 13, 14, 26
Brandeis, Dr., 174
Brayne, F. L., quoted, and work of, 74, 170, 183, 184, 481, 483, 484
Brazil, 28
Brick industry, 222, 289, 292
British colonies, 309; and Indian migration, 309, 314; and patents, 212 (*see also* Africa, Australia, British Guiana, Canada, Ceylon, Hong-Kong, Iraq, Jamaica, Kenya, Mauritius, Natal, New Zealand, Straits Settlements, Transvaal, Uganda, West Indies)
British Empire Leprosy Relief Association, 78
British Guiana, 156, 311, 313
British India, 9, 17, 372
British Rule, 375, 404, 408; establishment of, 210; and Home Charges, 509; and indebtedness, 187; and Indian trade, 332, 333, 359, 362; results of, 186, 374, 448, 484, 485, 510; and security, 185, 186; and unification of India, 487
British Social Hygiene Council, 91
British trade unionism, 317, 320, 323, 324
Broach, 316
Broadcasting, 483
Broughton, G. M., quoted, 298, 303, 307, 325, 326, 443 (*see also* Chatterjee, Lady)
Brush factories, 36
Brussels Sugar Convention, 346
Buckingham and Carnatic Mills, 123, 214, 229, 325
Buddhism and Buddhists, 44, 47, 49, 51, 54
Budget (Indian), 7, 366, 371–373, 380, 393–396, 398, 399, 428, 435, 437
Budgets, family, 442
Buffaloes, 171 (*see also* cattle)
Bullion, *see* treasure
Bullock, 171, 172 (*see also* cattle)
Bulls, 173 (*see also* cattle)
Bundelkhand land legislation, 103, 189
Bundi, 496
Burma, 9, 13, 16, 56, 59, 91, 100, 142, 149, 181, 354, 374, 392, 397, 398, 457, 494; and co-operative movement, 193, 198; industries of, 37, 284, 285, 289, 386; resources of, 17, 24–26, 28, 29, 37, 174, 241, 242, 257, 337, 339, 342, 390; and separation from mainland, 13, 485; trade of, 150–152, 238, 242, 279, 339, 345
Burmah Oil Company, 26, 241, 242, 255
Burnett-Hurst, A. R., quoted, 499
Burns, A. R., quoted, 427
By-employments, by-products and by-industries, 40, 224–227, 232, 256, 257, 259, 360, 464, 479

CALCUTTA, 14, 89, 91, 111, 112, 119, 125, 126, 316, 406, 410–412, 417, 422, 430; and health, 44, 70, 71, 89–91, 494, 497; industries of, 37, 243, 279, 280, 284; and prices, 387, 427; railways, 32, 131, 134, 142; and trade, 29, 36, 148, 149, 150, 152, 210; and welfare work, 86, 88, 326, 500, 501
Calicut, 142, 149, 406, 412
Cambay, Gulf of, 14
Canada, 130, 312, 341, 452
Canal Colonies, 41, 102, 130, 161 (*see also* irrigation)
Canned goods, 176, 212, 255
Capital, leadership and management, 157, 209, 218, 225, 227–229, 231, 232, 236, 281, 288, 289, 375, 444, 459; and co-operative movement, 200; foreign, 115, 209, 286, 350; high cost of, 252, 253, 458; Indian, 243, 254; lack of and need for, 109, 171, 188, 201, 220, 259, 293, 403, 444, 446; and mobility, 429, 476
Carpets, 283
Cassia, 208

Caste and caste system, 2, 3, 47–50, 52–56, 58, 76, 194, 202, 319, 472, 492, 495; outcastes and untouchables, 3, 23, 48, 49, 53, 55, 104, 122; results of, 52–56, 58, 156, 157, 176, 443
Cattle, 23, 156, 167, 168, 171, 172, 181, 188, 257, 258, 290; breeding and care of, 54, 156, 159, 165, 167, 171, 172, 180, 183, 483; and co-operative movement, 173, 195; and dairy industry, 171, 172, 180; insurance, 173, 192; veterinary research and services, 165, 167 (*see also* buffaloes, bullock, bulls, cow)
Caustic soda, 257
Cauvery Falls and hydro-electricity, 27 (*see also* Mysore)
Cawnpore, 37, 316; Agricultural College, 168; industries of, 24, 36, 217, 283, 290, 303; and welfare work, 86–88, 214; and works committees, 319
Cement industry, 289, 292, 316, 338, 352, 353
Census of India, 8, 12, 38, 39, 59–65
Central Bank, 406 (*see also* Central Reserve Bank)
Central Cotton Committee, 349, 358
Central Government, sources of revenue, 372 (*see also* finance, and financial resources, expenditure)
Central India, 12, 18, 25, 31
Central Provinces, 59, 91, 103, 169, 326, 390, 397, 398, 494; and co-operative movement, 196, 198, 199; industries of, 210, 212, 222, 268; and labour problems, 124, 322; resources of, 17, 25, 27
Central Reserve Bank, 407, 425, 428–430, 432, 475
Central Road Fund, 130
Ceremonies and expenditure, 55, 195, 377, 468
Certification, power of, 380, 390
Ceylon, 15, 25, 67, 134, 141, 151, 242, 288, 311, 313, 326, 341, 356, 457
Chablani, H. L., quoted, 413, 419–421
Chambers of Commerce, 110, 111
Charka, 437
Charodi cattle farm, 172
Chatterjee, Lady, quoted, 304, 306 (*see also* Broughton, G. M.)
Chatterton, Sir A., 210, 211, 222; quoted, 166, 479
Chawls, 87 (*see also* housing)
Chemicals and chemical industries, 28, 36, 37, 208, 212, 215, 231, 256–259, 293
Chettis, 108
Child Welfare movement, 82, 88, 92
Child-birth, 58, 70, 91, 495
Children, defective, 327; earnings, 466; in industry, 122, 123, 297, 298, 300–305, 327 (*see also* education, factory legislation, industrial legislation, public health, wages, welfare work, women)
China, 40, 72, 113, 466, 467; trade of, 152, 242, 262, 264, 265, 268, 272, 283, 284, 329, 338, 340, 341, 346, 378, 379, 420, 424
Chingleput, 284
Chittagong, 148, 419
Cholera, 46, 66, 68, 69, 75, 85, 86
Chota Nagpur, 124, 157, 284
Christians, 44, 47, 71, 194
Cinchona and cinchona industry, 20, 287, 288 (*see also* quinine)
Cities, concentration in, 64; definition of, 42
Civil Services and taxation, 444 (*see also* "drain" to England, and financial resources)
Clarke, G., quoted, 405
Climate of India, 11–13, 15–17, 68, 71–72, 87, 202, 251, 252, 269, 271, 283, 343, 474
Coal, coalfields and coal industry, 7, 12, 24, 25, 29, 140, 212, 215, 250, 325, 381; Coal Committee, 237–239; coal contracts and the railways, 140, 250; development of coal industry, 235–241; and jute industry, 279; and labour and labour problems, 91, 121, 123, 127, 208, 231, 236, 239–241, 281, 305, 315, 316; and prices, 235, 237, 239; and profits, 235, 238, 240; and steel industry, 243, 249, 253; and tariffs, 348, 352, 353, 356; and trade, 135, 142–144, 146, 235–238, 341
Coastal trade, 14, 116, 148
Cocanada, 149
Cochin, 141, 149, 151; State, 28, 59, 193
Coconut products, 12, 226, 227 (*see also* copra, vegetable oil)
Coffee and coffee plantations, 20, 37, 115, 209, 287, 288, 331, 356, 457
Coimbatore, 167, 168
Coinage, 410, 411, 416, 425, 426, 432 (*see also* currency)
Coir, 35, 227
Collective bargaining, 118, 319
Collins, B. A., quoted, 186
Colombo, 151, 236
Colonization, 52
Commerce, *see* trade
Commerce and Industry, Department of, 211, 347, 357 (*see also* industrial development)
Commercial associations, 110–112, 358
Commercial crises, *see* depressions
Commercial crops and farming, 155, 159
Commercial information, 217, 357, 362, 363

Commercial leadership, 52
Commercial museums, 210
Commercial occupations, 60–62
Commercial organization, 103, 104, 108–111 (*see also* financial organization, managing agent system)
Commercial policy, 347, 357–363 (*see also* economic policy, protection, tariff policy)
Commercial treaty (India and Japan), 277
Commercial undertakings (financial results), 373, 382, 385, 389 (*see also* irrigation, Post Office, railways, telegraphs)
Committee on Indian Finance and Currency (1920), 420–423, 455 (*see also* currency, finance)
Communications, 128 (*see also* transport)
Communist propaganda, 321
Compensation, *see* workmen's compensation
Competition (with Indian products), 20, 24, 36, 102, 104, 146, 261–271, 277 (*see also* cotton-mill industry, iron and steel industry)
Compulsory education, *see* education
Compulsory School Co-operative Societies, 198
Conciliation, industrial, 318, 319
Condiments and spices, 19, 329
Conditions of life and of the people, 300, 301, 324, 473 (*see also* prosperity, standard of life)
Conditions of work in factories, 296–301; in mines, 305–307 (*see also* factory legislation, industrial legislation, mining legislation)
Conservatism, 46, 55, 157, 360
Constitutional and administrative reforms, 332
Consumers and tariff policy, 35 (*see also* tariffs)
Consumption (uneconomic), 53, 54, 476
Contact, racial, 50–52, 97, 144, 145
Contraceptive practices, 39
Contract, breach of, 308, 309 (*see also* industrial legislation, migration)
Coolie lines, 87
Co-operative movement, 172, 173, 177, 183, 189, 193, 197, 219, 223, 226, 326, 328, 358, 434, 435, 464, 472, 473; Acts relating to, 173, 190, 191, 225; and banking, 191, 192, 198, 199, 204, 406, 407; central organization of, 193, 198; credit societies, 193–197; non-credit societies, 91, 94, 101, 172, 173, 181, 192, 193, 197, 198, 212, 213, 326; origin and development, 188–193; working of, 193–206
Copper, 24, 28, 32, 208
Copra, 226, 227
Coromandel coast, 11
Cossipore, 37, 255
Cost of living, 178, 321, 433, 453, 463, 465, 466 (*see also* standard of life)
Cottage industries, *see* hand-looms and hand-loom weaving, indigenous industries, rural industries, unorganized industries
Cotton, 19, 21, 22, 158, 161, 167, 173, 181, 358, 449, 452; cess, 349; contracts, 276; research, 167, 169; Transport Act, 167
Cotton countervailing excise, 6, 7, 263, 269, 273, 298, 346, 347, 349, 350, 355, 370, 396, 398, 399, 477
Cotton-mill industry, 19, 29, 31, 36, 37, 42, 146, 208–210, 215, 220, 235, 264, 273–275, 277, 289, 296, 297, 398, 428; hand-weavers and weaving, 36, 105, 262, 265, 277, 278, 283; labour problems and wages, 91, 124, 125, 269–271, 275, 276, 278, 463, 465, 466; organization and control, 110, 230, 236; and prices, 449, 452, 454; rise and development of, 260–278; and strikes, 230, 316, 321, 332, 338; and tariff, 346–349, 352, 353, 355, 356 (*see also* cotton countervailing excise)
Cotton-seed oil, 258
Council bills and drafts, 117, 395, 412–415, 417, 420–422, 457
Countervailing excises, 345, 346, 348 (*see also* cotton countervailing excise)
Countess of Dufferin Fund, 80, 81, 88
Courtauld and Company, 291
Cow, 23, 52, 54, 171, 172 (*see also* cattle, consumption, diet, religion)
Created securities, 419
Crèches, 90, 325
Credit, 399, 449, 472 (*see also* co-operative movement, currency)
Crewe, Lord, 211, 310
Crimean War, 279, 331
Criminals and criminal tribes, 62, 300
Crises, *see* commercial crises
Cromer, Lord, 369, 439
Cultivation, *see* agriculture
Cunliffe Report, and Indian currency, 422, 423
Curjel, Dr., quoted, 70, 500, 501
Currency and currency system, 393, 409–432, 435, 448, 454, 455, 457, 485
Currency and Mint, 386, 387
Currency reserves, 406, 413–418, 419, 421, 422, 424, 430, 431, 449
Currimbhoy Ebrahim and Company, 320, 326
Curtis, L., quoted, 177
Curzon, Lady, 81
Curzon, Lord, 6, 7, 85, 165, 190, 211–213, 286, 347, 388, 394, 439
Customs, *see* tariffs

Customs Department, 347
Cutch, 208
Cutch Mandevi, 498

Dacca, 37, 88
Dadabhai, Naoroji, 439
Dairying, *see* cattle, co-operative movement
Dais, 45, 70, 81, 89, 90, 327, 489–491 (*see also* midwives)
Dalhousie, Lord, 128, 130–132, 174
Darjeeling, 67
Darling, M. L., quoted, 1, 41, 53, 57, 58, 187, 188, 193, 374, 401, 461, 475
Das, R. K., quoted, 316, 443
Dastur and dasturi, 89, 120
Datta, K. L., quoted, 447–449, 451–453
Deaths and death-rate, 39, 41–44, 46, 66, 69, 70–72, 75, 77, 86, 87, 94, 496–498
Debt and debt services, 132, 384, 385, 510
Deccan, 11–13, 15, 22, 100, 157, 158, 449; Deccan Agriculturists' Relief Act (1879), 189
Decentralization, 82, 83, 267, 269
Defence of India Rules, 216, 312
Dehra Dun, 86, 174, 291
Delhi, 14, 32, 36, 37, 88, 89, 326
Demonstration trains, 78, 168
Dengue and fly fevers, 85
Denmark, 179
Depressions and crises, 262, 336, 337, 347, 435–437, 447, 459
Destruction of Insects and Pests Act, 167
Devadhar, G. K., 327
Development Boards, 182, 482
Dhanushkodi, 134, 149, 151
Dharwar, 156
Diabetes, 85
Diarrhœa, 46, 69, 85
Diet, 17, 19, 23, 44, 70, 89, 90, 95, 171, 197, 229, 271, 289, 290, 306, 339, 442, 443, 467, 490 (*see also* consumption, standard of life)
Digby, Wm., quoted, 7, 440
Dindigul, 141
Dirzie, 107
Discipline in factories, 300
Discounting facilities, 427
Discriminating protection, 8, 139, 350–352 (*see also* protection, tariffs and tariff system)
Diseases, 14, 17, 39, 46, 55, 66–70, 72–78, 87, 92, 145, 183, 218 (*see also* public health, and particular diseases, *e.g.* cholera, smallpox, etc.)
Disinfectants, manufacture of, 256, 259, 291
Dispensaries, travelling, 82, 94
Distribution, inequalities of, 443, 444
Doctors (European), 79 (*see also* medical aid, public health)
Dollar, and exchange, 423
Domestic service and servants, 54, 61, 63, 100, 108, 119, 121, 343
Domestic system (of industrial production), 106
Domestic utensils, 35
"Drain" to England, 7, 333, 509–511 (*see also* Home Charges)
Drainage, 69, 76, 159
Drink problem, 42, 91, 301, 306, 322, 323, 381, 389, 475
Dufferin, *see* Countess of Dufferin
Dumdum, 37, 255
Dundee, 279–281, 298, 299, 331
Dung-cakes, 3, 170, 183
Dunn, Lt.-Col., quoted, 66, 71, 74, 75, 89
Dupernex, Mr., 190
Duplex process, 505, 506
Dutch colonies, 310, 329 (*see also* Java)
Dutt, Mrs., 327
Dutt, R. C., quoted, 162
Dyarchy, 399, 400, 424
Dyes and dyeing industry, 19, 20, 22, 174, 209, 215, 288
Dysentery, 46, 68, 69, 75, 85

Earnings, *see* income, wages
East India Company, 97, 98, 102, 105, 113, 149, 188, 329, 332, 378, 405, 410, 510
East Indian Cotton Association, 110, 111
East Indian Railway, 130, 131, 134, 136, 137, 279
East Indies, 113, 114, 311
Economic developments, summary of, 471
Economic Enquiry Committee, 182, 482
Economic goal, 361, 362, 478
Economic motive, weakness of, 46, 59, 157, 361, 435, 471, 475, 476
Economic organization, *see* social organization
Economic outlook in India, 473–478
Economic policy of the Government of India, 5, 8, 15, 332, 333, 345, 359, 391, 401, 434, 471–473 (*see also* agricultural policy, commercial policy, currency, financial policy, industrial policy, *laissez-faire*, preference, protection, tariffs and tariff policy)
Economic progress, 471, 474–477
Economic transition in India, 8, 68, 153, 154, 328
Economic unification, 485–487
Economy of high wages, theory of, 270
Education, 4, 53, 84, 88, 94, 123, 179, 180, 213, 218, 225, 229, 231, 233, 270,

326, 475, 480, 481, 483, 487; compulsory, 123, 302; and co-operative movement, 195, 201, 204, 205; expenditure on, 391, 392, 394, 400, 401; of factory children, 299, 302, 325, 326; and health, 69, 76, 82, 85, 87, 91, 93, 94; medical, 79; technical, commercial and industrial, 179, 209, 210, 212–214, 216, 219, 225, 231–233, 251, 255, 259, 362, 435, 478, 483; of women, 59, 327
Efficiency of labour, 67, 75, 86, 230, 303, 306, 360, 435, 441, 442, 471, 474, 476
Egypt, 156, 167, 203, 466, 467
Electricity and electrical industry, 231, 239, 241, 257, 281, 298, 299, 315 (*see also* hydro-electricity)
Elephantiasis, 66
Ellore, 283
Emigration, *see* migration
Empire Cotton Growing Corporation, 358
Empire Marketing Board, 359
Employment, *see* labour, unemployment
Empress Mills, Nagpur, 303
Engineering and engineering industry, 36, 37, 127, 209, 212, 220, 224, 230, 253–256, 304, 352, 354
Engineering workshops, 254, 255, 300
England and Wales, *see* United Kingdom
English cotton industry, *see* Lancashire cotton industry
Enterprise, Indian, 244 (*see also* capital)
Epidemics, 434, 437 (*see also* diseases, health, public health)
Ernakulam, 141
European capital, leadership and management, 209, 229, 231, 243, 281, 288, 289 (*see also* capital)
European railways, 139, 179
European trade, 29, 240 (*see also* France, Germany, etc.)
Europeans in India, health of, 71, 72, 73, 77 (*see also* health and public health)
Exchange, 337, 346, 365, 373, 382, 383, 395, 409, 410, 435, 437, 445, 449, 455, 457, 458, 460; automatic working of, 421, 422, 429, 431; bills of, 404, 405; rate of, 411–414, 420–422, 424, 425, 427–429; stabilization of, 410, 411, 415, 421, 423, 427, 428, 431, 460
Exchange Banks, 116, 117, 406, 408, 409
Excise, 345, 346, 378–381 (*see also* cotton countervailing excise, countervailing excises)
Exhibitions and Indian trade, 224, 358
Expenditure of the Government, 67, 230, 367, 369, 373, 377, 383–392, 394, 395, 399, 401 (*see also* finance and financial developments)
Export and Import of Goods Act (1916), 335
Exports, *see* trade

Factories, *see* industrial development
Factory inspectors, 299, 302, 304
Factory legislation, 88, 118, 296–304 (*see also* industrial legislation)
Factory workers, 196, 300, 301, 304 (*see also* industrial workers)
Fallow land, 17, 156, 159, 170
Family budgets, 466, 467 (*see also* cost of living, standard of life)
Family life and system, 47, 49, 50, 55, 100, 101, 157, 496
Famines and famine policy, 6, 7, 15, 39, 43, 118, 132, 157, 162, 175, 186, 210, 298, 332, 333, 345, 360, 366, 369, 381, 393, 434, 436, 437, 442, 443, 455
Far Eastern markets, lost to Indian goods, 208 (*see also* China and cotton-mill industry)
Fayrer, Sir J., 71
Ferozepore, 32
Ferro-manganese, 24, 27, 29, 208, 217, 249, 291
Feudal system, 3
Fevers, 46, 68, 69, 75–77, 85
Fiduciary issue, 413, 422
Fijis, 156, 311
Finance, *see* expenditure, financial control, financial developments, financial organization, financial policy, financial resources
Finance, and the tariff system, 345, 346, 362
Financial burden on the poorer classes, 379, 381, 388 (*see also* taxation)
Financial control, 366–372
Financial developments and system, 337, 364, 365, 393–400, 402
Financial expenditure, *see* expenditure
Financial facilities, 227, 228 (*see also* banking and currency)
Financial organization, 103, 108–110, 116 (*see also* commercial organization, managing agent system)
Financial policy, 144, 365, 369, 394–402, 436
Financial relations with Indian (Native) States, 486
Financial resources of the Government, 365–369, 373–383, 385–390, 393–397, 399–403 (*see also* revenue of the Government)
Financial stringency, 192, 221, 223, 225, 359, 360, 373, 391, 400, 401
Fiscal autonomy, 8, 349, 356, 363 (*see also* tariffs)

Fish and fisheries, 23, 76, 158, 176, 177, 212
Fish canning or tinning, 176, 215
Flax mills, 215
Fleas, 73, 74
Flies, 75
Flour mills, 36, 289
Fluxes, 243, 249
Fly-shuttle looms, 222, 223 (*see also* hand-looms)
Fodder crops, 19, 21, 23, 167, 169–172, 175, 177, 181, 195, 227, 290
Food crops, foodstuffs and food supply, 17, 441, 449, 451, 453, 455, 492
Forest Research Institute, Dehra Dun, 174
Forests and afforestation, 17, 19, 20, 157, 158, 173–176, 179, 183, 223, 225, 390, 483
France, 129, 136, 152, 158, 174, 187, 240, 262, 466, 467; Chamber of Commerce, 111; trade of, 282, 283, 341
Franchise, women's, 59
Franco-Prussian War, 282
Free Trade policy, 332, 345, 346, 361, 362, 373, 385 (*see also* laissez-faire)
French colonies, 310
French ports in India, 148, 149, 265
Frontiers of India, 13
Fruit, 12, 19, 167
Fuel supply and problem, 170, 173, 181, 216, 256, 276, 292
Furniture, 35

Gambier, 208
Gandhi, Mahatma, 2, 156, 251, 311, 312, 316, 318, 432; quoted, 6, 55, 136, 286
Ganges delta and plains, 11, 13–15, 17, 18, 22, 26, 40, 53
Gaol, *see* jail
Garden produce, 18, 23 (*see also* agriculture)
Geographical unity of India, 485
Geological survey, 210
Germany, 152, 153, 156, 158, 171, 174, 191, 262, 288, 289, 332, 333, 340–343
Ghats, 15, 16, 30
Ghi, 19, 23, 258, 358
Gilchrist, P. N., quoted, 120, 315, 317, 318
Gild system, 4, 104, 106, 107
Ginsberg, M., quoted, 486
Ginwala, Mr., 322
Giridih Colliery, 325
Glass industry, 209, 217, 222, 291
Glen George quoted, 249
Glen Liston, Col., quoted, 68
Goa harbour, 14
Goats, 171
Godaveri district, 156, 161
Gokale, G. K., 312, 326
Gold point, 415
Gold production, 24–27, 30, 449
Gold reserves, 395 (*see also* currency reserves)
Gold standard and gold exchange standard, 413–417, 419, 422, 424–426, 430, 431
Gondwana coalfields, 25
Gostling, D., 30
Goti, 15
Government aid to industries, 210, 211, 350, 477 (*see also* industrial development, industrial policy)
Gram, 18, 21
Grand Anicut Canal, 161
Grasses (and research), 167
Great Britain, *see* United Kingdom
Great Indian Peninsula Railway, 130, 131, 133, 137, 149
Greece, 153
Gregory, T. W., quoted, 71
Grierson, Sir George, quoted, 9
Ground-nuts, *see* oilseeds
Gujarat, 202
Gur, 19 (*see* sugar)
Gurgaon scheme, 183, 483, 484 (*see also* Brayne, F. L.)
Gurumaishini, 243
Gwalior, 37

Hakim, 69
Hand-looms and hand-loom weaving, 207, 208, 210–212, 215, 222, 223, 226, 285, 291 (*see also* cotton-mill industry, silk and silk industry)
Harappa, 49
Hardinge, Lord, 349, 355
Hardwar, 53
Hartal, 317
Harvest failures, *see* famines
Harvesting seasons, 22, 23
Health, 32, 57, 58, 69–72, 89–91, 94, 193, 198, 270, 306, 324–326, 372, 471–473, 483 (*see also* diseases, medical aid, public health, sanitation, vital statistics)
Heath, Josiah, 27
Heliumthology, 85
Hemp and hemp industry, 22, 282, 285; and drugs, 380
Hides and skins, 23, 338, 347, 349, 354, 356, 449, 452, 457
High Commissioner for India, 372
Himalayas, 11, 13, 15, 26
Hindus and Hinduism, 3, 44, 47, 49, 51–55, 83, 493; and diet, 23; and health, 39, 69, 70, 76; and laws of inheritance, 50, 100; and marriage system, 43, 56, 57 (*see also* caste system, religion, social organization)
Hindustan, 13, 15

Hoards and hoarding habit, 57, 331, 332, 403, 419
Holdings, 50, 100–103, 173, 200, 202 (*see also* land and land system)
Holidays of factory workers, 297, 300
Holland, 152
Holland, T. H., quoted, 24
Home Charges, 117, 333, 393, 413, 417, 420, 422, 428, 509–511 (*see also* "drain" to England)
Hong-Kong, 340, 341
Hookworm, 17, 66
Hosiery trade, 267
Hospitals, 79–81 (*see also* public health)
Hours of labour, 296, 297, 299–303, 305, 310, 313–315, 322, 325, 465 (*see also* factory legislation, industrial legislation)
Housing of the working classes, 35, 42, 69, 73, 82, 85–87, 91, 93, 119, 125, 126, 197, 219, 276, 281, 301, 306, 313, 324, 492 (*see also* overcrowding and public health)
Howard, A., quoted, 163
Hubli, 37
Hundi, 96, 404 (*see also* exchange)
Hybridization of plants, 166
Hyderabad (Deccan), 37
Hyderabad State, 9, 16, 25, 26, 32, 160
Hydnocarpus oil, 78 (*see also* leprosy)
Hydro-electricity, 7, 26, 27, 29–35, 142, 179, 208, 237 (*see also* electricity, power)
Hygiene, 69, 87–92 (*see also* health, public health)

IGATPURI, 15
Immigration, *see* migration
Imperial and Social Hygiene Congress, 91
Imperial Bank of India, 406, 418, 429, 432 (*see also* banks and banking system, Central Reserve Bank)
Imperial Council of Agricultural Research, 181
Imperial Economic Committee, 357, 358
Imperial Institute of Agriculture (Pusa), 165
Imperial Institute of Veterinary Research (Muktesar), 165
Imperial Malaria Conferences, 75–77
Imperial Medical Research Institute (Dehra Dun), 86
Imperial Shipping Committee, 357
Imports, *see* trade
Improvement Trusts, 85, 110
Inam land, 104 (*see also* land and land system, land revenue)
Inchcape Retrenchment Committee, 86, 139, 220, 221, 391, 392, 396
Income and incomes, 61, 438, 440, 441, 453, 454, 460, 461, 466–468; per head, 375, 438–445, 475 (*see also* wages)
Income tax, 203, 355, 389, 402
Indebtedness, 55, 109, 157, 172, 173, 185–190, 361, 446, 455, 471, 472 (*see also* co-operative movement)
Indentured labour, 309-311 (*see also* migration)
Independent Treasury system, 405, 406
India Office expenses, 372, 510
Indian Central Cotton Committee, 111
Indian Chamber of Commerce (London), 358
Indian Company legislation, 505
Indian Cotton Contracts Board, 262
Indian Emigration Act, 313
Indian Fiscal Commission, 229, 349–352, 355, 357
Indian Institute of Science (Bangalore), 30, 213, 214
Indian Jute Mills Association, 110
Indian Medical Service, 79, 80, 83, 84 (*see also* public health)
Indian Mining Federation, 111
Indian Mission to Lepers, 77
Indian (Native) States, 9, 17, 29, 59, 193, 217, 283, 485–487
Indian Railway Committee (1920), 136, 137, 146, 147
Indian Red Cross Society, 82
Indian States Committee (1929), 486
Indian Taxation Enquiry Committee, 377, 380–382, 482
Indian Tea Association, 110, 111, 212, 213, 286
Indian Trade Commissioner, 344, 357, 358
Indian Village Welfare Association, 184
Indianization (of the railways), 140, 141
Indigenous banking, 403, 404
Indigenous industries, 5, 7, 14, 24, 36, 64, 96, 105, 144–146, 153, 207–209, 212, 224, 226, 231, 235, 472, 479 (*see also* hand-looms, rural industries, unorganized industries, village industries)
Indigenous medicine, 94
Indigenous midwifery, 45, 489–491, 493 (*see also* midwives)
Indigo, indigo industry and indigo plantations, 20, 35, 37, 115, 116, 208, 288, 289, 304
Indo-Gangetic plain, 14
Indore, 167
Indus delta, 11, 13, 22, 26
Industrial banks, 407, 408
Industrial Commission (1916–18), 8, 18, 67, 216, 218–220, 225, 232
Industrial Courts Act (1919, Great Britain), 318

Industrial departments, 205 (*see also* industrial development)
Industrial development, 32, 145, 207–221, 335, 350, 469; expenditure on, 391, 392 (*see also* large-scale industries)
Industrial monopoly, 436, 437
Industrial potentialities and tariff policy, 361, 362
Industrial information, 210, 212 (*see also* commercial information)
Industrial leaders and leadership, 114, 209, 231 (*see also* capital, enterprise, European capital)
Industrial legislation, 88, 118, 295–304, 307–314, 322, 347; in Indian (Native) States, 485
Industrial occupations, 60–65
Industrial organization, 103–110, 230; and managing agent system, 113–115 (*see also* managing agent system)
Industrial outlook, 226–233
Industrial policy, 168, 193, 197, 210–214, 216–227, 232, 233, 401; state aid to industries, 210, 212, 350, 477
Industrial research, 212, 221–224, 479
Industrial revolution, 67, 105, 146, 227, 295, 330, 331 (*see also* industrialization)
Industrial unrest, 302, 307, 315–319 (*see also* labour movement, strikes, trade unions)
Industrial wage system, 117–127 (*see also* wages)
Industrial workers, 56, 88
Industrialization, 7, 8, 24, 25, 37, 62, 63, 138, 141, 159, 203, 218, 225, 235, 238, 244, 293, 350, 359, 362, 389, 477, 478 (*see also* industrial revolution)
Industries, 35–37; connected with agriculture, 107, 226 (*see also* cotton-mill industry, etc., industrial development, large-scale industries)
Infant and Maternity Welfare, 46, 491–494
Infant industries argument, 361, 362
Infant marriage, 57, 58 (*see also* marriage system)
Infant mortality, 40, 45, 57, 69, 87, 89, 491–494
Infanticide, 39
Inflation of currency, 419
Influenza, 39, 43, 77, 86, 92, 336, 395, 437
Inheritance, 50–53, 100
Innes, Sir C., 355
Inoculation (plague), 74
Insanity, 82
Insecurity of life, 14, 52, 145
Interest, charges on debt, 333, 384; rates of, 187, 199, 404, 405
International Institute of Agriculture (Rome), 182
International Labour Conference, at Berlin, 297; at Washington, 302, 303, 305, 307, 308, 323, 324
International Labour Office, Geneva, 92, 296, 315, 317, 436, 462
International organizations, 435
Iraq, 167 (*see also* Mesopotamia)
Ireland, 466, 467
Iron-mining and iron and steel industry, 7, 12, 24, 27, 29, 32, 36, 142, 208, 209, 212, 213, 217, 220, 232, 242–254, 316, 346, 348, 354, 356, 505–508 (*see also* steel)
Irrigation, irrigation works and policy, 1, 6, 7, 15, 17, 21, 32, 34, 41, 144, 146, 155–158, 160–164, 172, 173, 177, 192, 345, 389, 390, 394, 451, 464
Ishapore, 37, 255
Italy, 130, 139, 152, 265, 283, 341, 466, 467
Ivory, 35

JACK, J. C., quoted, 440, 444
Jagri (jaggery), 19, 173, 222, 226
Jail, carpets, 283; rations, 442; training, 214
Jains, 43, 47, 49, 54
Jaipur, 37, 88, 283
Jamaica, 156
Jamalpur, 37
Jamshedpur, 35, 117, 178, 214, 231, 243, 244, 248–251, 320
Jamshedpur Technical Institute, 214, 231, 251
Jansi, 37
Japan and Japanese, 40, 152, 167, 216, 217, 237, 240, 242, 249, 267, 285, 291, 331, 333, 338, 340–343, 423, 443, 484; commercial methods of, 342, 343; competition with India, 262–273, 277, 338, 342; conditions of labour, 269–271, 276; cotton-mill industry, 262, 264, 265
Jat, 53
Java, 25, 40, 77, 242, 288, 341, 506
Jenks, L. H., quoted, 131
Jevons, H. S., quoted, 400, 401, 419, 420, 422, 447
Jhalawar, 59
Jherria coalfields, 23, 123, 142, 243
Joint family system, *see* family life
Joint Stock Banks, 404, 407–409, 449
Joint Stock Companies, 109, 110, 113, 115
Joint village, 98, 99, 374, 377 (*see also* land settlements)
Joshi, N. M., 90, 317, 320, 326; quoted, 273
Jowar, 18 (*see also* millets)
Jubbulpore, 37, 255
Justice, expenditure on, 391

Jute and jute industry, 19, 21, 36, 37, 42, 91, 110, 118, 125, 126, 146, 167, 169, 208, 209, 215, 216, 220, 235, 279–282, 298–300, 332, 347, 349, 356, 359, 449, 452, 500, 501
Jute Mills Association, 279, 280

Kala-azar, 67, 85
Kale, V. G., quoted, 400
Kalimati, 243
Kalimpang, 32
Kamagar-Hit-Varthak Sabha, 315
Kamdars, 179
Kanganis, 311
Kankar, 14
Karachi, 17, 37, 88, 92, 148, 150, 151, 237, 238, 289, 403, 412, 449, 498, 499
Karma, 49
Kashmir, 12, 24, 31, 282, 284
Katchcha, 343, 501
Keatinge, G., quoted, 101, 156, 180
Kenya, 167, 312, 341 (*see also* Africa, East)
Kerosene oil, 19, 26 (*see also* petroleum)
Key industries, 217, 291
Keynes, J. M., quoted, 414, 422, 459, 460
Khajas, 108
Kharif crops, 22, 23
Khattris, 108
Kirkee, 37, 255
Kistna canal system, 161
Knowles, L. C. A., quoted, 164
Kolar goldfields, 26 (*see also* gold)
Kolhapur, 88
Komatis, 108
Koraki, 126
Koyna Valley project, 31, 35
Kshatriyas, 48, 49
Kurseang, 32

Labour and labour problems, 40, 53, 117, 156, 218, 225, 228, 229, 231, 235, 236, 241, 250–253, 293, 319, 462, 465; conditions of, 269–271, 275, 276, 278, 324, 469; leaders and leadership, 121, 228, 230, 314, 315, 319; movement, 121, 223, 263, 276, 278, 305, 314–324, 459, 462; supply, 115, 116, 118–125, 127, 216, 228, 229, 280–282, 286, 287, 309, 310 (*see also* factory legislation, industrial legislation, strikes, trade unions, wages)
Labouring and Emigration Acts, 287, 313
Lac, 20, 208, 349
Lady Hardinge Medical College Hospital, 81
Lagos, 71
Lahore, 37, 88, 89, 327, 406, 412
Laissez-faire, 210, 345
Lala Rajput Rai, 323
Lancashire, 208, 230, 261, 264–266, 296–299, 331, 332, 345, 346, 363, 459
Lancashire cotton industry, 262–264, 276, 331 (*see also* Lancashire)
Land and land system, 38, 50, 96–103, 155, 157, 159, 173, 185–188, 195, 200, 201, 206, 360, 361, 374–378, 471, 475 (*see also* land revenue, land settlements)
Land legislation, 102, 103, 188
Land Mortgage Banks, 205, 403
Land revenue, 7, 41, 54, 98, 99, 177, 184, 186, 195, 365, 366, 370, 372–377, 379, 381, 385–388, 393, 394, 399, 401, 402, 444, 446, 448, 454, 472
Land settlements, 97–99, 101, 102, 304, 305, 374, 377, 378, 402
Languages, Indian, 9; English language, 487
Large-scale industries, 1, 24, 36, 37, 42, 52, 103, 104, 107, 109, 110, 115, 144, 207–210, 220, 226, 255, 289–293, 338, 434, 435, 469 (*see also* cotton-mill industry, etc., industrial development, industrial organization, industrialization)
Law, Sir E., 190
Lawrence Institute (Mount Abu), 71
Laws of inheritance, *see* inheritance
Laws of supply and demand, 475
Lead, 24, 28, 32, 208
Leadership, *see* capital, enterprise, European capital
League of Nations and Indian representation, 436
Leather and leather industry, 19, 36, 215, 222, 290, 457
Legal tender, 410–412, 423, 425, 426, 429
Leprosy, 68, 77, 78, 85
Lingayats, 108
Liquor, 345, 348 (*see also* alcohol, drink question)
Literacy in various Provinces, 480 (*see also* education)
Litigation, 195
Live-stock, *see* cattle
Local Boards Act, 205
Local communities, resuscitation of, 482–484
Local Government, 82, 83 (*see also* decentralization, public health)
Local taxation, 276
Lohanas, 108
Lokhande, N. M., 307, 314
London Chamber of Commerce (East Indian section), 111
London sanitation, 499
London School of Economics, 213
Lucknow, 37, 84, 86, 88, 214, 283
Ludhiana, 88
Lunatic asylums, 82

Lupton, A., quoted, 170, 441
Lyallpur, 32, 88, 168, 169
Lyallpur canal colony, 41

Machinery and plant, 208, 295, 340, 348, 352, 353
Maclagan, Sir E., 192
Madras City, 111, 148, 151, 237, 238, 265, 316, 405, 412, 466, 467; and health, 44, 45, 84, 88, 89, 92, 493, 494; and industries, 36, 210, 261; and railways, 32, 131, 137, 141, 142
Madras Presidency, 9, 15, 16, 22, 48, 56, 59, 108, 189, 345, 348, 390, 440, 443, 449; and agriculture, 158, 160, 164, 169, 179; banks, 404–406; and co-operative movement, 189, 190, 193, 196–198, 205; and health, 67, 84, 91, 94, 494, 496; industries of, 37, 105, 176, 177, 210–212, 214, 215, 222–224, 268, 290; land system and legislation, 98, 99, 103, 378; labour and labour problems, 125, 229, 314, 318, 320, 322, 330, 462; resources of, 17, 26–29, 174, 176, 289; and welfare work, 91, 326, 493, 494
Madura, 37, 141, 284, 285
Magnesite, 28; magnesium chloride, 252, 253
Mahābhārata, 83
Mahajan, 108, 109, 186, 202, 404
Maize, 18, 21
Malabar, 11, 12, 16, 17, 103, 175
Malaria, 17, 66, 68, 75, 76, 85, 145, 492
Malay peninsula, 75, 76, 113, 114, 288, 311, 313, 341
Malnutrition, 58, 95 (*see also* diet)
Malthus, need for, 475
Managing Agent System, 109, 113–115, 232, 252, 253, 273, 274, 287, 501–505
Manchester, 285, 343 (*see also* Lancashire, and Lancashire cotton industry)
Mandalay, 37, 168, 198, 284
Mangalore, 149
Manganese, 24, 27, 29, 208, 249 (*see also* ferro-manganese)
Mann, H. H., 168; quoted, 100
Manu, Code of, 83
Manure, 167, 168, 170, 171, 173, 174, 257, 338 (*see also* dung-cakes)
Marathas, 47
Markets, organization and problems of, 197, 226, 359, 363
Marriage and marriage system, 39, 41, 43, 47, 48, 50, 55–58, 70, 187, 201, 481, 495; age of and infant marriage, 39, 41, 56–58, 475, 493, 494, 496
Masulipatam, 37, 149
Matanga, 167
Match industry, 289, 291, 348, 352, 353
Maternal mortality, 40, 45, 57, 68, 69, 491, 494
Maternity benefits, 90, 307, 308
Maternity welfare, 80–91, 307, 308, 496
Mauritius, 309, 310, 332, 566
Mawaris, 108
Mayhew, A., quoted, 480
Mayo, K., 67, 73, 495–496
Mayo, Lord, 83, 367, 493, 495, 496
Mediaevalism, 1–4, 46, 49, 69, 73, 104, 399, 471
Medical aid and medicine, 69, 70, 78–82, 87, 88, 93 (*see also* health, Indian medical service, public health)
Meerut, 32
Memars, 108
Mendicants, 54 (*see also* beggars)
Mercantile marine, 152
Mercantilist policy, 330
Mesopotamia, 215, 266
Metal trades, 35, 449, 452; and protection, 352 (*see also* iron and steel industry, engineering)
Mettur-Cauvery Canal project, 162
Mica and micanite, 24, 27, 28, 216, 335, 338
Middle Ages, *see* mediaevalism
Middle and upper classes, incomes of, 454
Middlemen, 103, 106, 108, 109, 144, 339, 342
Midwives and midwifery, 45, 63, 70, 81, 88–90, 327, 489–491, 493, 494
Migration, 44, 56, 309–314, 356, 424, 434
Military defence and services, 54, 367, 369, 371, 383, 384, 386, 387, 390, 391, 444, 509–511
Millets, 18, 19, 21, 22, 167, 339
Mineral oil, *see* petroleum
Mineral products and industries, 7, 24–29, 60–62, 119, 121, 235, 479, 489 (*see also* coal, iron and steel, manganese, etc.)
Mineral rights, 29, 304, 305
Mining legislation and rules, 29, 123, 239, 241, 304–307
Minto, Lady, 81
Mints and mintage, 382, 393, 417, 422 (*see also* currency)
Mirzapur, 37, 283
Missions, 77, 80, 81
Mistry, Dr. J. E., quoted, 489–491
Mobility of labour, 145, 360, 475, 476 (*see also* migration)
Moguls, 51, 52, 188 (*see also* Muhammadans)
Mohenjo-Daro, 49
Monazite, 24, 28
Money economy, 103, 104, 108, 206
Money-lenders, 96, 100, 104, 108, 147, 186–188, 193, 196, 202, 361, 404, 446
Monsoon, 6, 7, 15, 16, 21, 22, 148, 157, 164, 336, 337, 395, 414, 434, 436, 437, 443

Montgomery, 32
Moplah Rebellion, 141
Morley, Lord, 211, 212
Mormugao, 148, 149
Mortgages, 186, 195 (*see also* land mortgage banks)
Mosquitoes, 75, 76
"Mother India," 495, 496
Motive power, *see* power
Motor construction and traffic, 129, 130, 292, 293, 349, 354, 356, 398
Moulmein, 149
Mount Abu, 71
Mowra, 34
Muhammadans, 3, 23, 44, 47, 50–53, 55, 57, 69, 70, 100, 161, 381, 493; medicine, 69
Mukadams, 53
Muktesar, 165
Mulk, 282
Muller-Lyer, Dr., quoted, 50, 51
Multan, 283
Municipal Corporations, 110
Municipal nurses, 493
Munitions Board, 34, 217, 220, 256–259, 338
Murshidabad, 284
Museums, *see* commercial museums
Muslin, 5
Mutiny (Indian), 131, 345, 366, 367, 393
Myrobalan, 208
Mysore, 12, 16, 26, 28, 30, 31, 56, 67, 91, 108, 160, 193, 211, 214, 284

NAGPUR, 36, 88, 89, 168, 260, 303
Naidu, Sarudini, 59
Nair, Dr., 300, 301
Narbada, 16, 27
Nasik, 498
Natal, 310–312, 237
Nation-building, 352, 372, 399
National Association for Supplying Female Medical Aid to the Women of India, 80, 81
Nationalism, 3, 4, 153, 510
Nationalists and Nationalist party, 6, 372
Naval expenditure, 391
Nayadis, 48
Nayar, 48
Negapatam, 149
Netherlands, 266
New Goa, *see* Mormugao
New York, 343, 499
New Zealand, 82
Nicholson, Sir F., 190
Nidhis, 189
Night-work in factories, 298, 300, 301, 303 (*see also* factory legislation)
Nila-Mula scheme, 31
Nilgiris, 32
Nira Valley project, 162
Nitre, 24 (*see also* saltpetre)
Non-co-operation movement, 135, 201, 202, 213, 380, 435–437
Non-interference with religion, 177
North-West, Provinces, 17, 494; regions, 13
Norway, 152
Nurses and nursing, 81, 82, 89, 93 (*see also* health, public health)
Nutritional diseases, 85 (*see also* diet)

OATS, 18
Occupations, 23, 52, 53, 59–65
Oil, *see* petroleum
Oil mills, 36, 212, 215, 220, 223
Oilseeds, 19, 21–23, 167, 227, 257–259, 359, 449, 453
Oldrieve, F., quoted, 78
Ootacamund, 211
Open-hearth process, 505, 506
Opening-up of India, 393 (*see also* transport)
Opium and opium duties, 20, 22, 90, 92, 346, 373, 378–380, 385, 386, 492
Ordnance factories, 36, 37, 217, 220, 255
Organization of workers, *see* labour movement, trade unionism
Organized industries, 42, 62, 64, 65, 118, 120, 121, 126, 127, 153, 295, 437, 471, 472 (*see also* industries, large-scale industries)
Orissa, *see* Bihar and Orissa
Osteomalacia, 70
Oudh, 99, 102, 103, 189, 289 (*see also* United Provinces)
Outlook (of the people), 2, 3
Over-capitalization, in the cotton industry, 273; in the steel industry, 252
Overcrowding, 44, 58, 77, 86, 87, 125, 408, 441, 472, 492 (*see also* housing)
Over-population, 40, 41, 59 (*see also* population)
Overproduction, 288, 292

PAN supari, 20 (*see also* betel-nut)
Panama, 76
Paper currency, 406, 412, 419, 420, 426, 429; reserves, 412, 413, 419, 422, 430
Paper mills, 215, 223, 289–292, 352, 353
Paraffin wax, 338
Pargiter, F. E., quoted, 49
Pariahs, 48
Parsis, 47, 55, 108, 232, 261, 493
Partition of Bengal, 315
Pastoral pursuits, 59–65 (*see also* cattle)
Patents and designs laws, 212
Patiala, 32
Payments in England, 132 (*see also* "drain" to England, and Home Charges)

Pencil industry, 222
Permanent Settlements, 98, 102, 304, 305, 374, 378, 402 (*see also* land settlements)
Persia, 266, 342
Persian wheel, 160
Peshawar, 142
Pests, 54, 167, 181, 183
Petroleum and petroleum industry, 24–26, 29, 33, 76, 208, 235, 237, 241, 242, 345, 346, 348, 352–354, 452
Philanthropy and philanthropists, 87, 325, 326
Phipps, H., 165
Phthisis, *see* tuberculosis
Physical features of India, 11–13
Piccotah, 160
Pig-iron, 243, 247, 249, 505–508 (*see also* iron and steel industry)
Pilgrimages, 55, 145
Pillai, P. P., quoted, 103, 228, 229, 230, 280, 291, 332, 374
Plague, 6, 39, 46, 66, 68, 69, 72–74, 84–86, 279, 297, 434, 436, 453, 497, 499
Plant diseases, 167
Plantations and plantation industries, 20, 36, 37, 103, 104, 109–111, 114–116, 122, 144, 146, 209, 234, 285–289, 308–311, 313; labour in, 115, 116, 122, 286, 287, 308–311, 313 (*see also* labour supply, organized industries, tea, rubber)
Planters' associations, 111
Plough, 156, 158
Plywood and tea-chest industry, 352, 353
Pneumonia, 75
Polak, H. S. L., 312
Police and jails, expenditure on, 391
Policy of the Government, 471, 477, 481, 482 (*see also* agricultural policy, commercial policy, economic policy, financial policy, industrial policy)
Political agitations and movements, 315, 321, 337, 435, 437
Political divisions, 9
Political insecurity, 161, 186
Political power, overvaluation of, 477
Pollachi, 141
Pondicherry, 149, 265
Poona, 44, 45, 85, 88, 89, 168, 326, 327
Poor Law, absence of, 55
Population, 5, 8, 12, 38–44, 46, 47, 59–65, 72, 102, 129, 157, 180, 185, 186, 228, 313, 314, 377, 448; problems, 72, 471, 473, 474, 478, 483, 484, 487
Ports, 110, 129, 148–153, 236, 238, 347, 391
Portuguese ports in India, 148
Post Office and postal system, 14, 129, 347; and workers, 316, 321
Post Office Savings Bank, 188, 199, 203, 405, 419
Pottery, 35, 212
Poverty of the masses, 14, 69, 73, 187, 409 (*see also* conditions of life, standard of life)
Power, Dr. E., quoted, 2
Power resources, 29–35, 212, 228, 232, 235, 238, 276 (*see also* coal, hydro-electricity, petroleum)
Preference, Imperial, 286, 287, 347, 350, 352, 355–357, 400
Presidency Banks, 405–406, 449
Price, prices and price level, 144, 215, 242, 263, 266, 268, 271, 276, 281, 282, 286, 333, 336, 337, 345, 386–388, 394, 409, 410, 415, 419–421, 424, 426, 427, 431, 433, 437, 440, 444–455, 457–461, 465, 469, 473
Primary education, 480, 481 (*see also* education)
Primitive religions, 47
Printing industry, 289
Priority and indent system, 217
Prisons and prisoners, 92, 93, 300, 301, 326 (*see also* criminals, jail)
Production, 40, 41, 63, 452, 473, 483 (*see also* agricultural production, industrial development, mineral production)
Professional classes, 61, 62, 454
Profits and profiteering, 22), 262, 267, 281, 282, 457
Progress, 2, 9, 46, 52, 145, 204, 233, 487 (*see also* prosperity)
Proletariat, 52, 118, 318, 319
Propaganda, 233, 328, 482, 483 (*see also* publicity)
Prosperity, fluctuations and changes in, 5, 15, 40, 41, 64, 177, 374, 433, 454, 455, 460, 461, 464, 469 (*see also* progress, standard of life)
Protection, 220, 236, 237–239, 244–256, 263, 265, 267, 268, 277, 278, 280, 291, 338, 341, 349–354, 360–362, 389, 477 (*see also* bounties, tariffs)
Protestantism, 50
Provincial contributions, 371, 372, 386
Provincial Councils, 59
Provincial finance, 368, 369, 372, 394 (*see* also relations between the Central and Provincial Governments)
Provincial settlements (financial), 368, 369, 394
Prussia, 139
Public administration, 61, 62
Public finance, 435 (*see also* finance)
Public forces, 61, 62
Public health, 44, 59, 66–95, 180, 198, 205, 219, 233, 391, 392, 394, 400, 401, 434, 435, 441, 479, 491 (*see also* health, medical aid, sanitation)
Public service, need for, 435

Public works and Public Works Department, 5, 7, 15, 129, 135, 210, 255, 358, 373, 393, 394, 434, 436, 474, 509
Publicity, 358 (*see also* propaganda)
Pulses, 18, 22, 167
Punjab, 12, 41, 53, 59, 108, 160, 161, 164, 168, 169, 183, 312, 316, 322, 374, 389, 390, 397, 398, 449, 461, 463, 468, 480, 481, 483, 484; and co-operative movement, 101, 173, 190, 193, 196–201; and health, 43, 82, 494; and industries, 210, 215, 222–224, 282–284; and land system, 99, 103, 189, 370, 374; resources of, 17, 18, 25, 26, 32, 33, 179
Purchasing power, 210
Purdah system, 51, 57, 58, 70, 157
Pusa, 165, 167, 168, 172, 182

QUETTA, 88
Quinine, 75–77 (*see also* cinchona)

RABI crops, 22, 23
Races in India, 9
Rack-rents, 177 (*see also* rents)
Ragi, 18, 21
Raiffeisen Banks, 190–192
Railway plant and rolling stock, 348, 356
Railways and railway system, 6, 7, 13–15, 29, 32, 103, 129, 130, 133, 146, 153, 181, 209, 214, 243, 254, 485; budget, 8, 135, 137, 139, 140, 147; and coal contracts, 140, 250; and coal industry, 24, 25, 135, 235–240; development of, 130–143, 147; and economic policy, 333, 345; and economic results, 143–148, 226; and finance, 131–140, 143, 144, 146–148, 230, 382, 389, 390, 394–396, 398, 400; and Indian (Native) States, 133, 134; and indigenous industries, 153; and labour, 143, 230, 316, 321; management of, 134–140, 142, 144, 147; nationalization of, 136–139; rates, 135, 140, 142, 143; stores, 141, 217; and tariffs, 346; and trade, 331, 448; workshops, 127, 254
Raipur, 152
Rajkot, 55
Rajput, 53, 58
Rajputana, 16, 26, 56, 108
Ranade, M. G., 190
Ranade, Mrs. Ramabai; 327
Rangoon, 37, 45, 148, 149, 151, 237, 241, 289, 406, 412, 457
Raniganj coalfields, 25, 27, 123, 242, 279
Rann of Cutch, 26
Rapson, Prof., quoted, 47
Rats, 72–74
Reading, Lord, 78, 396
Reforms (the, of 1919), 31, 32, 213, 219, 366, 367, 369, 370, 400
Reforms, economic, 471, 478–485
Registrar of Co-operative Credit Societies, 191
Registration and stamps, 203
Reh tracts, 163
Relapsing fever, 68, 85
Relations (financial) between the Central and Provincial Governments, 367–372
Religion and economic life, 2, 9, 46, 47, 52, 53, 69, 76, 92, 101, 471, 476, 487
Rent and rents, 35, 206, 374, 375, 441, 454, 468; and land revenue, 374–376
Research, *see* scientific research
Reserved provincial subjects, 86, 370, 371
Reserves, *see* currency, and paper currency
Respiratory diseases, 46, 69
Restriction of output, 288
Retail trade associations, 111
Revenue of the Government, 177, 345, 346, 349, 352, 366, 434, 436, 437, 459, 475, 479 (*see also* financial resources)
Reverse Councils, 117, 412–414, 418, 423–424, 431
Rice, 3, 12, 17, 19, 21–23, 156, 167, 169, 288–290, 331, 333, 339–342, 345, 349, 354, 359, 457
Rice mills, 35, 173, 289, 290
Rickets, 70
Ripon, Lord, 83
Rishra, 279
Risley, H. H., quoted, 48
Roads and road system, 14, 128–130, 179
Rockefeller Foundation, 67, 92
Ronaldshay, Lord, quoted, 15, 467, 484
Ross, Sir Ronald, 75, 76, 78; quoted, 94
Royal Army Medical Corps, 80
Royal Commission on Agriculture in India, 21, 22, 89, 157, 162, 164, 169, 172, 178, 180–183, 189, 327, 452, 480
Royal Commission on Indian Currency and Finance (of 1914), 411, 416–418; (of 1926), 407, 424–430, 452
Royal Commission on Labour, 324, 452
Royal workshops, 104
Rubber and rubber plantations, 20, 37, 115, 167, 287, 288
Rubies, 24
Rupee, changes in value of, 132, 246, 262, 268, 272, 336, 346, 409–412, 418–421, 435, 436, 458: stability of, 383; tenders, 220, 351, 477
Rupee ratio bill, 428
Rural industries, 103–109, 156 (*see also* hand-looms, indigenous industries, unorganized industries, village industries)

Russia, 29, 139, 152, 241, 283, 332, 340
Ryots and ryotwari system, 97–99, 101, 102, 374, 377 (*see also* land settlements)

Sabai grass, 291, 292
Sabang, 236
Safflower, 208
Saharanpur, 32, 292
Sahukar (sowcar), 108, 185, 223
Sakchi, 242
Salem, 27, 28
Salt, 6, 12, 24, 26, 345, 348, 365, 379, 452
Saltpetre, 24, 216, 357
Sanitation, 44, 54, 69, 82–87, 91, 491, 496–501 (*see also* public health)
Sapre, B. G., quoted, 47, 57, 478
Sarda Canal, 161
Sati, 39
Savings Banks and certificates, 426, 454 (*see also* Post Office)
Scavengers, 53, 55
Scheduled taxes, 402
Schools of Art, 222
Schools of Domestic and Rural Economy, 183, 184
Schulze-Delitzsch Co-operative Societies, 191
Schuster, Sir G., 398
Scientific departments, 391, 392
Scientific research, 68, 74, 78, 84–86, 93, 177, 212, 213, 284, 287, 289, 291, 351, 362, 474, 479, 480
Scott, Robertson, quoted, 270
Seasonal industries, 298, 300
Seed selection and distribution, 156, 166, 168, 173, 177, 188
Self-sufficiency, 341, 360–362, 443, 478
Serampore, 279
Seri-culture, 283 (*see* silk and silk industry)
Servants of India Society, 326
Settlements, *see* land settlements
Seva Sadans, 327 (*see also* welfare work)
Sewage systems, 69, 84, 86, 87
Sexual indulgence and morality, 43, 58, 69
Shah and Khambatta, quoted, 441
Shan States, 28, 387
Shawls, 282, 283
Sheep, 23, 171, 282
Shellac, 20, 289, 290
Shift system (in factories), 269–271, 299, 301
Shipbuilding, 152, 215, 352
Shipping, 129, 135, 148–153, 269, 331, 333, 343, 347
Shirras, Findlay, quoted, 48, 439, 440, 442, 453, 458
Sholapur, 36, 261, 316, 325
Shroff, 403–405
Sialkot, 32
Siam, 457
Sikhs, 47
Silk and silk industry, 19, 36, 105, 212, 282–285
Silver, 24, 28, 32, 208, 416, 419–422, 424, 458 (*see also* currency)
Simla, 32, 88
Sind, 12, 16, 160, 161, 164, 322, 449
Singu oilfields, 241
Singapore, 92, 236, 238
Singbhum, 257
Sirdars, 120, 125, 127, 281
Sisal hemp, 285
Skin diseases, 85
Slater, Dr. Gilbert, quoted, 160, 245, 246, 374
Slaves and slavery, 52, 144, 310
Smallpox, 46, 66, 69, 74, 75
Soap industry, 19, 215, 223, 258, 259
Social customs and institutions, 55, 59, 144, 145, 365, 476, 483
Social legislation, 214 (*see also* industrial legislation)
Social organization, 1, 3–5, 46–59, 145, 153, 177, 232, 471, 474, 479, 484, 487
Social Service League, 326–328
Social stratification, *see* social organization
Sodium carbonate, 257
Soil and soils, 21, 22, 157, 163, 167, 170, 175
Sowcar, *see* sahukar
Spain, 153
Specie, 457 (*see also* treasure)
Speculation, 277, 336, 421
Spelter, 257, 354
Spices, *see* condiments and spices
Srinagar, 31, 37
Stamp duty, 398 (*see also* registration and stamps)
Standard of life, 3, 6, 8, 87, 145, 218, 239, 241, 377, 431, 433, 448, 449, 451, 461, 464, 471–473, 481, 483 (*see also* cost of living, family budgets)
State Aid to Industries Acts, 222
Steel and steel industry, 24, 29, 178, 208, 246, 293, 352, 505, 506 (*see also* iron and steel industry)
Steel Industry (Protection) Act (1924), 178, 246, 352
Sterility, 40, 43
Sterling Exchange Standard, 424–426, 430, 431
Stevenson plan, 288
Stock Exchanges, 110–112
Stores purchase and policy, 141, 212, 219, 220, 351, 400, 477, 509
Straits Settlements, 25, 242
Strikes, 127, 143, 230, 263, 276, 278, 281, 314–316, 318, 321, 322, 466 (*see also* labour movement, trade unions, unrest)

Sudras, 48
Suez Canal, 5, 129, 143, 150, 152, 153, 331, 393, 435
Sugar and sugar industry, 19, 21, 35, 36, 167, 169, 170, 180, 212, 220, 226, 289, 290, 346–348, 359, 389, 452
Sukkur Barrage Canal, 161, 163
Sulphur, 257, 353
Sulphuric acid, 28
Sumach, 208
Sunn hemp, 285
Superannuation, 391
Superstition, 158, 229
Super-tax, 381, 382, 395
Surat, 148, 172, 201, 284
Suri, 27
Sutlej, 32, 161
Suttee, *see* sati
Swadeshi and Swadeshi movement, 6, 107, 140, 315, 407, 435, 436
Sweden, 153
Swedish match industry, 291
Switzerland, 139
Sydenham College of Commerce, Bombay, 197, 210, 213
Synthetic dyes, 338
Syphilis, 491 (*see also* venereal disease)

Takavi and other State loans, 160, 188, 190, 205
Tanjore, 284; delta, 141
Tank irrigation, 160 (*see also* irrigation)
Tanning materials and industry, 20, 23, 36, 174, 208, 212, 217, 220, 223, 289, 290, 347
Tariffs, tariff policy and system, 177, 257, 259, 265, 278, 286–289, 291, 292, 295, 296, 345–357, 359, 395, 398, 473, 474, 478, 485, 486; policy, 6, 177, 178, 182, 216, 332, 345–357, 359–363, 385; and Tariff Board, 237, 239, 242, 245–257, 262, 265–273, 276, 277, 291, 292, 380
Tata Hydro-Electric Power Supply Company, 30, 31
Tata Industrial Bank, 408
Tata Iron and Steel Company, 7, 27, 119, 214, 242–248, 250, 254, 305, 457
Tata, Jamshetji, 30, 213, 242, 243, 254, 260
Tata Sons, Ltd., 31, 243, 320
Tata Workmen's Institute, 326
Tavoy, 149
Taxation, 144, 177, 315, 365, 366, 372–375, 381, 382, 385, 386, 388, 389, 393, 398–400, 402, 444, 445, 472, 473
Tea and tea plantations, 37, 91, 115, 116, 124, 167, 170, 209, 212, 286, 287, 304, 315, 331, 339–341, 345, 347, 349, 352, 355, 356, 398 (*see also* large-scale industries, organized industries, plantation industries)
Tea Cess Act (1903), 212, 286, 287
Tea-pruning knives, 291
Technical training, *see* education
Telegraphic transfers, *see* council drafts
Telegraphs, 13, 129, 347
Tellicherry, 149
Temporary Settlements, 99, 374 (*see also* land settlements)
Tenant rights, 98, 102, 103, 188
Textiles and textile industries, 35, 62, 217, 300, 304, 423, 457 (*see also* cotton-mill industry, hemp, jute and jute industry, wool and woollen industry)
Thakurdas, Sir Purshotamdas, 427, 428
Thana, 130
Tharakan, 108
Tibet, 24, 283
Tilak, Mr., 436
Timber, 27, 29, 174, 181, 210, 217, 220
Tin-plate industry, 258
Tobacco and tobacco industry, 20–22, 108, 167, 170, 289, 292, 304, 345, 346, 348, 355, 356, 402
Tokio, 466, 467
Town, definition of, 42; planning, 82
Trade, 52, 108, 116, 117, 138, 143, 144, 148, 210, 268, 330, 331, 335, 357, 358, 395, 423, 434, 436, 437, 454, 455, 458, 460, 461, 469; balance of, 332, 333, 337; in coal, 29, 135, 142–144, 146, 235–238, 341; coasting, 345; in cotton and cotton goods, 208, 262, 264–267, 272, 329–333, 335, 337, 338, 340–342, 345; development of, 329–337; direction of, 215, 216, 329–331, 340–342; exports, 5, 23, 27–29, 150, 151, 330–333, 335, 337–342, 345, 437, 448, 457; in foodstuffs, 19, 23, 178, 289, 331, 333, 335, 337, 339–342, 448; in hides and skins, 331, 338, 341, 342; imports, 5, 26, 29, 150, 151, 215, 216, 218, 257, 330–333, 337, 338, 341, 342, 344; in indigo, 330, 338, 341; internal, 51, 116, 335, 395, 418, 437; in iron and steel goods, 243, 244, 246, 250, 335, 337, 342; in jute, 279, 280, 331, 335, 338, 340–342; land frontier, 344, 345; in machinery and mill work, 332, 337, 338; in metals and minerals, 27–29, 332, 335, 338, 345; in miscellaneous manufactures, 330, 332, 341, 342; in motors, 341, 342; in oilseeds, 331, 333, 338, 340, 342; in opium, 338, 378, 379; in petroleum, 332, 337, 338, 342; in plantation products, 331, 339–341, 345; present-day, 337–339, 344; in railway plant and rolling stock, 338, 341; in salt, 345; in saltpetre, 330, 335; in silk and silk goods, 283, 284, 330, 338; in spices, 345; in sugar, 332, 333, 337, 338, 341, 345; in tobacco,

342; in treasure, 330–332, 344, 419; in vegetable oil, 341; in wool and woollens, 283, 330, 335
Trade Associations, 358 (*see also* commercial associations)
Trade Commissioner, *see* Indian Trade Commissioner
Trade routes, 13, 14
Trade Unions and Trade Unionism, 86, 230, 276, 278, 295, 297, 307, 314–318, 320–323, 328 (*see also* labour movement, industrial unrest, strikes)
Transferred provincial subjects, 86, 376
Transport and communications, 1, 5, 13, 14, 23, 61, 62, 128–154, 208, 210, 219, 226, 228, 280, 292, 304, 330, 331, 363, 393, 434, 451, 452, 454, 472, 485 (see also railways, roads, Post Office, shipping, telegraphs)
Transvaal, 237 (*see also* Africa, South)
Travancore, 29, 59, 141, 193
Treasure, 117, 344, 346, 348, 419, 457, 465 (*see also* balance of trade, gold, silver)
Treasury Reserves, 411, 418
Trench fever, 68
Trichinopoly, 141
Trinidad, 156, 466, 467 (*see also* West Indies)
Triple Canals Project, 161
Triplicane Urban Co-operative Stores (Madras), 197
Truck, 308, 309
Tube wells, 160
Tuberculosis, 46, 67, 69, 70, 75, 82, 85, 327
Tucker, Lt.-Col. Gordon, quoted, 70, 71
Tuticorin, 142, 149, 151, 265
Typhoid fever, 68
Typhus fever, 68

UGANDA, 341
Unani system of medicine, 69
Uneconomic expenditure, 343 (*see also* consumption)
Unemployment and under-employment, 40, 118, 157, 303, 318, 446, 478
Unequal economic development, 218, 234, 291, 332, 360, 361
Unification, economic, 471, 485, 487; physical, 9, 13, 154
United Kingdom (including England and Wales), 43, 55, 63, 82, 98, 152, 156, 158, 159, 171, 174, 187, 197, 231, 240, 300, 332, 341, 342, 446, 447; and cotton industry and trade, 262, 266 (*see also* Lancashire and Lancashire cotton industry): exports to India, 130, 236, 237, 241, 242, 247, 249, 331, 332; and health, 46, 71, 74, 93; imports from India, 241, 331, 332, 341; and incomes, 438, 467, 468; and patents, 212; and preference, 347, 350, 352; and prices, 427, 447, 455; and vital statistics, 43, 45, 69
United Provinces, 12, 15, 56, 59, 108, 124, 125, 150, 157, 160, 161, 169, 182, 189, 300, 322, 390, 392, 397, 398; and co-operative movement, 190, 198, 204; and health, 66, 71, 494; and land legislation, 103; industries of, 210–212, 215, 222, 224, 268, 283; resources of, 18, 37 (*see also* Oudh)
United States of America, 130, 142, 152, 156, 178, 187, 217, 249, 258, 266, 282, 332, 333, 338, 340–343, 361, 414, 442, 446, 447; and cotton-mill industry, 262, 276; and currency, 395, 419, 420, 431
Universities, Indian, 1, 59, 214
Unorganized industries, 62, 64, 65, 127 (*see also* hand-looms, indigenous industries, rural industries, village industries)
Urbanization, 42
Usar tracts, 163
Usurers, *see* money-lenders
Usurious Loans Act (1918), 189

VACCINATION, 74
Vaid, 69
Vais'yas, 48
Vakil, C. N., quoted, 509
Vakil and Murayan quoted, 450, 452, 454
Variis, 108
Vegetable oil, 19, 226, 227, 257, 338 (*see also* oilseeds)
Venereal disease, 40, 43, 69, 91, 495 (*see also* syphilis)
Veterinary departments, 205 (*see also* cattle)
Victoria Jubilee Technical Institute (Bombay), 214
Victoria Memorial Scholarship Fund, 81, 88
Village guides, 182
Village handicrafts and industries, 35, 64, 103, 104 (*see also* hand-looms, indigenous industries, rural industries, unorganized industries)
Village Self-Government Act (1919), 483
Village self-sufficiency, 96, 101, 104, 144, 472
Village uplift, 483 (*see also* Gurgaon scheme)
Village Welfare Association, 483
Vital statistics, 39-46, 471, 475, 491 (*see also* birth-rate, death-rate, infant mortality)
Vizagapatam, 27, 28, 149, 151, 152
Voelcker, J. A., 165

WAGE-EARNERS, 106–108, 117, 118, 124, 127, 145, 295, 453, 454, 459 (*see also* labour)
Wages and wage system, 87, 97, 117–127, 228, 230, 239, 241, 248, 263, 270, 275, 278, 281, 282, 298, 308, 314, 315, 321, 322, 325, 433, 444, 447, 452–454, 459, 462–469, 475, 490, 491 (*see also* income, labour)
War (the great), 7, 28, 79, 85, 88, 129, 130, 135, 149, 152; and banking, 400; and currency, 411, 418, 421, 426, 431; and education, 461; and economic independence, 360; and economic policy, 386; and finance, 369, 385, 386, 394, 400, 421; gifts, 395, 510; and Indian trade, 150, 333, 335, 336; and indebtedness, 471, 472; and incomes, 435; and indigo, 288; and industry, 63, 215, 216, 218, 225, 236, 244, 262, 266, 267, 280, 283; and prices, 447, 449, 450; and prosperity, 434–437; and tariffs, 346, 347, 349; and trade unionism, 315; and wages, 125, 464
Washington International Labour Conference, 90
Water-rates, 163
Water-supply, 69, 86, 87, 94, 491
Watson, Sir Malcolm, 75, 76
Wattal, P. K., quoted, 43
Weavers, 197, 360 (*see also* hand-looms and hand-loom weaving)
Wedderburn, Sir W., 190
Weekly payment of wages, 308
Weld, W. E., quoted, 144
Welfare work, 82, 88, 119, 227, 276, 293, 313, 318, 324–328, 481, 496 (*see also* public health)
Wells and well-irrigation, 160, 168, 177, 222 (*see also* irrigation)
West Indies, 309, 310, 313
Westernization, 484
Wheat, 12, 17, 19, 21–23, 161, 167, 169, 226, 289, 331, 335, 339, 340, 359
White slave traffic, 92
Widows, 43, 56, 57, 481 (*see also* marriage system, women)
Willingdon, Lady, 89
Winslow, C. E. A., quoted, 499
Wives, temporary, 501
Wolfram, 24, 216, 335
Women, associations of, 327; conditions of work, 90, 91, 289, 500; in mines, 241, 305, 306; in cotton industry, 269–271, 276; and co-operative movement, 194, 195; earnings, 481 (*see also* wages); and education, 88, 89, 94, 481; and factory legislation, 298–301, 303; as factory inspectors, 91, 304, 321; health of, 45, 69, 70, 89; and labour movement, 314, 321; and medical facilities and training, 79–82; occupations of, 23, 58, 63, 64, 121, 122; position of, 59, 122, 471, 476, 480, 481, 495; and purdah, 47, 58; and welfare work, 326, 327 (*see also* marriage system, purdah system, social organization)
Women's Councils, 89, 327
Women's Institutes, 89, 95, 181, 183, 327
Women's Medical Service, 80, 81, 88
Wool and woollen industry, 23, 24, 36, 217, 282, 283, 300, 302, 316
Workers, *see* labour
Working-men's institutions, 325–327
Workmen's compensation, 118, 239, 307, 314
Works Committees, 91, 318–320, 325

YENGANGYAUNG oilfields, 241

ZAMINDARI Settlements, 374, 377 (*see also* land settlements)
Zamindars and zamindari rights, 98, 99, 102, 119
Zinc, 24, 28, 257, 354 (*see also* spelter)