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ECONOMIC CONDITIONS IN INDIA

ECONOMIC CONDITIONS IN INDIA

BY

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TO

SIR JOHN GHEST CUMMING, K.C.I.E., C.S.I.,
M.A. (OXON.),

Governor of the London School of Economics and Political Science; Formerly Member of Council, Government of Bengal;

WITH HAPPY RECOLLECTIONS OF THE HOURS SPENT IN HIS COMPANY

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PREFACE

AN attempt is made in the following pages to study the economic life of India with special reference to her industrial organisation, and to take stock of the possibilities of developing Indian industries on modern lines. The topic is one of absorbing interest at the present day in India, where publicists, business-men and economists are all alike endeavouring to frame a programme for the future development of the country which would enable her to make the most of her teeming population and vast economic resources. An adequate discussion of the entire problem, based upon a careful survey of existing conditions in which the peculiar merits and defects of India's industrial structure are shown in their proper perspective, is an essential pre-requisite to the formulation of any definite industrial policy ; and the aim of the present writer, in co-ordinating and summarising the scattered economic data bearing on the question, has been to provide a basis for such a discussion.

A word of explanation may be permitted as to the ground which this volume proposes to cover. Part I is an attempt to answer two main questions : First, " Has there been any organised industrial life in India in the recent past, and if so, what lessons can we derive from it for guidance in the rehabilitation of an industrial system suited to modern times and needs?" And secondly, "Can India attain full prosperity by keeping to the present relative position of agriculture and manufactures ?" The first chapter is devoted to an investigation of India's industrial past ; its limitations are fully discussed ; and it is shown that it affords no useful precedent for guidance in a recasting of economic life on account of the changed conditions of the present day. That the present demand for large-scale manufactures is the outcome as much of an imperative economic necessity as of a new national awakening is the subject-matter of the second chapter. These two chapters help to bring together in their proper relation most of the main contentions of the rival schools in Indian economic thought, and to clear the ground for a survey of modern conditions. Part II deals with agriculture in its main phases : emphasis is laid on the necessity for a

fully developed agricultural system, not only because agriculture is the principal occupation of the country, but also because of the consequences of a neglected agricultural system on the general economic situation, and more particularly on the possibilities of an early industrialisation. Part III examines the present industrial situation objectively. The position and prospects of cottage industries and large scale production are here considered ; and the vignettes from the industrial life of India here presented sets forth those achievements of any size which may be claimed in support of the possibilities of the future. The industrial problem is further studied in all its important bearings of capital, labour, and organisation, and in discussing the leading industries, account is taken of the comparative cost of production. The concluding chapter outlines the scope of Governmental activity in the stimulation of industries with reference to the recommendations of the Industrial and Fiscal Commissions, and to the national attitude of mind in relation to the subject. Very little has so far been done to bring to light the economic implications of the Indian social organisation ; and it has therefore been necessary to indicate here and there the extent to which the people of India suffer from self-remediable evils, and the disastrous consequences which would follow any forced pace or the acceleration of distorted tendencies.

These essays are now published more or less as they were submitted to the University in May, 1923 ; the pressure of official work, unfortunately, has prevented their being revised as thoroughly as could have been desired.

In conclusion, the author wishes to express his gratitude to Sir John Cumming, K.C.I.E., C.S.I., Professor Gilbert Slater, M.A., D.Sc. (Econ.), and Mr. W. H. Moreland, C.S.I., C.I.E., for the kindly interest they have taken in this work ; and to the Secretary of State for India for sanctioning a grant in aid of its publication. He is also deeply indebted to the Editors of the *Asiatic Review*, the *Calcutta Review*, the *Indian Journal of Economics*, and *Economica* for permission to reproduce articles which have appeared in their journals ; and to Mr. B. M. Headicar, the genial Librarian of the London School of Economics and Political Science, for all the trouble he has taken to see the book through the press.

P. PADMANABHA PILLAI.

Geneva, Christmas Day, 1924.

INTRODUCTORY NOTE

MR. PADMANABHA PILLAI'S work does not need any words of commendation from me. The single-mindedness with which he has pursued his definite aims, the accurate ascertainment of facts, clear thinking with regard to their significance, and lucid presentation, will be manifest to all his readers. But it is worth while to point out that in this respect he is representative of the rising school of Indian students of economics, a school almost entirely of young men, whose work is now just beginning to be available for the enlightenment of their countrymen. It was no doubt inevitable that when, following such leadership as that of Ranade and Naoroji, Indian students and writers began to turn their attention to economic problems, and to realise the intense poverty of India in the commodities that are bought for money, they should aim, with much effort and ingenuity, at fastening the responsibility for that poverty on the alien rule, first of the East India Company, and then of the British Government. Such efforts produced the theory of the Drain, in its various forms, originally in the form of a drain of Indian " treasure " to Britain, and later, when the great net Indian import of gold and silver could no longer be ignored, in a drain of other commodities ; the theory of crushing taxation, particularly in the form of taxation of agricultural land ; theories that railway building and stabilisation of exchange were injurious ; widening out into the general theory that the aim of British rule in India was the continued exploitation of Indian poverty for the benefit of British capitalism, a theory to which the disastrous yielding of the House of Commons and the Secretary of State for India to Lancashire interference with Indian cotton duties gave only too much colour. Thus, in the hands of the older generation of writers and orators who dealt with Indian economics, that study became the handmaid of political agitation, and in proportion as the nationalist movement increased in fervour, the search for economic facts or fancies

that could be used against the government became keener. Of the latter, perhaps, the favourite was the suggestion, based on the fact that Lord Curzon in 1901, using statistics of a year or two previous, stated that the average money income per head in India was not less than Rs. 30, and that it was increasing, that therefore it could be safely asserted, even in 1920, that the average income must be something less than Rs. 30, as this was the official estimate, which was bound to be too sanguine. A simple calculation shows that an average income of Rs. 30 would have allowed to the whole population only the meagre allowance of 18 oz. of rice (at the current price of four measures a rupee) per head per day, leaving absolutely nothing for any other expenditure whatsoever. But the manifest absurdity of the statement was not recognised as a sufficient reason against its constant repetition.

It is a very different spirit that animates the younger students, of whom Mr. Padmanabha Pillai is so excellent a representative. They feel that, after all, the fate of India lies almost wholly in the hands of Indians. When I explained the proposals of the Montagu-Chelmsford report to the B.A. Hons. class in the Presidency College, Madras, they said, " the test of the genuineness of these reforms is whether India is given fiscal autonomy." I replied that, according to my belief, the reforms did involve fiscal autonomy, and that the protective tariff which they regarded as economic salvation for India could be enacted if desired, but that it would prove a great disappointment. The confirmation of this view, at least in the first particular, is bound to make a deep impression on candid minds. As it becomes recognised more and more clearly in India that the economic policy of the government is determined by the conclusion of Indian opinion as to what is best for India, the Indian demand for such scientific enquiry as will serve as a guide to wise action will grow stronger and stronger, and the welcome for such work as Mr. Pillai's correspondingly warmer.

The poverty of India is a grim fact. In the main it is, as Mr. Pillai shows, the result, not of unequal distribution of what wealth is produced, excessively large incomes being very few though conspicuous, as of a very small production *per capita*. A reasonable estimate of money income would be, for the present day, somewhere about Rs. 100 per annum, or

4½d. per day. Taking the whole population together, rich and poor, it may be said that about two-fifths of the available income must be spent merely on the grains that form the basis of the Indian dietary—rice, millets and wheat ; leaving only about 3d. per head per day for all other foods, including even such indispensable supplements as salt and pulse, for clothing, education, medical aid, housing, religious festivals and observances, all the luxurious expenditure of the relatively inconsiderable number of well-to-do families, and the conventional necessities or rare indulgences of the poor, such as tobacco, betel, toddy, and a modicum of jewellery. This, or something like this, being the average condition, that of the poorest classes can be guessed. A detailed examination, family by family, of a Madras *parchery, i.e.*, a Pariah settlement, in the middle of the city, by Mr. Ramachandran, Reader in Economics to the University, showed an average income of only 2½d. per head per day, which means only ½d. per day, in addition to a bare sufficiency of rice ; and a very recent inquiry by Mr. Ranga Nayakulu yielded an estimate of Rs. 30 per annum as the average income per head for the labourers of untouchable castes in the Godavari delta. This estimate may be unduly pessimistic ; but of these people, and of the kindred castes of Pallans, Parayans, Cherumas, etc., on whose toil the cultivation of the ricefields of Southern India mainly depends, it may be said generally, that their earnings in grain and coin barely suffice for the subsistence of families large enough to maintain their numbers from one generation to another, the surplus offspring dying, that they are habitually hungry, and that it is only because they make their own huts in their spare time, collect their own fuel, need scarcely any clothing, and enjoy abundant sunshine, that they can subsist at all. The Bombay investigations quoted by Mr. Pillai show an average income per head for a large number of working-class families of Rs. 149. 6. 0. That this should be considerably more than the average income measured in money for the whole Indian population is a significant fact ; it shows, on the one hand, to how small an extent the average income of all India is swollen by the incomes of the few rich ; and, on the other, the effect of the extra cost of city life in forcing up wages ; for, in spite of his relatively high money income, the condition of the Bombay

cotton operative or dock labourer is deplorable, far worse than that of the average villager, and scarcely better than that of the untouchable village coolie.

It is, I think, unquestionable that, during the twentieth century, while the average Indian income reckoned in rupees has increased very greatly, the real income, measured in commodities, has also risen considerably; and the standard of living still more, so that, with increasing wealth, there has been increasing consciousness of poverty. The advantage of increased commodity income has been largely offset by increased inequality of income; and in some respects the rise in the standard of living has brought physical disadvantage. Thus, for example, rice-mills have multiplied, saving house-wives the laborious toil—but perhaps healthful exercise—of husking the paddy by pounding, but also robbing the rice of much of its nutritive value, the vitamins in the outermost layer of the grain being removed with the husk by the machinery. Still, there has been progress, and Indian politicians have held out hopes of very much more rapid progress as soon as they have completely superseded the "sun-dried bureaucracy" of the British members of the Indian Civil Service in the government of India; but it is very doubtful whether they themselves take these promises seriously. Some of the great obstacles to the general well-being of India have been cleared away wholly or in great part, as internal warfare, starvation due to famines, insufficient communications and insufficient irrigation; others have been attacked, and, with increased governmental revenue and expenditure could be attacked effectively, as agricultural and technological ignorance, hookworm, malaria, smallpox, cholera, plague and cattle diseases. But there remains untouched, and even magnified, the greatest obstacle of all, the enormous birth-rate, the stubborn tendency of population to press upon the means of subsistence.

Owing to the very imperfect registration of births and deaths, no one knows what the birth rate of India is. It is certainly over 40 per thousand per annum, and perhaps is close on 50 per thousand. If it were not for the deaths directly or indirectly due to poverty, the death-rate might probably be about 20 per thousand. That death-rate, with the existing birth-rate, would give an annual natural increase

of population of over six millions. In other words, in order to relieve the pressure of population on subsistence, and to reduce to a minimum the deaths due to poverty, India would require to provide decent means of subsistence, either by emigration, or extension of cultivation, or more intensive cultivation, or industrial development, for six million additional human beings every year, as well as for an increase in the means of subsistence for the 319,000,000 already in India, provided Indian customs with regard to procreation remain unchanged—and, obviously, change in this matter is very difficult.

How is this extra provision to be found? The dominant opinion in India finds the solution of the problem in rapid industrialisation by the help of a protective tariff for manufactured goods indirectly laying additional taxation on the agricultural population without increasing the revenue. Assuming, what is rather doubtful, (1) that the tariff does produce the rapid industrialisation desired, and (2) that its benefits are not neutralised by the injury to the agricultural classes, who form the bulk of the population, how far does this solution take us? India had in 1921 3,957 factories and workshops liable to inspection, employing 1,263,658 men, women and children. It would be a great achievement if in ten years these were increased to such an extent as to double the number of hands employed. But even this would only accomplish the absorption of workers, with their dependants, to the number of about a quarter of a million per annum. Certainly we must allow also for the increased employment which such an increase in factory activity would demand in mining, transport and distributive trade; but, on the other hand, we must also make allowance for the throwing out of employment of vast numbers of hand-loom weavers and other craftsmen whose occupation would be taken away by increased factory competition.

On the other hand, Mr Gandhi, and the small band who accept his economic doctrine, look with horror upon the physical and moral evils engendered in India by the massing together of helpless immigrants from the countryside into slum-cities like Bombay and Ahmedabad to supply labour power to factories, and advocate, instead of a more rapid forward rush into big capitalist business, a retreat to more primitive industry and social organisation. If all India were

resolved to wear nothing but hand-woven, hand-spun cloth of Indian manufacture, there would be work in the villages for the many months in the year in which agricultural employment either ceases altogether or requires only a fraction of the available workers. That waste of time would become productive ; many a man who now has to leave his village in the Deccan or Konkan to go to Bombay to work, to live with his family in *one corner* of a single room, and to see his children die as fast as they are born, would be able to live happily in his native place ; and as the production of food in a village is largely determined by the supply of labour available in the week or two of maximum pressure of work, the total output of food would be increased, and therefore the real prosperity of the country.

There is more reason in this gospel of the *Charkha*—the spinning wheel—than would be supposed by people unfamiliar with Indian conditions. In the Gandhi programme it should be combined with other reforms—Hindu-Moslem unity, abolition of untouchability, the maintenance of caste modified by the treatment by each caste of all other castes as brothers, the practice of *Ahimsa*, commonly translated by the weak and negative term non-violence, which really means resolute avoidance of the infliction of suffering, physical or mental, on others even at the cost of suffering oneself, and, finally and notably, prudent control of births by means of marital restraint. The one objection to this programme is that it requires that the ordinary man should become much more like Mr Gandhi than he possibly can for many generations to come.

Mr Padmanabha Pillai is a realist, and stands aloof from both of these schools. He endorses the demand for more rapid industrialisation, and recognises that India must try the experiment of protective duties for manufactures, if only for the sake of learning by experience the inadequacy of that supposed panacea and its drawbacks. After that, public opinion may begin to pay fuller attention to the other requisites of industrial efficiency. He rightly urges that an increase of agricultural efficiency is equally necessary, and that no relaxation of the efforts of the existing agricultural departments should be permitted, but rather, they should be intensified continuously. He further emphasises the importance of village handicrafts. Certain comments are so

obvious that I imagine Mr Pillai has only refrained from making them himself because he preferred to let the facts of the actual economic condition speak for themselves. They are :—

(1) That the programme of simultaneous trilinear advance in agriculture, rural handicrafts utilising the spare time of agricultural families, and large scale industry (mining, engineering, steel production and textile and miscellaneous manufacture) demands greatly increased governmental expenditure on railways, roads, education, medical and veterinary services, which must involve either a great increase in revenue or a drastic reduction of military expenditure, or both.

(2) That it demands strong and honest government, actively supported by public opinion.

(3) That no policy, however wise, can lift the Indian population out of poverty as long as the conventions hold almost universally that every girl must be married young, must begin bearing children as soon, or almost as soon, as she is capable of doing so, and must continue to bear children till exempted by death or by the cessation of fertility.

Historic causes have made the patriotic unity that Indian well-being requires difficult of attainment; debilitating tropical diseases, of which malaria is the worst, diminish muscular and nervous energy; Bright's disease, resulting from too starchy a diet, cuts off many of the intelligentsia at the age when their influence should be reaching its maximum; the mere heat of the summer months in the north and of the whole year round in the south, tends to create disinclination to manual labour and a strong disposition to throw the whole of that burden on the shoulders of those who are so poor that they cannot escape it. These historical and geographical factors are a very serious handicap.

In these circumstances there can be no easy road or short cut to material prosperity for India. Least of all will the mere imitation of measures which have been adopted in other countries avail. Instead, Indian problems must be examined by the original thinking of minds at once bold, original and conservative; eager to explore all the practicable measures for amelioration, but equally determined not to let go anything that is valuable in the ancient traditional culture of India, which we have recently learnt has a history of

5,000 years. And, in the face of all the difficulties and perils of the future, no one need despair of the land that produces three such men as Bose, Tagore and Gandhi.

One of the hopeful signs is the existence of students of economics like Mr Padmanabha who are painstaking and thorough, and who turn neither to the right hand nor to the left in their pursuit of truth.

GILBERT SLATER.

PART I

CHAPTER I

ECONOMIC EVOLUTION OF INDIA[1]

Synopsis.—A normal feature of all countries where civilising influences are at work is the increase of the population in numbers as well as in wants. The desire to live a better and a higher life evolves many new wants, which in turn lead to an increase of production in variety and volume.

But where the standard of comfort remains stationary, there is no inducement to increased production. That has been the case with India.

Historical causes account for the low standard of living in India. The environments created by the Moghul Administration described, and their economic effects discussed. Excessive revenue demands, non-recognition of private rights in land, the helpless condition of the peasants and artisans, the faulty distribution of wealth. Result—the sapping of productive effort. Conditions of agriculture and industry described.

The political insecurity consequent on the disruption of the Empire accentuates these evil features.

The advent of the English Merchants; how they kept up the continuity of economic life; adoption of the Moghul methods in industrial production; the conditions of life of the artisan.

The abolition of the East India Company's privileged trade introduces the private English trader. The Company free to attend to the establishment of internal peace; the private trader opens up fresh markets; decline of Indian industry continues; how a contemporary describes the position; Seir Mutaqherin. The English are at this stage interested only in the external trade, and leave the internal development of the country to take care of itself. The internal duties check the free movement of indigenous commodities in the country, while the English commercial policy of protection checks foreign trade. The gradual removal of these disabilities.

The Proclamation of 1858 and the assumption of direct Sovereignty.

[1] First published in *The Calcutta Review*, Feb., 1924

The expansion of facilities for communication. Dalhousie's railway policy. Its results rise of agricultural prices and its sequelæ; some of its evil consequences described; and the question whether the railway policy is responsible for these evils discussed.

The Industrial Revolution of England, its reflex action on India hastened by the new policy of linking up the country with external markets prior to the linking up of the several isolated provinces of the country itself. Rapid decline of Indian industries. Could this have been prevented by a different policy of development?—a profitless speculation.

The supreme merit of the new policy; India no longer a geographical expression; on the whole, especially on the agricultural side, the balance of advantage is in India's favour. The economic consequences of Pax Britannica and of free movement. Rising standard of living, how it is leading to increased production.

Examination of trade statistics till 1907; the growth of manufactures.

A COMPARISON of the economic conditions prevailing in any industrial country to-day with those of two centuries ago brings out the important fact that, while the *e flux* of time has caused an increase in the total population, the advance in numbers has been accompanied by a more or less corresponding rise in the standards of living; and to this growth of the people in numbers and in wants must be ascribed the evolution of industry in those countries. The theory of wants as the motive force behind human activities is sufficiently familiar to all students of economics as not to need being dilated upon in these pages. The real problem behind every form of industrial evolution is to satisfy an ever-widening circle of wants; and the function of industrial organisation is to reconcile so far as is possible two opposing forces.

An increase in numbers has to be accompanied by a proportionate increase in production, in order that the new generation might live in the same plane of life as the old. But with the establishment of law and order and the spread of knowledge and civilisation, new forces begin to operate, which make a stationary standard of life a moral impossibility. The wants of a people grow in variety as well as in amount. The course of foreign trade may offer new goods to a nation in payment for its exports, or the rich may enjoy goods which the masses of the people see and come to desire, or the process which is simply called development may raise new wants

out of old ones. This is a strain which never ceases. Later stages and higher levels of comfort rather increase than lessen it. Greater capacities for enjoyment come out of greater opportunities to enjoy. A class may feel that it is becoming poorer, though it can buy the same things as before even in greater amount, if new goods come into use but are beyond its reach. Contrast is a strong factor of poverty, and to many ways of defining poverty, we might add the historical one—failure to participate in the new known goods of each period.[1]

While the growth of population in civilised societies thus connotes a growth both in the volume as well as in the variety of wants, the common stock of resources from which these wants are to be satisfied does not show any corresponding expansion. In any given country, the land, out of which ultimately come all the goods that we use, cannot show any increase in area, or a corresponding increase in fertility. And the problem that industry is called upon to solve is to adjust rapidly growing wants to the resources available at any given time, by effecting every conceivable economy. It is thus evident that the stage of industrial evolution which a community has reached will correspond to the nature and intensity of its wants. Where the wants are limited, or the resources available limitless, there is no need to have an organisation to balance the opposing forces; there is no need to study economy. But where the numbers are growing and the resources contracting, every effort has to be made to get the maximum amount of satisfaction from the scanty stock of commodities; and various forms of industrial life are evolved for this purpose; and industrial organisation is as elaborate and complicated as it is to-day because the work it is faced with is one of enormous magnitude and difficulty.

On this basis it is possible to explain the absence of elaborate systems of industrial organisation in the earlier epochs of Indian history; for the non-expansive character of the Indian standard of living is familiar to every student of Indian economic conditions. The English labourers of to-day command many conveniences, comforts and luxuries denied to the nobles of Elizabeth's days. But the Indian labourer of Akbar's days, there is reason to believe, led pretty

[1] *Vide* D. H. Macgregor, *The Evolution of Industry*, 1911, pp. 13–14. summarised above.

much the same life as his rural confrère of the present time. "The great bulk of the population," says the historiographer of Akbar's days, "lived on the same economic plane as now. We cannot be sure whether they had a little more or a little less to eat, but they probably had fewer clothes, and they were certainly worse off in regard to household utensils and to some of the minor conveniences and gratifications of life."[1] The Indian Industrial Commission points out how little the standard of living in rural India has been affected by the civilising forces now at work in the country.[2] Even at the present day, "the poverty of the Indian peasant precludes most novel forms of expenditure, while lack of education and the prescription of custom make him slow to accept any innovation in his food or clothing or in the habits of his daily life." During the past twenty or thirty years, however, there has been an appreciable rise in the standards of comfort; but, for the most part, it has been so slow and gradual that it has not yet had any perceptible influence on the general life of the country.

One curious result of this unchanging standard of living is that, even when opportunities are afforded to the Indian labourer to earn higher wages, he uses his greater earning power to do less work, and enjoy greater leisure, rather than to earn more by working more regularly or by improving his efficiency. Employers desirous of retaining regular labour and improving its efficiency have often lamented how the offer of higher wages has failed to bring about an increased desire for material comfort. This attitude is in marked contrast to that of the English agricultural labourers during the economic depression following the Napoleonic wars, when a most determined attempt was made by the governing classes to induce them to adopt a lower standard of living in the mistaken hope that such a change would ease the situation. Above all things the labourer was urged to abandon the use of wheaten bread and to accept some substitute. Many forms of pressure were employed, but he was resolutely opposed to such a change, and clung tenaciously to his standard of living.[3] The compulsory enforcement of a lower standard of comfort

[1] Moreland, *India at the Death of Akbar*, p. 279.
[2] Pp. 11 and 151, Report, Cmd. 51 of 1919.
[3] Mr. and Mrs. Hammond, *The Village Labourer*, 1760–1832, Chapter VII.

that is now and again brought about in India in times of famine and scarcity leaves the people but slightly affected. In the latter case, they are accustomed to live in such a primitive manner, the range of their indispensable wants not extending beyond the simplest necessities of a bare existence, that a little more or a little less is of but little consequence to them. In England, on the other hand, the higher standard had so completely entered into their lives that even a temporary fall from it was regarded as a hardship and a deprivation against which it was felt worth while to put up a strenuous fight.

What is the reason for this singular difference in the mentality of these two peoples? It is easy enough to ascribe it to the ascetic ideal inculcated by Indian religious teachings, which exalts non-economic satisfactions over the material comforts of life; but it is not so easy to believe that religious motives so completely dominate the life of the average ignorant peasant as to make him exclaim *Vanitas Vanitatum* at the sight of every form of human comfort or luxury, or to make him cling with such rigid tenacity to monastic poverty. Nor is such a view consistent with the mentality of the ordinary masses, who seem eager enough for gain and wealth and all that it connotes, but somehow feel that they cannot put forth the energy requisite to win them. The discontent is there, but it is not shot with the colours of hope. The explanation for this has to be sought in the influence exerted over their lives through the course of centuries by their political and other environments.

Materials are not yet available from which to reconstruct an account of the condition of the Indian peoples before the accession to power of the Moghul Emperors; but the evidence bearing on Moghul India is sufficient in range and volume to lead to the conclusion that the scope and nature of the administration of those days were such as to discourage every effort at creative activity, and to reduce the standard of living to its lowest terms. The type of government in the Moghul Empire, as in other parts of India, was that of a despot ruling the country through a military aristocracy, the members of which held their provinces during the Emperor's pleasure, and were bound, out of their revenues, to maintain a fixed militia, and make a fixed annual payment to the Emperor. "These nobles," says Fernao Nuniz, a contemporary writer at Vijaya-

nagar, " are like renters, who hold all the land from the King, and beside keeping all these people (the army) they have to pay their cost ; they also pay to him every year sixty lakhs of rents as Royal dues. The lands, they say, yield one hundred and twenty lakhs, of which they must pay sixty to the King, and the rest they retain for the pay of the soldiers and the expenses of the elephants which they are obliged to maintain."[1] Nuniz is here speaking of Vijayanagar, but his description applies equally to the other contemporary states. In some provinces around Agra, however, there was no intermediary between the cultivator and the Emperor, and a direct system of assessment (zabt) was in force. Nuniz continues that the captains who hold of the King " make it over to their husbandmen, who pay nine-tenths to their lord."[2] And De Laet tells us that the Moghul authorities took three-fourths of the gross produce, " leaving only one-fourth for the wretched peasants, so that they sometimes receive nothing in return for their labour and expenditure."[3] This is obviously a gross over-estimate ; but even in the regions where Akbar's direct assessment was in force, the claim of the state was fixed at one-third of the gross produce, estimated on the area sown with crop every season ; and even this appears too high-pitched to have been ever actually enforced. But, whatever may have been the legal or theoretical limits of assessment, it was with its practical working that the ryot was concerned. That the system was worked with a harsh and excessive rigour, and that its application left the peasant but little wherewith to maintain himself, there is unfortunately no room to doubt. Wherever the central authority was beyond reach, and the local revenue-farmer inclined to be extortionate, the cultivator had but little to hope for.

There was also a second feature connected with the land

[1] *Chronicle of Fernao Nuniz*, Chap. 22, translated in A. Sewell's *A Forgotten Empire*, p. 373.

[2] Note Sewell's comment on this at p. 379 : " This statement, coming, as it does, from a totally external source, strongly supports the view often held that the ryots of Southern India were grievously oppressed by the nobles when subject to Hindu government. Other passages in both these chronicles (*viz.*, of Paes and Nuniz), each of which was written quite independently of the other, confirm the assertion here made about the mass of the people being ground down and living in the greatest poverty and distress." *Cf. Nuniz*, p. 373. " The common people suffer much hardship, those who hold the lands being so tyrannical."

[3] P. 125, *De Imperio Magni Mogolis*, Leyden, 1631.

that discouraged agricultural production. Private rights in land, there is reason to believe, had not yet been established. The Emperor was the owner of all the land,[1] and often transferred it from one grantee to another, according to his pleasure.[2] The security of the cultivators themselves rested on the same infirm basis; De Laet mentions that the common people were much harassed, and often compelled to change their land every season, sometimes because the Administration wanted it and sometimes because it was to be given to someone else. The evils of constant ejectment and dispossession had become so clamant at the commencement of Jahangir's reign that he issued an order that "the officials of the crown lands and the Jagirdars should not forcibly take the ryots' lands and cultivate them on their own account"; but the Imperial mandate was but little heeded.

What with the severe rate of assessment and the imposition of additional cesses[3] and what with the insecurity of tenure, the peasant soon found it an unprofitable job to till the soil at all; and if Bernier may be trusted, much land fell out of cultivation for this reason. "Even of those (tracts) that would be fertile, there is much that is not used for want of workmen, some of which have perished by the too evil treatment of the governors who often take from them their necessary livelihood . . . Others have abandoned the fields . . . and desponding out of the consideration that they laboured only for others, have cast themselves into towns or into armies, to serve there for porters or waiting men, and many have fled to the lands of the Rajahs, because there they found less tyranny and more kindness."[4] And again,[5] "This tyranny often grows to that excess that it takes away what is necessary to the life of a peasant or tradesman who is starved for hunger and misery; who gets no children, or, if he

[1] See *Nuniz*, p. 379, in Sewell; also *Bernier*, Bangabasi edition, Calcutta, p. 165.

[2] *Cf.* the case of William Hawkins, who represented the East India Company, at the Moghul Court about 1611, and was granted a Jagir, but was soon deprived of it. *The Hawkins Voyages*, edited for the Hakluyt Society, 1877, p. 411.

[3] *Cf.* Akbar's Dahseri, a cess of 25 lbs. of grain on every cultivated acre.

[4] Bernier's *Travels*, Calcutta edition, p. 185. The reference to the migration to the Rajahs' territories is interesting, as showing that the zemindars treated the peasant more considerately than the grantees.

[5] *Ibid*, p. 20.

does, sees them die young for want of food ; or that abandons his land and turns some cavalier's man or flies whither he may to his neighbours, in hopes of finding a better condition. In a word, the country is not tilled but almost by force, consequently very ill, and much of it is quite spoilt and ruined, there being none to be found that can or will be at the charge of entertaining the ditches and channels for the course of waters to be conveyed to necessary places, nor anybody that cares to build houses or to repair those that are ruinous ; the peasant reasoning thus with himself : ' why should I toil so much for a tyrant that may come to-morrow to take all away from me, or at least all the best of what I have, and not leave, if the fancy taketh him, so much as to sustain my life even very poorly ? ' And the Timariot, the governor, and the farmer will reason thus with himself : ' why should I bestow money and take pains of bettering or manuring this land since I must every hour expect to have it taken from me, or exchanged for another ? I labour neither for myself nor for my children ; and that place which I have this year, I may perhaps have no more the next. Let us draw from it what we can whilst we possess it, though the peasant should break or starve, though the land should become a desert when I am gone.' "

The English factors of the time also bear witness to this state of affairs. In regard to the general unwillingness of the people to cultivate the soil, an extreme example may be given : "'The governor in this his progress hath with his own hands cut a moc (adam) d'campa in two pieces for not sowing grounds with corns, etc., which act of his hath caused an uproar in this country."[1]

A word may also be said about the influence of the prevailing law of property. The theory of property in land, if there was any theory at all, was that the Ruler was the absolute owner. Bernier remarks that the great Moghul makes himself heir of the Omrahs, or lords, and of the Mansabdars, or petty lords, in his pay, and that all the lands of the Empire were his property.[2] Sir Thomas Roe says that the claim of the Moghul extended to the property left by all his subjects, and though this statement is too wide, the Emperor certainly claimed the goods left by the wealthier

[1] *Vide* Foster's *English Factories in India*, 1630–33, p. 232 (O.C. 1311).
[2] *Ibid*, p. 185.

merchants as well as by his nobles and officers. Other contemporary writers, such as Tavernier, Manrique, and Bernier, point out how this practice tended either to discourage the accumulation of wealth, or to encourage secret hoardings. Owing to the operation of this pernicious theory of property, and the general precariousness of life in the provinces where "the soldiery and the governors do impunely abuse the Authority Royal" and prey on all less powerful than themselves, "the people affect to appear poor and moneyless, very mean in their apparel, lodging, household stuff, and yet more in meat and drink; that often they apprehend even to meddle with trade, lest they should be thought rich, and so fall into the danger of being ruined; so that at last they find no other remedy to secure their wealth than to hide and dig their money underground, thus getting out of the ordinary commerce of men, and so dying that neither the king nor the State have any benefit over it."[1] In circumstances such as these, when every attempt to better one's standard of living was a direct invitation to be "squeezed" by the authorities, or by one's more powerful neighbours, it is obvious that the range of wants must have visibly contracted, till further contraction was almost impossible.

Nor was the economic classification of those days conducive to material progress. There were, indeed, only two sections in Moghul society,—a handful of men at the top, with their armies of dependants and slaves, leading a wasteful and extravagant life, and the vast masses of the population, ground down by tyranny and poverty, on the result of whose sweated labours rested the pomp and pageantry of the aulic splendour of Delhi.[2] A consequence of the political and social system of those days was to withdraw from the ranks of producers all the more venturesome spirits, and induce them to throng at the capital cities, there to live at the expense of the country. Foreign writers who have described the wealth of Moghul India have based their accounts on what they saw in the cities: they have been struck by the lavish magnificence of the Court, and by the ostentatious display of wealth by the grandees. But in the sombre background of it all lay the chilling poverty of the people. If

[1] Bernier, Calcutta edition, pp. 205–206.

[2] *Cf.* Bernier, p. 236: "In Delhi there is no middle stage; a man must either be of the highest rank, or live miserably."

the enormous sums spent by the wealthy few had been directed to productive channels, the country would certainly have reaped some advantages; but, as it was, they were directed to the production of articles of luxury, of the splendid trifles needed by the insatiable love of display which was a characteristic of the Court.[1] Bernier warns Colbert not to infer from the rich silks and brocades seen in India that the conditions of their production were equally pleasing. Asks he, "What heart and spirit can an artisan have to study well and to apply his mind to his work, when he sees that among the people which is for the most part beggarly, or will appear so, there is none that considers the goodness and neatness of his work, everybody looking for what is cheap, and that the grandees pay them but ill, and when they please, the poor tradesman often thinking himself happy that he can get clear from them without the Korrah, which is that terrible whip that hangs nigh the gate of the Omrahs?" The artistic handicrafts, he says, were kept surviving in the Kharkhanas, or Imperial workshops, under the Emperor's protection, and also in the households of the powerful nobles, "who did give wages to certain workmen," but adds: "For what fine stuff so ever comes from those countries, we must not imagine that the workman is there in any honour, or comes to anything; 'tis nothing but mere necessity, or the cudgel that makes him work; he never grows rich; it is no small matter when he has wherewith to live and to clothe himself narrowly. If there be any money to gain of the work, that is not for him but for those great merchants of town."[2] There can be no doubt that the industrial production of India at this time must have been in the aggregate large and valuable; but, individually, they must have been of too small dimensions and of too scattered a nature to attract special notice.

We have now considered the case of the cultivators and the artisans, but there was an important section of the former community to whose economic position some attention should be directed. Predial slavery, there is reason to think, was a normal feature of economic life in Moghul India. References

[1] An English factor of those days writes that Moghul society was "extraordinary addicted to novelties." See *Letters Received by the East India Company from its Servants in the East*, Vol. II, p. 108.

[2] Bernier, p. 209.

to slaves are abundant enough in contemporary writings, though agricultural serfdom does not come in for much notice. It is, however, only on this basis that we can explain the existence of the large class of landless labourers from the beginnings of the eighteenth century to the present day, considering themselves bound to the soil, and living on wages which hardly suffice to keep off hunger and starvation. Settlement operations in 1918–19 disclosed the fact that the agricultural labourer in the district of Chota Nagpur was not infrequently a slave who had inherited his servitude, and in turn passed it on to his children.[1] The isolated case that has now come into view may not unreasonably be regarded as a fugitive survival of the old system of slavery. The evidence set forth in the Report on Slavery of 1841[2] shows clearly enough that serfs were a normal element in the rural population of pre-British India: it says that something like slavery existed in the North Indian provinces up to the period at which they were brought under British rule.[3] Even at the present day, the Pulayas of the Malayalam countries, the Padials of the Madras Presidency, and the lowest classes of agricultural labourers in the Bombay Presidency and the Central Provinces occupy pretty much the same position. In the olden days, however, they were not free to leave the land to which they were attached, and had no opportunities of bettering their condition, though, in the latter respect, the small landholding cultivators and artisans were perhaps no better off. It is important, however, as showing that economic freedom as we now understand it was conspicuous by its absence in pre-British India.

In summing up the economic characteristics of India in the seventeenth century, we notice that the predominant features were "inadequate production and faulty distribution." "The whole tendency of economic environment was still further to discourage production, and to enhance the existing faults of distribution. It was therefore to be expected that, conditions remaining unchanged, India had before

[1] P. 126, *Report on the Moral and Material Progress and Condition of India*, 1919, Cmd. 950 of 1920.

[2] Slavery (East Indies) Despatch from the Governor-General dated February 8, 1841 (No. 3), printed by order of the House of Commons, No. 262.

[3] *Ibid*, pp. 38–39.

her a period of increasing economic distress." But conditions did change, and that for the worse. Aurungzebe, the last of " the Great Moghuls," died in 1707 ; and the weakening of the central authority consequent on the decline of the Empire accentuated the evil tendencies already noted. Even in the lifetime of Aurungzebe, the forces of disintegration had begun to assert themselves. The Mahrattas had begun to give trouble in the West, and in the Deccan, where a state of general insecurity had established itself so long ago as 1565, when the Hindu Empire of Vijayanagar went down before the formidable confederation of the Deccani kings, Aurungzebe's invasion had further sapped the springs of authority. After his death, therefore, the whole country was in a state of political ferment. The history of the Empire till the establishment of British Power is a confused tangle of internal rebeilions, civil wars and foreign invasions, in the midst of which the people dragged out a miserable existence in a state of suspended animation. Speaking generally, conditions in the eighteenth century were such that no man who had the energy to rob his neighbour cared to turn to industrial occupations as a means of livelihood. They continued even in provinces where a strong ruler had managed to establish himself in power, and affairs in the Punjab during the régime of Ranjit Singh were almost identical with those of the Moghul days.[1] Incidentally, it may here be mentioned that India must have suffered a heavy loss of her hoarded wealth through foreign invaders like Nadir Shah and Ahmed Shah Abdali. Nadir in 1739 is estimated to have carried away money, plate and jewels valued at from thirty to sixty millions sterling. " The true secret of the poverty of India," says Sir H. S. Maine,[2] " I take to be the desolation caused by the war and brigandage of about two thousand several chiefs while the Moghul dominion was dissolving. I think that India during the reign of Akbar and Jahangir was probably as rich as the Western world thought, but its carefully hoarded capital was destroyed in the same way as the accumulations of the Roman Empire."

The inevitable reaction of political conditions and the general environment was to curtail the volume of production

[1] See on this point *The General Report of the Administration of the Punjab during the Years* 1848–50 *and* 1850–51.

[2] *Early Law and Custom.*

and depress the standard of living. A stationary stage of civilisation supervened, under which the husbandmen simply raised the food-grains necessary to feed them from one harvest to another. "If the foodcrops failed in any district, the local population had no capital, and no other crops wherewith to buy food from other districts; so in the natural and inevitable course of things, they perished."[1] Captain Wingate, writing of the Sholapur District in 1839, says: "Notwithstanding the scanty population and the abundance of unoccupied fertile land, we find that the means of subsistence are obtained with difficulty, that the exertions of even the laborious and industrious cultivator do not always avail in enabling him to preserve his position, and rarely indeed to better it." Meanwhile the demand on the existing stream of commodities must have been great; and the persistence of such practices as Sati and infanticide[2] may be economically interpreted as desperate devices to obtain breathing space, and relieve the strain of population on resources.[3]

Though it was not till the British had asserted their supremacy in the land that affairs began to assume a brighter and more hopeful aspect, the leaven that was to work such mighty changes in India's economic configuration had been introduced even during the Moghul days. Not the most far-seeing of Akbar's or Aurungzebe's statesmen could have detected in the foreign traders who were then humbly suing for concessions, and to whom resort was had for the sake of obtaining the novelties and luxuries which the court

[1] Sir W. W. Hunter, *Indian Empire*, 3rd edition, p. 660.

[2] See Appendix VI, *Female Infanticide*, Census of India, 1921, Vol. I, Part I, Report.

[3] That these features of the stationary stage of society still linger in some parts of the country is clear from conditions in our own days. Dr. Lucas's *Economic Life of a Punjab Village* shows how the population of Kabirpur tends to remain stationary. In 1898–99, the village had a population of 283; in 1901–02, 225; in 1914–15, 242; in 1920, 283 again. During the time of good harvests, the population is as much as can be maintained by the produce of the soil and other subsidiary occupations; but it just manages to pull through, while at other times when the means of maintenance are lacking, some of the people emigrate or perish (p. 43). At p. 48 he suggests that there is a criminal neglect of girls, if not actual infanticide. At p. 125 of his *Land and Labour in a Deccan Village*, No. 1, Dr. Harold Mann says: "It appears that the presence of only 161 children below the age of 16 in 111 households represents a very unsatisfactory state of affairs. The data available do not seem to justify any very definite conclusions on the subject, but they make one suspect that the population has reached almost a stationary condition, if it is not actually declining."

demanded, the future masters of their own vast dominions. The work done by the English merchants and their successors during the decline of the Empire was of a two-fold character. We have seen that the usual type of industrial organisation in the Moghul days was that of a large number of individual units working independently, producing articles primarily for their own consumption, and that it was only under the protection of the court or of the powerful nobles that the Kharkhana system of production obtained. This system was an interesting anticipation of a later stage of production, since under it the artisans worked on materials supplied, and had only the producer's interest of wages in the work as opposed to the consumer's. But even in the cities, where the larger organisation existed, industrial life was of a precarious nature. Apart from being mercilessly exploited,[1] the artisans often found that, unless they followed the court and the army in all their wanderings, they were unable to assure themselves of any permanency of work. For, in spite of Delhi and Agra and Vijayanagar, towns had hardly yet begun to spring up, and the capital itself was no more than " a collection of villages, a camp of an army a little better and more commodiously placed than in the field,"[2] which shrank to less than a sixth of its population when the Emperor was not in residence. The English merchants stepped into the breach caused by the decay of the Moghul power, and helped to maintain the continuity of industrial life by giving employment to artisans and providing the cultivators with fresh markets; and, secondly, they helped by their commercial ventures to bring about a closer correlation between the different parts of the country. It is difficult, however, during the period of transition from Moghul to British supremacy, to treat India as an economic unit, except in regard to one feature, *viz.*, that it was everywhere characterised by grave economic disorder, caused by the ceaseless warring of the various candidates for power, among whom the English took rank after the Battle of Plassey.

It was the essentially commercial character of English origins in India that brought the English in touch with indigenous industries; and though they maintained unbroken the thread of economic continuity, they also kept up the old

[1] *Cf.* Bernier, *supra.*
[2] Bernier's letter to M. de la Mothe le Vater.

Moghul system of exploitation ; for the evils of which Bernier had complained continued unabated in the system the English set up for the supply of piece-goods required for their " investment trade." Prof. C. J. Hamilton has thus summarised the position : " In various parts of the country the East India Company maintained subordinate factories, and each of these had its local branches supervising production in the area around it. In each such area the Company employed a Gomasthah through whom contracts for the supply of cloths, etc., were made with the weavers and advances of money for the purchase of raw materials arranged in order to see that the weavers did not sell their work to outsiders who offered higher prices ; peons were appointed to supervise them ; and the Company also had its own inspectors to certify to the quality of the cloths produced. The weavers complained that these agents abused their authority, and forced them to accept non-remunerative wages. It will be seen that there was in this system room for the Company and its agents to force the weavers to accept advances, and then compel them to surrender their cloths at unduly low prices, or to suffer at the hands of the peons, while there was equally the real danger that in the absence of strict supervision the Company might suffer heavy losses by making advances for which it got nothing in return, or by having to accept goods of very inferior quality."[1] Mr. Harry Verelst, the then Governor of Bengal, traces this perpetuation of Moghul abuses to " the desire at home to derive immoderate advantage from India," and remarks that the entire system proved destructive of industry.[2]

The Company was but little interested, at this stage, in the agricultural production of the country. Indigo, however, seems to have early attracted its notice, and in the system of indigo trade which it organised lay the seeds of future mischief. Here again, it is only fair to mention, they were the inheritors of an evil custom. The impecuniosity of the

[1] *Vide* his *Trade Relations between England and India*, pp. 73–5.

[2] *View of Bengal*, pp. 36–87, 49, and 84–5 ; at p. 85 he says : " The gomasthahs or agents of the Company were necessarily entrusted with powers which they frequently abused to their own emolument ; and an authority given to enforce a just performance of engagements became, notwithstanding the utmost vigilance of the higher servants, a source of new oppression. The influence of these agents proved destructive of industry.

cultivator led him to take advances from his prospective buyer and thus to substitute the relation of borrower and lender for the position of equality so essential for the making of a bargain fair to both parties. The English merchants were not slow to adopt a practice so favourable to themselves.[1] But there is no reason to believe that the merciless exploitation of the indigo-grower which the enquiry of the House of Lords Committee brought to light in 1830, and which consisted in compelling the ryot to grow indigo against his will and sell it at unremunerative prices, had established itself as a normal feature at this early period. On the other hand, the high prices offered[2] must have been a great boon to the hard-pressed peasant.

Whilst the evils of the Company's trading system "of imposing goods upon the ryots at an arbitrary rate, compelling them to part with their labour at an under-price, and spreading the baneful effects of monopoly and extortion on every side"[3] developed apace, the constructive part of its work which was to weld India together into a well-knit and compact economic unit, had hardly yet commenced. The general economic life of the country, therefore, continued along the old self-sufficing lines, while the limited nature of both demand and supply formed an endless vicious circle, barring all improvements in the methods or processes of production. Specialisation based on the division of labour can arise only when the self-sufficing stage has been transcended, and the skilled worker can find an open market freely bidding for his talents: an increase in the volume of production, likewise, can be brought about only when there is a

[1] *Cf.* Thomas Keridge's letter to the East India Company: "Mr. Aldworthe upon my advice made up £500 by exchange to be invested in indigo, and being I was alone, he sent Nicho. Withington to assist me. . . . I wrote him to stay in the pregonas near Agra where indigo is made, where he hath delivered the greatest part of the said sum beforehand, to be paid when indigo is ready, which is a custom, and the cheapest course of buying." *Letters Received by the East India Company from its Servants in the East*, Vol. II, 1613–15, p. 106; at p. 153, *ibid.*, William Edwards writes: "In your succeeding trade in these parts, it will require that a reasonable stock be left here for the daily buying of indigo . . . whereby much good may be done, for that diverse of the country people are constrained to sell to engrossers at very low prices, for want of money to supply the needful. . . ." This shows that the ryots were badly in need of advances at the time.

[2] Indigo cost about two and a half times as much as the same quantity of wheat in Akbar's days.

[3] Verelst's words in 1769.

market for the excess produce. In the absence of proper facilities for communication, such an extension of the market was denied to the producer. Metalled roads were unknown, only a few of the routes were suitable for wheeled traffic, and, in South India, at any rate, carts were practically unknown, and porters and pack-animals were the only means of transport by land. All this entailed a high cost of transport, while the uncertainty of goods reaching their destination, owing to the prevailing insecurity, was also an element to be considered. Thomas Keridge, writing in 1617, says that the local people "in regard to the danger, etc., by travel, deal not in any commodity without apparency of great profit";[1] consequently, the goods dealt in consisted largely of rarity objects of small bulk and great value which could bear a stiff rate of transport charges and yet leave a wide margin for profit. Connection between places accessible through waterways was, however, established much earlier; and places on the sea-coast or on the navigable river systems[2] were even then doing a fairly busy trade. On the whole, internal trade continued to be set back by the absence of means of communication, aggravated by the predatory practices of the Pindarees and other roving marauders in the north, and by the warring powers of the south.

Even though, therefore, conditions prevented the development of production with a view to trade, specialisation in crops in certain areas was not entirely absent. Bengal supplied sugar to many parts of India even in Akbar's days, while the production of indigo was to a large extent concentrated in two localities: Biana, near Agra, and Sarkhej in Gujrat. Mr. Moreland[3] refers to an observation recorded by Thévenot as showing that towards the middle of the seventeenth century, specialisation in industrial processes also had begun to make its appearance in some localities. Near Ahmedabad Thévenot met a gang of workmen who had no fixed home, but travelled from village to village, ginning and cleaning cotton.

The abolition of the East India Company's monopoly in the Eastern trade marks the beginning of a new era in English commercial activity in India. Their privileged position had

[1] *Letters Received*, Vol. V, p. 116.
[2] Such as the Indus, the Ganges and the Jumna.
[3] *India in the Days of Akbar*, p. 158.

excited the jealousy of the mercantile community in England, through whose efforts Parliament bound the Company, in 1793, to furnish 3,000 tons of shipping annually for private traders entirely unconnected with the Company. There were, however, several harassing conditions attached to this concession, which led to further agitation which the Company sought to placate by providing extra shipping of a cheaper type at lower rates. In India the private trader found himself handicapped by the system of pre-emption of produce which the Company, by virtue of its position, had imposed on the ryot, and by 1813 the general body of commercial opinion was so thoroughly opposed to a continuance of the monopolistic régime that the trade monopoly in India was abolished that year. In 1833, the whole Eastern trade, including the trade with China, was thrown open, and from this date, the Company ceases to figure exclusively as a commercial corporation. The declaration of the freedom of Indian trade and the consequent inflow of private enterprise have greatly affected the course of Indian economic development. "The company had confined itself in the main to the old methods and the old branches of commerce, but the private traders brought a special commercial ability and a new enterprise to bear, with the result that they opened up markets in India for an increased variety of British commodities, and at the same time began to export from India many articles which had never formed part of the Company's trade."[1]

The change in the character of the Government gave it greater scope to attend to the political needs of the country. At first, however, it was too much preoccupied with the problems of conquest and consolidation to intervene in the economic life of the country, except indirectly, as by the suppression of robbery and the establishment of internal peace. The economic policy of these days was frankly the policy of Plantations.[2] Little heed was paid to the nurturing of indigenous industries, but all attention was concentrated on pushing English manufactured goods in the country. A very fair-minded Indian nobleman of those days thus laments the decline of Indian industries: "As these rulers (the English) have all their necessaries from their own country,

[1] Prof. Hamilton, p. 206.
[2] *Vide* Ranade: *Essays on Indian Economics*, third edition, p. 93.

it follows that the handicraftsmen and artificers of this land suffer constantly, live in distress, and find it difficult to procure a livelihood sufficient to support their lives. For, as now the English are the rulers and the masters of this country, as well as the only rich men in it, to whom can these poor people look up for offering the productions of their art, so as to benefit by their expenses? It is only some artificers that can find a livelihood with the English, such as carpenters, silversmiths, etc., nay, they subsist upon better terms than they did under the Hindostany Government, and possibly two or three trades more, the names whereof I cannot now recollect, may fare the better for these strangers. But as to those numerous artificers of other denominations, they have no other resource left than that of begging or thieving. Numbers, therefore, have already quitted their homes and countries; and numbers unwilling to leave their abodes have made a covenant with hunger and distress, and ended their lives in a corner of their cottages."[1] But even in the Company's own interests some economic reforms had to be effected, which beneficially affected the people of the country; thus, in order to remove the impediments in the way of the development of the import and export trade, the duties had to be revised. Of these, the Sayer duties, which were abolished so early as in 1793, deserve special mention. "These duties which went by the name of Sayer, as they extended to grain, to cattle, to salt, and to all the other necessaries of life passing through the country, and were collected by corrupt, partial and extortionate agents, produced the worst effects on the state of society by not only checking the progress of industry, oppressing the manufacturer, and causing him to debase his manufacture, but also by clogging the beneficial operations of commerce in general, and abridging the comforts of the people at large."[2] The duties and cesses which had no bearing on foreign commerce were left uninterfered with, and the interference of the Home authorities in these matters was deprecated by the various authorities which recommended the removal of those

[1] *Seir Mutaqherin*, by Seid Gholam Hossein-Khan, Calcutta, edn. 1902; Vol. III, pp. 192–3. See also pp. 201 *seq.*, where he says that the English engross all the trade of the country and deprive the inhabitants of their accustomed livelihood.

[2] *Firminger, Fifth Report*, Vol. I, p. 152.

affecting the new system of external commerce.[1] The incoming flow of foreign trade was thus facilitated, with the result that it engulfed and submerged the enfeebled industries of the country, and the weavers, particularly, suffered very keenly. Apart from the system of organised sweating which held them in its vicious grip,[2] the existence of a mischievous system of internal duties prevented the free movement of the local-made goods and thus restricted their market. When the decline in the indigenous manufacture became too serious to be overlooked, the Company began to consider the necessity for abolishing the vexatious inland duties. The Court of Directors in their Despatch to the Governor-General of Fort William, dated the 11th June, 1823, attributed the depression of the Indian cotton industry to " the improved state of machinery in Europe, and the protection which the countries in Europe and the United States of North America are giving to their own manufactures by heavy duties on foreign goods or by absolute prohibition, and recommended the removal of all unnecessary charges from the native manufacture, especially when it is considered that the piece-goods of Great Britain are introduced into India at a rate of duty considerably lower than that to which the native manufactures are liable on transit within India." In 1836, the transit and the town duties in the Lower and Western Provinces of the Bengal Presidency were abolished. How heavy these duties lay on local manufactures may be seen from Lord Ellenborough's letter to the Court of Directors in 1835. After referring to " the extreme importance in India of encouraging the cotton manufacture, which has of late years been so nearly superseded by the importation of British cottons," he contrasts the duties payable by the English cotton imports with those which Indian cotton goods had to pay. The import duty was 2·5 per cent.; but the internal duties for home-made goods were heavy and manifold. A

[1] *Cf.* para. 138. Report of Mr Courtenay relative to the duties on export, import and transit of goods in India, 25th January, 1814. (Manuscript in the India Office.) " In regard to internal duties operating on the consumption of the natives, the interference of the Board is the less necessary. . . . They are not affected by the new system of external commerce, nor are any other interests immediately connected with them, than those which are confided to the Indian Governments."

[2] For a description of the conditions at Dacca by Mr Taylor, the Company's Resident there in 1795, see Hamilton, p. 201.

5 per cent. duty was imposed when raw cotton was brought from one district to another. If after it had been manufactured into yarn, it was then transported, a further 7·5 per cent. was levied. When it was carried from the place where it was converted into cloth, a further 2·5 per cent. became due. If the cloth was then dyed it would again pay another 2·5 per cent.; and thus the native manufacturer before placing the finished goods on the market might have had to pay a total duty of 17·5 per cent. Similarly in the case of leather, a 5 per cent. duty was charged on the raw hide, a further 5 per cent. on the leather, and an additional 5 per cent. when the leather was made into boots or shoes. Thus at each stage of manufacture, commodities in Bengal, if carried from one customs area to another, became subject to a new payment in respect of transit duty. No better method could have been devised for stifling the natural growth of industries and commerce.[1]

The external impediments to the expansion of Indian manufactures were equally formidable. The high tariff wall which England, India's principal customer in those days, had built up with the avowed object of protection, affected the Indian exports very seriously. Without going into the details of the various tariff laws passed in England during this period, we may sum up the main trend of English commercial policy as having been increasingly protectionist till the second half of the 19th century. Towards the close of this period, the principle of protection was losing ground, but the cost entailed by the Napoleonic wars necessitated an even higher range of import duties than before, and it was not till the middle of the 19th century that the principles of free trade made their effective way into the commercial policy of the day. An even more powerful reason for the depression of the Indian textile manufactures of this period was the Industrial Revolution in England, which started during the second half of the 18th century and was almost in full swing by the first quarter of the 19th. The harnessing of steam power, and the perfection of machinery made the processes of manufacture cheaper and more efficient, while the simultaneous expansion of transport facilities rendered it possible to move the largely increased output of the factories

[1] For a résumé of the Tariff History of India, see Dr P. Banerjea's *Fiscal Policy in India*, Macmillan, 1922, Chaps. 2 and 3.

cheaply and expeditiously to the most distant markets. India, with her hand-looms and her cottage workers, could not possibly compete with the formidable industrial organisation which the Industrial Revolution had called into being.

The reaction of the new environments on agricultural activity was more favourable. By far the most important result of the development of the export trade was the increasing commercialisation of agriculture. In 1788, the indigo trade was left entirely in private hands, and by the early years of the 19th century, the annual export was between 3 and 4 millions sterling, while over 1·5 millions sterling was said to be paid each year in respect of the rent of land and the hire of labour; and there were between 300 and 400 factories engaged in its production in Bengal and Bihar. Likewise, the expansion of the English cotton industry led to a large increase in cotton cultivation; between 1788 and 1850 various attempts were made by the Company to extend the area of cultivation and improve its quality; and it is to these early endeavours that we now owe the special cotton tracts of the Deccan area, which form so conspicuous a feature of Indian economic geography. The specialisation in jute production in Bengal is also traceable to this period, though it was only after the Crimean War that the external demand for jute became stabilised.[1]

The Royal Proclamation of November 1st, 1858, by which Queen Victoria assumed the direct sovereignty of India, terminated an era of conquest and annexation, and ushered in a period the dominant characteristics of which were geographical consolidation and the development of political order and tranquillity. Foremost among the items in the new programme was an extension of the facilities for communication on the lines laid down by Dalhousie in his famous minute of 1853. The lessons of the Mutiny emphasised the military importance of a rapid means of transit, but the commercial and social aspects of the introduction of railways were not lost sight of. Great tracts, wrote Dalhousie,

[1] In 1795, W. Roxburgh sent to the Directors of the East India Company a bale of jute fibre. The Company had at that time extensive jute roperies in the Cuttack District. Warden in his *Linen Trade* says that it was only about 1838, when the Dutch Government began to use jute sacking for their East India coffee trade, that the jute trade in Dundee got a proper start. See Article on Jute, *Encyclopædia Britannica*.

are teeming with produce they cannot dispose of. Others are scantily bearing what they would carry in abundance if only it could be conveyed whither it is needed. England is calling aloud for the cotton which India does already produce in some degree, and would produce sufficient in quality and plentiful in quantity if only there were provided the fitting means of conveyance for it from distant plains to the several ports adapted for its shipment. Every increase of facilities for trade has been attended . . . with an increased demand for articles of European produce in the most distant markets of India. . . . Ships from every part of the world crowd our ports in search of produce which we have, or could obtain in the interior, but which at present we cannot profitably fetch to them ; and new markets are opening to us on this side of the globe under circumstances which defy the foresight of the wisest to estimate their probable value or calculate their future extent.[1] Another result which Dalhousie foresaw as resulting from the construction of railways in India through the instrumentality of British capital and enterprise was that this would induce "a more extensive employment of similar capital and similar efforts in connection with the products and trade of India." This policy was so steadily pushed on that while in 1857 there were only 300 open miles of railways in India, by the end of 1920–21, the total mileage had risen to 37,029, and the capital outlay thereon amounted to Rs.6,268,053,000. The beneficial results of Dalhousie's policy manifested themselves in his own time ; by 1879, over 98 millions sterling had been attracted to Indian railways ; and between 1848 and 1856, the export of raw cotton more than doubled itself ; and of grain more than trebled itself ; the import was more than two and a half times as great as in 1848 ; and cotton twists and goods particularly rose from three millions to six and one-third millions sterling.

In examining the influence of improved communications and the consequent growth of trade on the conditions of production, the difference of their incidence on agriculture and manufactures at once strikes the eye. Taking agriculture first, we find that the increased demand for raw produce has caused an extension in the area of cultivation, and to local specialisation in particular crops, which have in some

[1] See Sir W. W. Hunter's *Marquis of Dalhousie* (Rulers of India Series), pp. 193–4.

cases actually trenched upon the area formerly devoted to food-grains. The entry of India into the markets of the world has been followed by a rise in agricultural prices. The process has been slow, but with the extension of railways and the opening of the Suez Canal in 1869, bulky raw produce such as food-grains and oil-seeds were imported by European consumers, and the exporting agencies, following the tracks opened by the new lines of communication, have commercialised agriculture to a greater extent than ever before. These favourable results were also attended by some undesirable features. The export of the surplus food of the country diminished the supply on which it had to rely in times of scarcity, and led to an abandonment of the old habit of storing grain, which was a surer and cheaper form of insurance against famine than dependence on the railway's ability to transport food from areas which could spare it.[1] The high prices obtainable by the widening of the market induced the peasant to substitute his hoard of grain by a hoard of silver; and this involved loss of a two-fold nature. In famine times, when food-prices rose to dizzy heights, the ryot found himself compelled to buy back the grain he had sold at comparatively low prices in harvest time; and secondly the fall in the value of the hoarded rupee robbed the peasant of a considerable fraction of his savings in a manner which he seldom understood. The rapid growth of the export trade, again, brought in its train an army of unscrupulous middlemen, who intercepted a large part of the ryot's profits. The balance that ultimately reached him, whatever it was, was almost always spent unwisely. Even so late as in 1902, we find the Government complaining that "the agricultural classes have not as a rule yet learnt to regard a good harvest not as an occasion for larger expenditure, but, as a means of insurance against failure of crops."[2] This habit of expenditure must have been assisted to a certain extent by the import trade, which engrafted on the simple necessities of the peasant the foreign commodities so profusely poured into the country. The Tenancy laws introduced further complications, in that they provided the ryot with a new form of security on which to

[1] See A. Loveday, *Indian Famines*, p. 111.

[2] *Vide* the Government of India's Resolution of 1902, explaining its land revenue policy, p. 141; also *Report of the Indian Famine Commission of* 1900, cmd. 876 *of* 1901, p. 92.

borrow,—a convenience of which he took the fullest advantage by mortgaging the land up to the last acre, and plunging into heavy indebtedness. The rise in agricultural prices, again, hit the landless labourer and the small artisan very severely. The retail prices of food-grains in India rose from 100 in 1873 to 114 in 1894, 117 in 1905, 168 in 1910 and to 222 in 1914.[1] Describing their condition, the Famine Commission of 1898 says: "So far as we have been able to form a general opinion upon a difficult question . . . the wages of these people have not risen in the last twenty years in due proportion to the rise in prices of their necessaries of life. The experience of the recent famine fails to suggest that this section of the community has shown any larger command of resources or any increased power of resistance. Far from contracting, it seems to be gradually widening, particularly in the more congested districts. Its sensitiveness or liability to succumb, instead of diminishing, is possibly becoming more accentuated, as larger and more powerful forces supervene and make their efforts felt where formerly the result was determined by purely local conditions. We may take this opportunity of remarking that the evidence given before us by many witnesses proved that in times of scarcity and famine in India the rise in price of food is not accompanied by a rise in the wages of labour; on the contrary, owing to competition for the little employment available when agricultural employment falls off, the rate of wages offered and accepted is frequently below the ordinary or customary rate. Such wages in times of famine prices are not subsistence wages for a labourer with dependants to support."[2] A direct consequence of the numerical growth of this class, always "living a hand-to-mouth existence, with a low standard of comfort, and abnormally sensitive to the effects of inferior harvests and calamities of season," was that the costs of famine relief went up, involving another burden on the tax-payer.

It would, of course, be far-fetched to ascribe all these results to the economic revolution brought about by railways in India, but they have all been successive links in the chain of

[1] See *Times of India*, Mail edition, Jan. 13, 1923, p. 11. The corresponding figures for English prices (*v. Statist*, 18th Nov., 1922) are 111 in 1873, 63 in 1894, 72 in 1905, 78 in 1910, and 85 in 1914.

[2] *Report of the Famine Commission*, 1898, c. 9178 *of* 1898, p. 363.

events dating from the middle of the 19th century, the cumulative effect of which it is necessary for us to examine, though their relation to railways and to the growth of foreign trade is not always directly traced. In this connection, it may be relevant to notice the criticism, made by the Famine Commission of 1900, of the school which points to railways as the source of all these economic ills. "In the last famine, according to the Famine Report of the Central Provinces, when exports were carried away in the early months, people pointed to the railways as an aggravation of their ills. In this famine, they have regarded them as their salvation. Such oscillations of feeling serve to illustrate two aspects of policy and two schools of thought. On the one side there is the party which looks to railways to stimulate production by assisting the distribution of wealth; on the other side there is the party which sees in railways, and the export of food from the country which they facilitate, a cause of poverty and a solvent of those habits of storing grain which were formerly, it is asserted, a safeguard against famine. The latter party have forgotten, it would seem, the lessons of the famines of 1837, 1866, and 1877 (not to go further back), when so far from the habits in question proving a safeguard, millions perished from hunger, owing to the want of railways. They have also apparently forgotten the lesson taught by the famines of 1897 and 1900, that, owing to the existence of railways, there was never in these years a dearth of food in any famine-stricken tract. There can be no doubt that the community at large benefits by the more effective circulation of the reserve stocks of food, and that it is in the backward tracts, as a rule, that famine is soonest and most severely felt. It is true that to a certain extent cultivators, who formerly stored grain, because it could be neither sold nor removed, have ceased to do so because they can sell to advantage; and that owing to their improvidence, the money slips through their fingers. But this change in the habits of the people is a regular attendant of progress; it is merely a transient phase of a great economic movement which makes for national prosperity, and which is promoted by education and by those methods for promoting thrift to which we shall refer in the third part of this report. Taking a comprehensive view of the facts, we can find no substantial or lasting support for the contention—on the face of it a paradox—that the poverty

of the agriculturist is permanently increased by the opportunities of getting a high price for his produce."[1]

On a review of the entire position, there is no reason to doubt that a substantial balance of advantage has remained with agriculture as a result of the opening-up of the country and the growth of the export trade. The evils inflicted by the import trade on Indian industries are, comparatively, much more serious. An enquiry into the conditions of Indian trade between 1850 and 1880 shows, according to one writer, that a great displacement of trade had taken place during the period, which had diverted its profits from Indian to English pockets. The Indian may have gained somewhat in the case of cotton goods by buying them in a cheaper market, but so far as the importation of foreign goods had displaced Indian labour, which was thrown back on the soil, and had in times of scarcity to be supported by Government out of taxation, there was a serious set-off against the gain of buying in a cheaper market. If all the persons displaced by foreign competition could have found new industries ready to support them, or could have been persuaded to migrate to the hitherto uncultivated parts of India, or emigrate to other lands, then the readjustments necessitated by the new conditions might have been satisfactorily effected. But the sudden impact of the new order of things on the placid and easy-going life of India produced disastrous results ; its whole internal economy was thrown out of gear ; and the people had just then neither the knowledge nor the capital to evolve new types of industry suited to the altered times.[2] In England, also, the period of transition caused by the new inventions was one of grave economic disorganisation and stress ; but the adaptability of the people and their superior organising capacity appreciably abridged the gulf between the old economic system and the new. The Industrial Revolution of England was the result of indigenous forces, which after a period of disturbance, during which capital and labour shifted to new spheres of action, established a new equilibrium on a more stable footing. Capitalists deprived of the old forms of investment found new ones offered to them ; labourers finding the old occupations disappearing, moved to a much larger world of work. In

[1] Cd. 876 of 1901, pp. 76–77.

[2] *Vide* A. K. Connel, *The Economic Revolution of India and the Public Works Policy*, Kegan Paul, 1883, p. 51.

India, an adjustment equally speedy was rendered impossible, for this, among other reasons, that the stimulus, whatever it was, that agriculture received from the new environments reacted prejudicially on industries; the higher spending power of the ryot widened the margin of the imported articles competing with local production; and the artisan, driven out of work by the inflow of foreign goods, and unable to turn to any other methods of production, fell back on the land. (This will explain how the census statistics show the increase in the number of agriculturists as more than proportionate to the increase in the total population.)

At this distance of time it is possible to speculate on what would have happened if the course of Indian economic development had been directed along different channels, and controlled in a different manner. Even in 1857, Lord Derby remarked, after a personal investigation of Indian conditions, "What was wanted in India was not costly lines for rapid travelling laid down in a few parts, but a comparatively inexpensive, though slow, means of communication extended all over India."[1] But the actual lines of advance were to connect the great agricultural centres and emporia with the sea-ports, leaving internal development to take care of itself. "The external trade of the country has grown at the expense of the internal, resulting in an unhealthy and one-sided development of the country's resources. Roads, railways, telegraphs, the construction of the Suez Canal, and every improvement in the means of transport both by sea and land have contributed to the difficulties, and in many cases, to the ultimate discomfiture of the Indian artisan. The attention of Government has been almost entirely directed to the opening up of the land, to the provision of irrigation; assistance has in more than one case been given directly to the efforts of English manufacturers to exploit Indian markets, whilst the industrious artisan has been left severely alone to combat as best he can the growing difficulties of his position."[2] Again Mr. A. Loveday argues: "Had strategic or economic considerations permitted the change (*i.e.*, the introduction of railways) to be more gradual, it is conceivable that greater powers of resistance might have been shown by the native

[1] Quoted by Connel, pp. 71–72.

[2] See p. 20, *Industrial Evolution in India*, Sir Alfred Chatterton, Madras, 1912.

industries, that the lessons of the West might have been taught before destruction was inevitable, so that labour might have drifted to other occupations as well as agriculture."[1]

It is an attractive speculation how far such a development could have been brought about without unduly setting back or holding up other progressive features in the social life of India. In all probability the linking of India with Great Britain would have inevitably led to this same state of affairs, whatever the policy the Government may have followed. Moreover, the fantasy of building up Indian industries as they existed in the eighteenth and early nineteenth centuries seems with many to be born of a misconception. Mr. H. A. Rose, I.C.S., has well described the instability of the industrial organisation under the old dispensation, and pointed out its inherent weaknesses:[2] "Each tribe, if not each village, was a water-tight compartment, self-contained and independent of the outside world for the necessaries of life, but for commodities not obtainable within its own borders it depended on foreign sources of supply, and on the outside castes such as the Labanas, or salt traders, who formed no part of the tribal or village community. Thus, there have never arisen, in this part of India, any great industries; foreign trade, necessarily confined to the few large towns, was limited to superfluities, or luxuries, and such industries as existed were necessarily on a small scale. Further, inasmuch as each community was absolutely independent as far as necessaries were concerned, the few industries which supplied luxuries never became firmly rooted and have succumbed at the first breath of competition. Everywhere in our official literature, one reads of struggling industries in the small towns, though fostered by intermittent official encouragement, dying of inanition. The causes seem obvious enough. Everything essential can be, and for the most part is, made in the village or locality, so that there never is a demand for imported articles of ordinary make, those made by the village artisans, however inferior in quality, satisfying all requirements. In good seasons, there is some demand for articles of a better class, but when times are bad, that demand ceases, and the industry languishes. Thus the village industries alone are

[1] p. 107, *History and Economics of Indian Famines.*

[2] *Census Report of the Punjab and the North-West Frontier Province*, 1901, Part I, p. 368.

firmly established. If the crop is short, every one from the landlord to the Chuhra receives a diminished share, but, small as the share may be, it is always forthcoming, whereas in the towns the artisan is the first to suffer in times of scarcity, and if the scarcity is prolonged, the urban industries are extinguished." It is not easy to believe that industries of such a precarious type could have been sufficiently strengthened to withstand the inflow of cheap machine-made goods by the merely negative process of a tardy expansion of communications.

The supreme merit of the new policy of railway development was that it converted India from a geographical expression into a well-knit and consolidated economic unit. The prospects of profit which the opening up of trade held out and the familiarity with new conditions and ways of life which the extension of communication brought about, as well as the wide range of commodities which the powerful and ubiquitous agency of commerce threw into the country, have left a permanent impress on the general life of the people. From 1882–83 to 1907–08, the imports had increased by 2·59 times, and the exports by 2·15 times. The profits of agriculture and rural trade have called into being a middle-class population—a section of society almost unknown in pre-British days. It is this section of society that has gained most by the new economic environments, their incomes have risen as also their standards of expenditure. The general increase in the desire for better food, housing, clothing, education and recreation has been very marked as is indicated by the increasing consumption of imported goods. On the lower classes of the population, the effect of the new conditions has been less marked; but the statistics of imports show how articles like sugar, kerosine oil, cotton piece-goods, silks and woollens, boots and shoes, apparel, matches, soap, etc., which were once articles of luxury, only within the reach of the wealthier classes, are now in much wider use. Taking the index number of the value of this class of imports at 100 in 1890–94, we find that it had arisen to 112 in 1900–01, to 168 in 1909–10, and to 200 in 1911–12.[1] The later figures also confirm the conclusion that the comforts and conveniences of life are showing a visible expansion.

[1] See table at p. 144, Datta's *Report on the Enquiry into the Rise of Prices in India*, 1914.

This growth in wants, as usual, has been accompanied by a growth in productive activity. Commerce has led the way to manufactures; the British commercial community in India, like the shrewd businessmen they are, perceived the scope that the prolific raw materials and the extent of the local market offered to manufactures conducted on up-to-date lines; and this led, as Dalhousie had foreseen in 1833, to a flow of British capital and enterprise into industrial undertakings in India. Their example fired the ambition of the more venturesome among the indigenous commercial classes, and Bombay, with its mills and factories, soon became the industrial capital of India. Though, considering the country's extent and population, the output of these factories is disappointingly small, yet the rise of manufacturing enterprise is significant, as showing that a countervailing tendency to the ruralisation of which Mr. Justice Ranade and his school complained is coming into operation. Between 1879 and 1892, as Ranade has himself pointed out,[1] the export of manufactured or partly manufactured goods rose from 5·25 crores to 16·5 crores of rupees, showing an increase of 211% in 14 years. There was a steady annual increment of 15%, with only two exceptional years in the whole period. The rise in the export of raw produce from 60 to 85·5 crores was not relatively so high, being only 42% in 14 years, or 3% annually. Manufactured imports rose from 26 to 36 crores, or by about 2·8% per annum; while the import of raw produce almost doubled itself, rising from 13·75 crores to 26·5 crores. Professor Kale has continued the analysis on the same lines from 1892 to 1907,[2] showing that the imports of manufactured goods rose during this period by 93%, and of raw material by 127%; while the exports of manufactured goods rose by 139%, and of raw material by only 57%. These results are summed up in the table on page 32.

The proportion of the imports of manufactured goods to total imports, which stood at 65 per cent. in 1879 and 57 per cent. in 1892, dropped to 53 per cent. in 1907; and, in the same way, the proportion of manufactured exports, which was only 8 per cent. in 1879 and 16 per cent. in 1892, rose to 22 per cent. in 1907. These figures, however, slightly mis-

[1] *Essays*, third edition, pp. 97–98.

[2] In his *Indian Industrial and Economic Problems*, 2nd edition, pp. 88 *et seq.*

Items	1879	1892	1907
Imports : mfd. in Rs.	259,865,872	362,231,827	698,895,000
,, raw ,,	137,555,837	263,818,431	599,668,374
Exports : mfd. ,,	52,780,340	164,247,566	392,981,000
,, raw ,,	596,727,991	855,209,499	1,141,231,335

Percentage of increase in the two periods.

	1879–1892		1892–1907	
	Total	Annual	Total	Annual
Imports, manufactured ...	39·0	2·8	93	6·0
,, raw	91·0	6·5	127	8·5
Exports, manufactured ...	211·0	15·0	139	9·25
,, raw	43·0	3·0	57	3·8

represent the true situation. It was one of Giffen's precepts that before drawing any conclusions from any set of statistics, it would be well to enquire how they were obtained; and in making such an enquiry here, we find that the exclusion, among others, of metals and metal manufactures from this classification gives a somewhat exaggerated idea of the growth of Indian manufactures. The real position is indicated by the official trade returns[1] for 1907–1908, which may be summed up as under :—

Items	Imports Rs.	Exports Rs.
Animals living, mostly horses	4,410,000	2,159,000
Articles of food and drink	171,342,000	446,751,000
Metals and metal manufactures ...	301,430,000	11,065,000
Chemicals, drugs, narcotics, dyes, etc.	35,885,000	110,378,000
Oils	36,561,000	8,582,000
Raw materials and unmanufactured articles	5,004,000	762,297,000
Articles manufactured and partly manufactured	698,985,000	392,981,000
Total ...	1,298,563,374	1,734,312,335

For the purposes of the present study, however, what is even more important than the exact rate of manufacturing progress in India is the establishment, beyond doubt, of the fact that such a tendency is now in operation. The trade returns leave us in no doubt as to the existence of such a

[1] *Vide* pp. 8 and 31, *Review of the Trade of India*, 1907–08.

tendency, which is gaining in strength as years roll on; and there has even arisen a new school of critics who complain that the present rate of manufacturing progress is, in some instances, too fast, and likely to cause grave social disorders unless the pace is slackened.[1]

We may now conclude this part of our enquiry. A survey of the main economic tendencies in India throughout the last three centuries, though it does not enable us to postulate anything absolutely definite regarding the general conditions of life of all the peoples of that vast sub-continent, yet brings to light certain broad features of the economic position of the country. It shows us that during the days of the Moghul administration, the environments created by the State were such as to depress and discourage productive effort of all kinds. However benevolent might have been the intentions of the autocrat at Delhi, they were often frustrated by the cumbrous machinery of his administration, and the general corruption of his officers. Internal order and security were still things unknown, especially in the outlying parts of the Empire; and it was the rule rather than the exception for the strong to prey on the weak. The conditions of both the ryot and the artisan were miserable in the extreme, and whatever wealth there was in the country was concentrated in the hands of a few nobles and courtiers, who invariably spent it, not in furthering production, but on costly luxuries. The net result was to weaken the will to produce, and encourage the investment of any surplus wealth that remained after meeting the primitive necessities of existence in such unproductive forms as hoarding. A rise in the standard of living was an impossibility under these conditions; anything like the appearance of tolerable comfort indicated the possession of concealed resources, and tempted the cupidity of one's more powerful neighbours. There was, if anything, a worsening of these conditions during the days when the Empire was tottering to its fall, and the Mahratta hordes were over-running the country. It is not till we come to the days of British ascendancy that we are able to detect any signs of improvement. The establishment of a settled Government, powerful enough to make itself obeyed throughout its dominions, and rigorously enforcing the simple yet

[1] *Cf.* Dr Slater's remarks in his Paper on *Protection for India* published in the *Asiatic Review* of April, 1923.

fundamental principle that each man shall be free to enjoy the fruits of his labour without fear of being robbed or tyrannised over, has created a new environment which makes for economic development, the healthy influence of which cannot possibly be over-estimated. The commercial origin of the British administration long tainted its attempts to interfere with the economic life of the country; but since 1858 there has been a gradual transition " from the régime of administrative exploitation, through a period of inertia induced by the *laissez-faire* doctrine, to a conscious attempt at economic development." The change in environment thus brought about, differing so radically from what the people had been accustomed to for centuries, has not yet been fully appreciated by them; their isolated life in the villages, and their appalling illiteracy have stood in the way of their full recognition of these blessings; nevertheless, there has been born in the land a new desire for a higher plane of life, and a new surge of effort and endeavour, which promise to transform the economic life of the country, and if India's economic tendencies have been correctly diagnosed in these pages, she is on the threshold of a fresh era in her history, an era which is to be characterised by rising material prosperity and increased productive vigour.

CHAPTER II

The Demand for Industries

Synopsis :—Indian economic criticism of the 'eighties and 'nineties negative in character; constructive criticism was late in making its appearance; and even when it came, it was clouded in political controversies.

Modern Indian politics, which gave point to the economic unrest, owes its own origin to economic causes: the educational system of India produced a literary class far in excess of the country's needs; their avenues of employment were getting choked up; and since Government was the one great employer of this class of educated people, they looked to it to provide them with the means of earning their livelihood. The cry for autonomy and for the Indianisation of the services was in its inception a cry for employment.

With the dawn of political consciousness came a desire for economic independence. India's dependence on foreign manufactures came to be felt as a stigma; the want of industrial organisations as a sign of national weakness. This feeling was accentuated by the example of Japan, which was a purely agricultural country within living memory, but soon transformed itself into a manufacturing country, and thus added to its strength and political importance.

The political genesis of the industrial movement responsible for its misdirected activities in the opening years of this century. The futility of boycott; and its reflex action. The controversies on the cotton excise.

The true cause for the tardy development of Indian industries lies in India's unpreparedness to meet the Industrial Revolution of the West: in the earlier days she had no industries to speak of; and after the Revolution, her isolated handicraftsmen found it impossible to compete with the mass production of machinery in Great Britain.

The demand for industries is now a real demand; its objective is to broaden the sources of national wealth; the problem sought to be attacked is the poverty of the people.

The extent of Indian poverty discussed; the low average income; summary of various estimates; the economic condition of the villager analysed; low standards of expenditure; family budgets.

Primary poverty: due, not to faulty distribution, but to insufficient production. How is production to be increased?

36 ECONOMIC CONDITIONS IN INDIA

Rival claims of agriculture and industries discussed. The plea that India is better fitted for agriculture than for industries, and that industrial development, when it comes, will be at the neglect of agriculture, examined.

The defects of a purely agricultural system accentuated by the special physical conditions of the country: precarious and ill-distributed rainfall; the limits of irrigational development. The verdict of the Irrigation Commission.

Rapid increase of population, and increasing pressure on the soil; smaller cultivated area per head of population; the area of culturable waste; could it be profitably brought under cultivation? Density on cultivated and cultivable area analysed. Trunnier's dictum regarding the supporting capacity of agriculture applied to India. Countries like Great Britain and Germany, where both agriculture and industry are well developed, support 460 and 311 to the square mile; purely agricultural tracts in Bengal support 578 to the square mile. This is a measure of the pressure on the soil. Fears as to the diminishing productivity of the land.

The land cannot continue profitably to absorb increasing numbers of workers.

In order to relieve the pressure on the soil, and to provide for the surplus population, other means of production than a mere policy of intensive cultivation have to be sought for. Hence the demand for industries.

Appendix: Some Family Budgets from the Bombay Presidency.

AMONG the many forces that are now at work transforming the outlook and character of India, there is, perhaps, none so pregnant with significance for the future as the insistent demand for the development of indigenous industry. It was only during the opening years of this century that the cry for industrialisation began to be distinctly heard. Indian economic discussion before this period was apt only too frequently to drift along the infertile channel of a recital of past glories, as contrasted with present poverty, or to lose itself in the blind alley of the Drain. Constructive criticism of economic events was thus late in making its appearance; and even when it actually came, it got itself so inextricably entangled with current political polemics as to make a dispassionate judgment almost impossible. The intermingling of matters of strictly economic import with questions of political controversy provoked immediate dissent from propositions which, divested of their political colour, would certainly have secured fair hearing and ultimate acceptance.

But if the Indian politicians are to blame for merging the demand for Swadeshi enterprise into the larger and more comprehensive demand for Swaraj, and thus delaying a consideration of the former on its own merits, they at the same time deserve the gratitude of the country for having drawn prominent attention to what is obviously the cardinal defect in India's social and economic organisation.

The Indian Industrial Movement has been traced to a variety of causes. The accident that brought it into the limelight was certainly its connection with politics. But modern Indian politics, in the sense of a demand for greater devolution of political power, itself owes its origin to other than political causes. In effect, it is the outcome of the educational policy of the British Indian Government, which gave to those classes that welcomed instruction a system which is divorced from their needs in being too purely literary, and which produced, far in excess of the actual demands of Indian conditions, a body of educated young men whose training had prepared them only for the learned professions or Government service.[1] The youths turned out from schools and colleges in an ever-increasing stream found that, while the corridors to the public services as well as to the learned professions were crowded to suffocation, the nature of their training had unfitted them for other careers. In their discontent, they turned to political activity, and there is some justice in the old gibe that Indian politics of the earlier days was only a scramble for appointments. Economically interpreted, it was unemployment that turned the educated into political reformers, while the demand for political reform, in its turn, led to an examination of the country's economic position, and to the devising of ways to improvement.

With the rise of national feeling in India came a desire on the part of her sons to lift her to a place among the nations befitting her vast extent and population. Apart altogether from political dependence, they were discontented with the economic dependence of India on foreign money and foreign manufactures. "The political domination of one country by another," so wrote one of the most thoughtful of India's

[1] "The charge that Government has produced a large intelligentsia which cannot find employment has much substance in it; it is one of the facts which lie at the root of recent political difficulties." p. 150, *Report on Indian Constitutional Reforms*, Cd. 9109 of 1918.

earlier economists, " attracts far more attention than the more formidable, though unfelt, domination which the capital, enterprise and skill of one country exercise over the trade and manufactures of another. This latter domination has an insidious influence which paralyses the springs of all the various activities which together make up the life of a nation." [1] The extent and amplitude of India's economic subordination were to be found in the character of her growing foreign trade, which has long continued to be the barter of raw materials, valued at relatively low prices, for imported manufactures which obviously afford profits and prosperity to other countries industrially more advanced. And the question invariably suggested itself why these profits should not accrue to India herself, and why so large a portion of the industries which flourished in the country was financed by foreign capital, and managed by foreign skill.[2] This deficiency in industrial activity came, therefore, to be regarded as a sign of national weakness ; and since " to be weak is miserable, doing or suffering," the fostering of indigenous industries has now been definitely accepted as an integral part of the new political programme. The example of other countries, notably of Japan, has also had its weight in inducing the Indian politicians to adopt this attitude. There they found an Asiatic race, not long ago almost purely agricultural, winning for itself a prominent place among the manufacturing nations of the world and, with its new-born strength of industrialism, defying and overcoming the great European Power of Russia. This circumstance has left an abiding impression on India's imagination. The result of the Russo-Japanese War was hailed with enthusiasm in India, and scores of students were sent out to Japan for industrial and technical training, in the hope of their being able to reproduce in their motherland the skill and organisation that had helped Japan to repel her foe. In its initial stages, its association with politics did considerable damage to the demand for indigenous industry. The violence which accompanied the teaching of Swadeshi principles, the boycott of foreign goods by which the new lesson was sought to be emphasised, and their intimate connection with the political agitation over the

[1] The Hon. Mr. Justice Ranade: *Essays on Indian Economics* third edition, p. 92.

[2] See p. 265, *Report on Indian Constitutional Reforms, op. cit.*

Partition of Bengal, were all perhaps inevitable under the circumstances; but they all contributed for a time to obscure the economic issue involved, and cause it to be mistaken for mere political bias. Nor were the concurrent denunciations of English commercial policy, with their appeal to history to show that India was in the past a great manufacturing country, till the English came and killed her industries with taxes and tariffs, likely to clear the situation. The failure of the Swadeshi movement only intensified the old suspicion that Great Britain, whose share in India's import trade was over 60% of the total, was deliberately discouraging Indian industries in order to protect her own, and to assure for herself a continuous supply of the raw material needed for her manufactures.[1] Running throughout the writings of the earlier economic writers in India is the central idea that India's abject dependence on agriculture was the inevitable consequence of the Government's policy of encouraging the export of raw produce, and of discouraging manufactures, first by a series of tariff laws penalising the import of Indian-manufactured goods into England, and latterly, after England had adopted free trade, by the levy of the countervailing excise duty on cotton goods, the manufacture of which is perhaps the one industry in which Indian enterprise has achieved a fair amount of success in the face of serious competition.[2] Arguments like these are based upon a more or

[1] *Cf.* Ranade's *Essays*, *op. cit.*, p. 93: "The Great Indian Dependency has come to be regarded as a plantation, growing raw produce to be shipped by British agents in British ships, to be worked into fabrics by British skill and capital, and to be re-exported to the Dependency by British merchants to their corresponding British firms in India and elsewhere." *Cf.* also Mr. G. V. Joshi's *Writings and Speeches*, pp. 674–5: "The value of India to the British nation was measured by the quantity of raw material which the resources of Indian Agriculture has enabled it to export for the feeding and maintenance of the Lancashire mills. India was to devote all its energies to raise the raw exports; and canals, railroads, and improved communications were to be pushed on at any cost to facilitate the export of raw materials and the import of English manufactures. India's own industrial needs were of comparatively no consequence."

[2] See R. C. Dutt, *Economic History of India*, Kegan Paul, p. vii: "India in the eighteenth century was a great manufacturing as well as a great agricultural country, and the products of the Indian looms supplied the markets of Asia and Europe. It is unfortunately true that the East India Company and the British Parliament, following the commercial policy of a hundred years ago, discouraged the import of certain Indian manufactures in the early years of British rule in order to encourage the rising manufactures in England. Their policy . . .

less inaccurate reading of Indian economic history. India was never a great manufacturing country in any adequate sense of the term. The only industry she had developed on any extensive scale was hand-spinning and weaving. Of these, the first has since become practically extinct, but the hand-looms are still absorbing annually increasing quantities of yarn, and the statistical information available shows that, while in 1896–97, the hand-looms consumed 20·2 crores of pounds of yarn out of the total (including imports) of 47·34 crores available in the country, in the quinquennium ending 1915–16, the estimated average annual consumption of hand-looms was 28·79 crores of pounds of yarn, as against a total of 71·8 crores, the balance of 43·01 crores being the quantity consumed by the Indian mills and the export trade in yarn.[1] As for the cottage industries of the country, the Industrial Commission has recently declared that there is no ground for the belief that they are in a decadent condition.[2] But if these indigenous industries have not been entirely destroyed, their rate of progress has certainly been seriously crippled. Confining ourselves to the cotton industry, it is possible to exaggerate the influence of hostile tariffs in bringing about this result. It is indisputable that tariff policy has contributed its own share to checking the development of this industry; but this share has generally been over-estimated, while at the same time the more natural causes tending in the same direction have not received proportionate emphasis. The reason that tariff policy has loomed so large in the eyes of Indian writers is that it was persisted in by the Government in flagrant defiance of popular wishes, and that its supporters have invariably employed language of a most provocative character. Mr Lovat Fraser has correctly gauged the position when he says that the cotton duties have done more than any other administrative act of the British in India to impair the moral basis upon which the British control is supposed to rest.[3] The feeling in India was

was to make India subservient to the industries of Great Britain, and to make the Indian people grow raw produce mainly in order to supply material for the looms and manufactories of Great Britain. This policy was pursued with unwavering resolution and fatal success." See also Pundit M. M. Malaviya's *Note of Dissent to the Report of the Indian Industrial Commission*, Cmd. 51 of 1919, pp. 247–57.

[1] *Industrial Commission Report, op. cit.*, Ap. I.

[2] *Report, op. cit.*, p. 162.

[3] *India under Curzon and After*, p. 353.

aggravated by the speeches in England of the representatives of Lancashire, who openly proclaimed that, in a matter like this, theirs were the interests that deserved the first consideration; and also, during the earlier days of the controversy, by the remarks of some members of the Government of India, who occasionally allowed themselves to forget that their first duty, at any rate, was to protect the interests of the country they had undertaken to serve.[1] The transparent unfairness of this policy[2] and the intemperate zeal of its advocates have led the Indians to ascribe to it results in the bringing about of which it has played perhaps only a secondary part, and to ignore the effect of the more natural causes of India's industrial backwardness, such as defects of organisation and equipment. By the end of the eighteenth century, Indian cotton goods were beginning to lose their export markets, and early in the nineteenth century, the producers of the finer cotton goods were being driven even from the home market. The explanation for this phenomenon is to be sought in the advantages of machine production over handicrafts. The industrial revolution which enabled cheap mass

[1] *Cf.* the following remarks of Sir John Strachey: "We are often told that it is the duty of the Government of India to think of Indian interests alone, and that if the interests of Manchester suffer, it is no affair of ours. For my part, I utterly repudiate such doctrines. I have not ceased to be an Englishman because I have passed the greater part of my life in India, and have become a member of the Indian Government. The interests of Manchester at which foolish people sneer are the interests not only of the great and intelligent population engaged directly in the trade in cotton, but of millions of Englishmen. I am not ashamed to say that . . . there is no higher duty in my estimation than that which I owe to my own country. I believe that our countrymen at home have a real and very serious grievance, and that it is no imaginary injury against which they complain. . . ." *Financial Statement*, 15th March, 1877.

[2] Compare, for instance, the case of Canada. At the outset of Canada's Protectionist career, the Colonial office and the British Chambers of Commerce protested emphatically against the right of Canada to set up and maintain her own tariff system. But the then Canadian Minister of Finance, Sir Alexander Galt, took up an attitude entirely contrary to that of his Indian confrère, Sir John Strachey, and vindicated Canada's right in his memorable Despatch of the 25th October, 1859: "Self-Government would be utterly annihilated if the views of the Imperial Government were to be preferred to those of the people of Canada. It is, therefore, the duty of the present Government distinctly to affirm the right of the Canadian Legislature to adjust the taxation of the people in the way they deem best—even if it should happen to meet with the disapproval of the Imperial Ministry." This courageous assertion of fiscal freedom was challenged no further.

production found India unprepared; and it is noteworthy that the rise of cotton mills in India itself has been as much responsible for the present position of the hand-loom industry as the extensive importation of cheap European piece-goods.[1] The decline of the shipping industry, to which also frequent references are made,[2] is likewise traceable to natural causes, the principal of which was India's deficiency in, and consequently the prohibitive price of, manufactured iron. "In the sixteenth century, she had a great advantage in shipbuilding, owing to the abundance of teak along the western coast. But the Indian ships of that period were not really seaworthy. The reason was that far too little iron was used in their construction; they were quite serviceable in fair weather, but in heavy seas, they simply went to pieces. The result was to cripple the shipping industry. Ships had to keep inside the area where they could count on fine weather at the proper seasons; they dared not go beyond Malacca into the Chinese seas, and their voyages to Africa were limited on the south to the ports sheltered by Madagascar. But for that limitation there is no reason to doubt that they would have rounded the Cape of Good Hope possibly before Vasco da Gama accomplished that feat; but as it was, they had to remain in smooth waters until Portuguese shipbuilders remedied the fundamental defect in their construction."[3]

But, in spite of serious errors in the historical basis of their argument, and of a wrong distribution of emphasis among the various causes to which they traced India's industrial weakness, the conclusion to which the earlier advocates of industrialisation arrived was always worthy of acceptance. For theirs was in reality an economic and not a political contention, the objective of which was to broaden the basis of

[1] Ranade, indeed, did not ignore this point, for he says: "The development of steam power and mechanical skill joined with increased facilities of communication have lent strength to this tendency of the time, and as one result of the change, the gradual ruralisation of this great dependency and the rapid decadence of native manufacture and trade have become distinctly marked" (*Essays, op. cit.*, p. 93). It will be seen, however, that he and his followers regard this not as the primary or principal cause, but merely as a subsidiary contributory cause.

[2] *Cf.* W. Digby's *Prosperous British India*, pp. 84, 101–3, etc.; and Pundit M. M. Malaviya's *Note, Report of the Indian Industrial Commission, op. cit.*, pp. 251–2.

[3] Mr. Moreland, in the *Asiatic Review* of October, 1920, p. 824.

national wealth in India. The foundation of the movement lay in the recognition of the general poverty of the country, and the urgent need for improving the material condition of the people.[1] Elaborate attempts have, from time to time, been made to calculate the average income of the country, with a view to ascertaining the general economic condition in India. The first estimate of this kind, made by Dadabhai Naoroji in 1870, showed that the average annual income per head of population then, was about Rs. 20.[2] Working upon the statistics collected by the Famine Commission of 1880, Sir David Barbour came to the conclusion that the average *per capita* income in 1882 was about Rs. 27. In March, 1901, Lord Curzon had a fresh estimate taken on the lines adopted by Sir David, and found that it had then risen to Rs. 30. Sir

[1] In the preamble to a Resolution passed at the third Session of the Indian National Congress in 1887, and affirmed at many later sessions, wherein the encouragement of indigenous industries was advocated, they laid stress on this aspect of the question. The Resolution was "*that, having regard to the poverty of the people*, it is desirable that the Government be moved to elaborate a system of technical education suitable to the condition of the country, to encourage indigenous manufactures by a more strict observance of the orders already existing in regard to utilising such manufactures for State purposes, and to employ more extensively than at present the skill and talents of the people of this country." The reference to existing Government Orders is to Resolution No. 185 of the Government of India (*Finance and Commerce Department*), dated 10th January, 1883, paragraph 28 of which runs as follows: "The orders of the Secretary of State make it incumbent on all officers of Government requiring stores of European manufacture to obtain them by indenting on the Secretary of State, and permit of the purchase in the local market of articles made in Europe and America only under special circumstances mentioned. The Governor-General in Council, therefore, desires again to invite the attention of local Governments to the expediency of supplying the wants of Government by the purchase in the local market of articles of *bona fide* local manufacture. The Government of India is desirous to give the utmost encouragement to every effort to substitute for articles now obtained from Europe articles of *bona fide* local manufacture or of indigenous origin, and where articles of European and of Indian manufacture do not differ materially in price and quality, the Government would always be disposed to give the preference to the latter; and the Governor-General in Council desires to remind all officers of Government that there is no reason why articles manufactured in India should not be obtained locally, even though the raw material necessary to their manufacture may have been originally imported from Europe. . . . There are many articles which may not be immediately obtained in the local market, but which can be made in the event of Government encouraging their manufacture." This Resolution, though it remained a dead letter until quite recent times, is interesting as showing that the problem had even then begun to engage the attention of the Government.

[2] Forty shillings at the then rate of exchange.

J. D. Rees also puts it at that figure, and quotes Mr. F. J. Atkinson to the effect that, between 1875 and 1895, there was an increase from Rs. 25 to Rs. 34.[1] On the 23rd February, 1921, the Hon. E. M. Cook told the Council of State that, following the same line of calculation as in 1882 and 1901, the *per capita* income of 1911 had risen still further to Rs. 50. He further pointed out that the methods of calculation adopted in the earlier estimates were defective, and that a more comprehensive estimate would show the figure to be in the neighbourhood of Rs. 80. The most careful estimate that has hitherto been made in this direction comes from Madras. In 1921, the statistical branch of the Madras Department of Agriculture published an estimate of the agricultural income (in the shape of agricultural products) throughout the Presidency. This seems to show that the total contribution of agriculture to the income of the population amounts to £309·7 millions (Rs. 309·7 crores). The agricultural population is just five-sevenths of the total population of the Presidency; so that, if we may assume the contribution of the agricultural population to that of the non-agricultural population to be in proportion to strength, the non-agricultural population would be two-fifths, or 40%, of the agricultural income. A simple calculation based on this assumption would seem to show that the total income of the Presidency is somewhere near £434 millions (Rs. 434 crores). The population of Madras being 43·3 millions by the census of 1921, the average income per head works out, on the above calculation, at a little over £10 (Rs. 100). As against this rise in income must be set the rise in prices; for the purchasing power of Rs. 100 in 1920 was only 40% greater than that of Rs. 30 in 1899, so that, calculated on the basis of 1899, Rs. 100 in 1920 meant the same thing as Rs. 42 in 1899.[2]

In connection with the recent Census, information has been collected in Bombay regarding the estimated income and expenditure of families in the Presidency outside Bombay City, which lends some support to the Madras figures. The net *per capita* annual income, which is arrived at by dividing the gross income of the family (minus agricultural and business expenditure) by the total number of persons in the family, works out at about Rs. 100 for urban localities, and

[1] See *The Real India*, by J. D. Rees, p. 293.
[2] See p. 195, *Moral and Material Progress Report*, 1921.

for rural localities at about Rs. 75. In Bombay City itself, it has been estimated, as the result of investigations of nearly 2,500 family budgets, that the monthly income of an average working class family works out at about Rs. 52. 4a. 6p. per month, or 17s. 5d. per week.[1] In some parts of the Presidency, such as the Deccan, the income falls very far below the general level. Where rainfall is precarious and uncertain, and the soil shallow and poor, the income from all sources per head in a typical village has been calculated at Rs. 33. 12a. op. per annum, as against a minimum of expenditure necessary for real needs in respect of food and clothing at Rs. 44 per annum. In warning us against attributing too much importance to any symptoms of increasing prosperity which any set of statistics may seem to indicate, the Material and Moral Progress Report for 1922[2] tells us that the masses of the Indian population "are beset with poverty of a kind which finds no parallel in the more exigent, because less tropical, countries of Europe."

The materials for estimates of average income are of such an unreliable and unco-ordinated nature that the conclusions drawn therefrom can be nothing more than conjectures of more or less doubtful accuracy; and, even if accurate, could be useful only as giving a static view of the economic condition of the people. Besides, all calculations as to the money value of incomes are open to the objection that, even at the present day, money enters but little into the life of the Indian agriculturist, who produces most of the necessaries of life himself. It is only the surplus left after satisfying his needs that he offers for sale, and this, again, not in a free and open market, but to the moneylending merchant of his village, who sets off the commodities offered by the agriculturist against the amount that he owes or else gives the peasant a book credit in his accounts. The attempt, therefore, as Mr. Thornton has pointed out, to give a money value to these primitive transactions, and formulate the financial condition of the peasantry in terms of cash receipts and payments, must be a very hazardous undertaking. Nor should it be forgotten that, if his income is small, his needs are equally limited. A tropical climate simplifies the

[1] *Report of an Enquiry into Working Class Budgets in Bombay*, 1923, the Bombay Labour Office.

[2] Cmd. 1961 of 1923, p. 198.

problems of clothing and shelter; fuel is not needed for warmth; and anything more than a bare loin-cloth may be more of a hindrance than a help. The immediate requirements of life being thus easily satisfied, it is not surprising that the Indian ryot regards himself as passing rich on a money income that would spell distress and poverty in any European country.

Keeping this in mind, and making allowances for the possible differences between the cost of living in cities and in rural areas, let us examine the economic condition of some Indian villages. Dr. Harold Mann's investigations in Pimpla Soudagar, near Poona, show that the average income of 103 out of the 111 families in the village was Rs. 218 per annum, or about Rs. 44 per head, and that this was just the amount needed for tolerable comfort. But on examining the case family by family, it is seen that, while 25 persons have an average income of Rs. 77 per head, and 137 persons Rs. 62 per head, the remaining 352 are insolvent, having an average income of only Rs. 32 per head, which is much below the sum required for food and clothing, let alone payment of interest on debt and other compulsory external calls on it.[1] In studying another village, about 25 miles away from Poona, he found that 147 families there had a total income of Rs. 24,963, while their actual expenditure came to Rs. 38,976, of which "necessary family expenditure," excluding all luxuries and extravagance, came to Rs. 32,221. That is to say, while the average family income was only Rs. 168·8, the cost of living was Rs. 219·6. In a normal year, therefore, the production of the village covered only about two-thirds of the bare cost of living. 85% of the families were insolvent, their incomes being only equal to 51·5% of the sum required for decent subsistence on the most modest scale.[2] The fact that in spite of all these depressing statistics the villagers did not appear to be in the grip of abject poverty, but, on the other hand, seemed fairly happy, and continued to interest themselves in the development of their land, leads one to cast a somewhat dubious eye on these figures. The fallacy of averages attaches to these calculations, and the margin of error becomes the wider when they have to depend on such

[1] *Land and Labour in a Deccan Village*, No. I.

[2] See Table on page 133, *Land and Labour in a Deccan Village*, No. 2.

variable factors as the unit and cost of cultivation, the out-turn per acre, and the course of prices. Mr. Jack calculates that agricultural incomes in Faridpur, in Bengal, average Rs. 50 per head, as against Rs. 44 and Rs. 34 in Dr. Mann's villages; and his finding that it is "divided with considerable fairness in such a way that the great majority of the cultivators have a reasonable share of it" deserves to be noted, inasmuch as it is based upon his intimate experience in the village as a Settlement Officer. He estimates that, of the agricultural families, which form 77% of the total population of Faridpur, 49·5% live *in comfort* on an annual joint income of Rs. 365; 28·5% live *below comfort* on Rs. 233; 18% *above want* on Rs. 166; and 4% *in indigence* on Rs. 115. The average income per head was calculated at Rs. 60 for the first class, Rs. 43 for the second, Rs. 34 for the third, and Rs. 27 for the fourth, as compared with an average of Rs. 50 and Rs. 20 for the model expenditure budgets for the first and fourth classes respectively. Among the non-agricultural classes, the distribution of wealth was not quite so favourable.[1] Dr. Slater, who investigated conditions in some Madras villages, puts the annual income per head in the Presidency at Rs. 72 in 1916–1917.[2] Dr. Lucas's study of village life in the Punjab does not lead us to suppose that conditions there are as satisfactory as in the Southern Presidency. In the village of Kabirpur, the gross income of an agricultural family, consisting normally of 4·5 members, is calculated at Rs.85. 10a. 8p., *plus* 22·58 maunds of wheat and maize. The total annual amount of taxation per family comes to Rs. 19·88, and the purchase of the necessaries of life other than wheat and maize exhausts Rs. 62·9. The requirements in food-grains come to 26·3 maunds. In the result, we have a saving in money of Rs. 2·88, and a deficit of 3·72 maunds of food-grain. Calculating at the current rates of prices, the balance of money left would suffice to purchase just about ·86 maunds. Subtracting this amount from the total deficit of 3·72 maunds, we leave a balance of 2·86 maunds, "which in all normal years is the deficit of wheat and maize per family. Converting this into money,

[1] *Economic Life of a Bengal District*, by J. C. Jack, Clarendon Press, 1916, p. 81 *et seq.*

[2] See *Some South Indian Villages*, edited by him, p. 16. Also p. 230 *et seq.*

the annual deficit per family is Rs. 9·52, or Rs. 2·1 per head." This is the state of affairs during normal years, when not a pie is paid back to the money-lender on account of money borrowed or its interest, which is a by no means negligible item in reckoning the real position of the family. In the case of the weavers, conditions are slightly better, the deficit being only Rs. 5·45 per annum per family.[1] Dr. Lucas, however, is careful enough to warn us that Kabirpur is below the average level of prosperity in the Province, but his estimate that "from 20 to 30 per cent. of all the villages were equally poverty-stricken"[2] shows how wide-spread is the condition of primary poverty.

Poverty may be due either to a faulty distribution of wealth in the country, or to the absence of sufficient wealth in it to go the whole round and maintain the entire population in comfort. To the student of the social sciences, this distinction has a meaning, for, "with £150 the family has, with £30 it has not, the material conditions of a complete life."[3] Prof. Bowley calculates that the average annual income per family of 4·5 persons in the United Kingdom in 1911, excluding an estimated annual saving of £230 millions and Governmental expenses of £220 millions, and including all foreign income not re-invested abroad, would be £154.[4] Equitable distribution will, therefore, ensure for every family in the United Kingdom what Prof. Marshall calls the material conditions of a complete life. As a matter of fact, however, we find that, of the total aggregate income of £2,090 millions in 1911, 12,400 persons in 1911–12 had incomes over £5,000, aggregating over £152 millions.[5] Poverty in England, therefore, is a question of the distribution of wealth. In the villages we have examined, this distribution is not glaringly unequal; the gulf separating class from class is never wide, and there is no such sudden contrast as in the United Kingdom between dizzy heights of opulence and extreme depths of poverty. On this point the evidence culled from a recent Parliamentary

[1] *The Economic Life of a Punjab Village*, by E. D. Lucas, M.A., D.D., Principal, Forman Christian College, Lahore, 1922, chap. 11, pp., 110–3.
[2] *Ibid.*, p. iii.
[3] *Marshall's Principles*, p. 2.
[4] *The Division of the Product of Industry*, 1919, pp. 20–21.
[5] *Ibid.*, p. 19.

publication is of interest. "The Indian Government," say the distinguished authors of the *Indian Constitutional Reforms Report*,[1] "compiles no statistics showing the distribution of wealth, but such incomplete figures as we have obtained show that the number of persons enjoying a substantial income is very small. In one Province the total number of persons who enjoyed an income of £66 a year derived from other sources than land was 30,000; in another Province, 20,000. The revenue and rent returns also show how small the average agricultural holding is. According to one estimate, the number of landlords whose income derived from their proprietary holdings exceeds £20 a year in the United Provinces is about 126,000, out of a population of 48 millions. It is evident that the curve of wealth descends very steeply, and that enormous masses of the population have little to spare for more than the necessaries of life." The income tax returns also tell the same tale: the total number of assessees in British India in 1918–19 being only 366,431.[2] The problem in India, then, is not the concentration of wealth in the hands of a few, and penury and suffering for the many, but an exceedingly low standard of wealth-production all round. Distributive justice is not by any means perfect; higher wages for the worker, lower rates of interest and of profit, should be, and are being, worked out; but in order that all this may be satisfactorily effected, the national income must show a speedy rise.

An alternative to average income *per caput* as an index to the economic condition of a people is their average expenditure on the various necessaries and luxuries of life. Dr. Engel's social investigations have led him to formulate certain laws as governing the expenditure of persons with a rising or falling income. According to his observation, the lower the percentage of expenditure on physical necessaries, the higher is the plane of economic prosperity. As the income of a family rises, only a smaller percentage of the whole is spent on food; the proportional expenditure on clothing, rent, light and fuel remains much the same, but the percentage spent on health, amusement and instruction rises constantly.

[1] Cmd. 9109 of 1918, p. 112.

[2] Till 1919 income tax was assessed only on non-agricultural incomes of Rs. 1,000 and upwards per annum.

Prof. Radhakamal Mukerji's analysis of the expenditure of various typical families is as follows[1] :—

Items.	Day-labourer.	Agriculturist.	Carpenter.	Blacksmith.	Shopkeeper.	Poor middle class.
Food	95·4	94·0	83·5	79·0	77·7	74·0
Clothing ...	4·0	3·0	12·0	11·0	9·0	4·7
Medicine ...	——	1·0	1·5	5·0	5·9	8·0
Education ...	——	——	——	——	1·0	3·3
Religious and Social ceremonies	0·6	2·0	2·0	4·0	5·0	8·0
Luxuries ...	——	——	1·0	1·0	1·4	2·0
Total ...	100·0	100·0	100·0	100·0	100·0	100·0

Mr. Jack[2] also gives two model family budgets for families living in "comfort" and in "indigence," from which the following Table may be constructed :—

	Food.	Clothing.	Rent and Repairs.	Sundries.	Total.
Comfort ...	62	10	12	16	100
Indigence ...	74	10	8	8	100

Prof. Horne gives the actual amounts spent by representative families from three different classes (the petty clerk, the domestic servant, and the agricultural labourer) in a Patna village[3] :—

Class.	Food.			Clothing.			Other necessaries.			Sundries			Total income.			Total expenses.			No. of members in family.
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	
1	26	0	0	4	0	0	4	0	0	4	10	0	40	0	0	38	10	0	6
2	7	15	0	?			0	10	0	4	10	0	17	0	0	12	15	0	2·5
3	4	15	0	0	15	0	0	10	0	——			6	0	0	6	0	0	4·5

In ascertaining the standard of living before the War, in order to find out the subsequent rise in the cost of living, the Bombay Labour Office examined the all-India consumption of the various necessaries of life for the five-year period ending with the outbreak of the War, and after checking the results by the budgets collected by a large railway company in Bombay, concluded that 81·7% of the expenditure was on

[1] *Foundations of Indian Economics*, p. 56.
[2] *Economic Life of a Bengal District*, p. 82.
[3] *Economic Journal*, 1916, p. 369 *et seq.*

food (70% of the expenditure in Dr. Mann's second village was on food), 4·9% on fuel and lighting, 4·3% on clothing, and 9·1% house rent.[1]

It is calculated that a Madras rustic family getting Rs. 100 per head per annum must spend nearly half its earnings on staple food, if that food be rice, in order to get enough food. Only half its income is available for all the other necessaries of life—milk, curds, ghee, condiment, clothing, fuel, lighting, housing, education, amusement, travel, recreation and the like. In the investigations undertaken in Bombay City and Island, the percentage expenditure on main heads showed that, out of the total income, 56·8% was spent on food, 7·4% on fuel and lighting, 9·6% on clothing, 7·7% on house rent and 18·5% on miscellaneous expenditure. At the same time the estimates show that the poorest classes of the population are still compelled to spend 68% of their income on food and 15% on clothing, another 11% goes on other compulsory expenditure, leaving only 6% for voluntary expenditure including amusements, luxuries, education, and the like.[2] The Bombay Labour Office has made an interesting comparison between the food rations available for the adult male worker in the City and Island and that for persons in gaol and those in receipt of famine relief. The former ate daily 1·29 lbs. of cereals, and ·09 lb. of pulses, while the gaols gave a ration of 1·5 lbs. cereals and ·27 lb. of pulses; and the famine code allows 1·29 lbs. of cereals (no pulses) to diggers, whose task is three-quarters that of the ordinary worker in normal times.

Whatever the exact figures of income and expenditure may be, the above calculations make it sufficiently obvious that the satisfaction of the most elementary physical necessities exhausts the bulk of the income, leaving hardly any margin for health, education and recreation. "It is a matter of common knowledge that the standard of life in India is undesirably low; that, while the masses of the people are provided with the necessities of a bare existence, they are, in far too many cases, badly housed and badly clothed, badly doctored and badly fed, often over-worked and often underfed; and that the present income of the country, even if it were equitably distributed, would not suffice to provide the

[1] *Labour Gazette*, Bombay, September, 1921, pp. 8–11.
[2] See the Tables given in Appendix.

population with even the most indispensable elements of life."[1] This fundamental fact of poverty raises the question whether the general level of well-being could not be materially improved by adopting a different system of production; and the circumstance that industrial countries like England have been able to support a growing population on a higher standard of comfort with apparently little difficulty turned the minds of Indians to industrial development as the accepted cure for national poverty.

That a tropical country like India, with all its rich agricultural resources, should turn from the cultivation of the soil, which seems its natural avocation, and enter into competition with industrial countries which have for long been specialising in their own lines of production, has seemed to many economists misdirected activity.[2] Whatever hopes for the future may be based on the prospect of industrial development, it is undoubted that now, and for a long time to come, the great bulk of the national wealth of India must continue to be derived from the land. The prospects of agriculture, again, have been greatly widened by modern science and organisation, and the possibility of heavier yields and heavier profits has been clearly demonstrated. Under these circumstances, it is asked, would it not be a national loss if the Indian peasant turns to industry, where he would have to wait a long time before he acquires the skill and efficiency of his foreign competitor? The views of this school of thought are faithfully represented by Mr. J. M. Keynes, who, in criticising the "current opinion in India, where a considerable part of the educated classes seems to desire with patriotic fervour the industrialisation of their country and the greatest possible development of manufacture," remarks: "In my opinion, such a change is not, in the future which one can see, either desirable or likely. It is an unfortunate consequence of the English connection that industrialism should present itself to Indians as the royal road to prosperity and to a dignified position among nations.

[1] *Quarterly Review*, April, 1917, p. 298.

[2] "The orthodox economists assign to the backward torrid zone regions of Asia the duty of producing raw materials, and claim for the advanced temperate zone countries of Europe the work of transport and manufactures, as a division in production which is fraught with the highest advantage to all, and is almost a providential dispensation against which it would be foolish to rebel." Ranade, p. 23.

Because England in the Middle Ages bore many resemblances to India, and because industrialism has since made England rich and powerful, the subjection and poverty of India are due, it is thought, to the absence of it. Some new industries will no doubt be found as well suited to Indian conditions as the jute and cotton industries have already proved themselves. But surely, Sir Theodore Morison (whose 'Economic Transition in India' Mr. Keynes is here reviewing) misreads the times when he regards Bombay rather than the never-ending fields as the sure presage of India's future. He rightly attributes the contemporary decay of village industries in India, as they have decayed formerly elsewhere, to the growth of specialisation, consequent on the improvement of communications. But this improvement has also led to some degree of specialisation among nations, and if regard be had to climatic conditions, and to the aptitudes and habits of her people, it seems hard to believe that India will not obtain more wealth by obtaining from the west, in exchange for her raw products, most of those commodities which she now obtains in this manner, than by diverting her capital and her peasants from the fields of the country to Bombay in order to make them herself. The fact that the prices of Indian exports have been rising a good deal faster than those of imports[1] shows, I think, that a tendency is already at

[1] But note the tendency which the following Table (taken from p. 45, Vol. I, *Memorandum on Balance of Payments and Foreign Trade Balances*, 1910–23, League of Nations Publication) indicates:

Percentage of changes in the average values of Imports and Exports since 1913.

	Year	1913	1919	1920	1921	1922
India	Import ...	100	205·0	237·0	215·0	169·0
	Export ...	100	156·0	139·0	127·0	140·0
United Kingdom	Import ...	100	239·1	285·1	190·3	152·2
	Export ...	100	277·1	358·3	268·8	199·1
	Re-Export	100	190·7	224·9	124·3	116·2
	Total Export	100	257·2	329·9	232·8	182·7

The exports of India and the imports of the United Kingdom consist mostly of raw materials, while the Indian imports and the U.K. exports consist mostly of manufactured goods. In either case it is evident that manufactured goods have been rising in prices a good deal faster than raw materials.

For the change in price levels during 1913–19, see the index numbers given in Chap. VI *infra*.

work enabling her to make these exchanges at a ratio more and more advantageous to herself. Nor is it unlikely that manufacturing nations have now reached the highest point of their relative advantage, and that the balance of exchange will move in future in favour of those countries whose advantage lies in the fertility and in the extent of their soil." Far from agreeing with the notion that the immediate prosperity of India depends on industrial development, he asks whether there is not good reason to believe that it is to be sought almost entirely in the application of more skill and knowledge, and especially of more capital, to the methods of agriculture. He fears that every diversion of capital from agriculture, where her relative advantage is great, to industry, where it is comparatively small, will be to India's economic detriment. The mills of Bombay and Calcutta, he continues, figure too largely in the public eye. They have, and will continue to have, an insignificant influence on the general level of economic well-being throughout the whole extent of the country. The raising of the level of comfort amongst the vast mass of the population must be brought about by the application to the land of the brains and the capital of New India. Nor is it easy to believe that India will find in mills and factories the non-economic goods which make up along with wealth the dignity of a nation.[1]

From the standpoint of strict economic theory, the position that that form of production should be preferred which gives the maximum return at a minimum cost in terms of effort and sacrifice is certainly impregnable. Equally unassailable are the remarks about the advantages of international exchange of commodities. But the argument for keeping India purely agricultural rests upon certain fundamental assumptions, some of which need examination. In so far as they have a bearing on the question of free trade or protection for India, they will have to be considered in another place. The principal assumptions with which we will now deal are those that suggest that industrial development, when it comes, will be at the neglect of agriculture, and that the capital available for investment in the country is delimited. India is well aware that agriculture is, and will long remain, her staple industry, and everyone familiar with modern conditions there knows how the position of the agriculturist is

[1] *Economic Journal*, 1911, pp. 427, *et seq.*

being strengthened, and the standard of farming raised, by the new programme of irrigation, co-operation, and scientific cultivation. The important developments taking place in this direction will show that India's demand for industries is advanced " without prejudice " to the superior claims of agriculture.[1] Nor is the fear that industries will divert to themselves the capital that would otherwise have gone to improve agriculture based on any substantial foundation. The general experience in India goes to show that the funds which are being tapped by industrial concerns come from the professional and mercantile classes, and only in a very small measure from the ryots, and that, in the absence of this new outlet, they would have accumulated idly in little hoards, or else been spent in various non-productive ways, such as, for example, on ornaments or ceremonies. The evidence recorded by the *Indian Industrial Commission* strongly supports this conclusion.[2] Nor should it be forgotten that the bulk of industrial capital now locked up in the larger concerns comes from outside the country, and that its volume will appreciably increase with the expansion of industrial activities in India. As for agricultural capital, which is raised mainly through mortgages, the almost physiocratic worship of land, together with the non-economic satisfaction

[1] *Cf.* the evidence of Mr. H. A. F. Lindsay, Director-General of Commercial Information: " A serious danger would arise if the establishment of Indian manufactures could only be effected by measures so artificial and expensive that the general cost of living in the country was forced unduly high, and that, in consequence, the production of food-grains and other raw products could no longer be effected as cheaply as they are at present. Stated in other words, if the development of Indian manufactures involved any contraction of the area under cultivation, this would seem to prove that progress with manufactures has been too rapid. It is very doubtful, however, whether this danger is sufficiently close to merit being taken into account at present." (*Report of the Indian Industrial Commission*, Evidence, Vol. II, p. 918, para. 2.)

[2] An instance or two may be cited: The Hon. Mr. James Currie, Vice-Chairman of the Punjab Chamber of Commerce, says, " Capital for industrial enterprises is principally drawn from surplus profits, in Calcutta and Bombay from bazaars, in the districts mainly from professional men." Evidence Vol. I (Cmd. 234 of 1919), p. 1. The Hon. Mr. A. H. Silver, Director of Industries, the United Provinces of Agra and Oudh: " Middle class Indians, following professional occupations such as lawyers, doctors and the clerical staff of business concerns, seem to be the class most ready to invest their savings in public companies. . . . At present they readily invest in banks either as share-holders or as depositors. . . . Rich land-owners do not, as a rule, invest capital in these undertakings." *Ibid.*, p. 126.

which the possession of land gives, will induce people to continue investing in it, and thus afford the peasant the money that he needs. "So far as agriculturists at present lock up their capital in the purchase of ornaments or invest it in Government paper, the employment of this money in successful industries would produce more profit, which could, if necessary, be devoted to agriculture, while at the same time no capital which is being actually employed for agricultural purposes is withdrawn."[1] Recent events in the industrial boom which followed the Armistice confirm the conclusion that the financing of industries is mainly effected by non-agricultural interests, and that it does not trench on the volume or amount of the agricultural capital available for the time being.

There is also reason to apprehend that the too strenuous insistence on agriculture, as suited to Indian conditions, is based upon a somewhat imperfect acquaintance with those conditions, and an insufficient appreciation of the country's climatic and other disadvantages. The seasonal conditions prevailing there, and the normal dryness of the soil,[2] make agriculture an exceedingly precarious occupation. No one without Indian experience can realise the anxieties which are felt annually regarding monsoon prospects. Water is the first condition of agriculture in India, and the area where the chances of serious drought are remote is confined to Bengal, Assam, Burma, and the western littoral from Surat to the extreme south of the Peninsula. Elsewhere, droughts are much more frequent than perhaps in any other agricultural country.[3] Irrigation has rendered secure the areas served by the large canal systems of the north of India, and by the deltas of Madras. Well-irrigated areas are also expanding. Outside the areas thus protected, and the zones of heavy rainfall mentioned above, there are nearly a million square miles which are not safe against the uncertainties of the seasons and the risks of famine. The annual rainfall in many places is liable to extraordinary variations, while to give

[1] See *Report of the Indian Fiscal Commission*, Cmd. 1764 of 1922, p. 24.

[2] See Dr. Voelcker's *Report on the Improvement of Indian Agriculture*, Chap. V.

[3] See Dr. Walker's statement showing the frequency of droughts, pp. 452–3, Vol. III, *Statistics*, *Report on the Enquiry into the Rise of Prices in India*, 1914. The extreme variations in rainfall are shown in the Table at p. 237 of the *Report*, Ap. F.

immunity from famine, it must not only be sufficient on an average of years, but must also be seasonably distributed. To this it may, perhaps, be objected that the dangers of insufficient or uneven rainfall may be gradually eliminated by the extension of irrigation works. Thus, Sir Herbert Risley optimistically remarks: "What has yet been done (by irrigation) is perhaps only a small instalment of that which the future has in store. There is enough water in the rivers of India, now running useless to the sea, to render fit for the plough many millions of acres at present barren and uncultivable."[1] The Indian Irrigation Commission of 1901–03 has dispelled this pleasant illusion. It calculated that, out of a total rainfall of 125 billion cubic feet, only 51 billion cubic feet are available for surface flow, of which only 6·75 billions are used in irrigation. Or, in other words, 59% of the total rainfall is absorbed in sustaining plant life, in maintaining moisture in the soil, in replenishing the sub-soil water supply, or in loss by evaporation; 6% is used in artificial irrigation (excluding well-irrigation); while the balance of 35% is carried away by the rivers. 87% of the total surface flow is thus drained uselessly into the sea. The comment of the Commission on these figures is instructive. "By those who have no knowledge of local conditions, it may be thought that a large part of the great volume of water amounting to more than 44 billion cubic feet, which now passes uselessly to the sea, might have been utilised, or could be utilised in the near future for an enormous extension of irrigation and the effectual prevention of famine. . . . We are far from considering that irrigation in India has reached its ultimate limit . . . but we are convinced that there are many parts of India where the utmost use of every available means of irrigation will fail to afford complete protection against failure of the rainfall."[2] And again: "The first point that strikes us in approaching the question of the scope for further extensions of state irrigation works is the limited field for the construction of new works which are likely to be equally remunerative, or even to be at all directly remunerative. There is no prospect of new irrigation works on any considerable scale proving directly remunerative in any of the Provinces in which protective irrigation is most

[1] *Census Report* of 1901, Vol. I, p. 87.
[2] *Report of the Irrigation Commission*, Cmd. 1851 of 1903, Part I, p. 14.

urgently required."[1] The Commission sketched out a rough programme which would render cultivable about 6·5 million acres and estimated that " the limits to the area which can be protected by state irrigation works at a cost which will not be prohibitive will then be within sight."[2] Further investigations have shown that the scope for productive works is slightly larger than the Commission estimated; but this does not affect their main position that the field for further extensions is strictly circumscribed.

Advocates of an exclusive adherence to agriculture in India will also do well to note the undue preponderance of that occupation, and the excessive pressure of population on the land. The Famine Commission of 1880 found that the numbers who turned to the soil for subsistence were far in excess of that needed for its thorough cultivation; and traced the retardation of material progress to this cause.[3] This unfortunate tendency has since been gathering additional momentum; for the proportion to the total population of those depending on agriculture rose from 61% in 1891 to 66% in 1901, to 71% in 1911, and to 73% in 1921.[4] The statistics of cultivated area also point in the same direction. Mulhall[5] states that the cultivated area in 1891 was only an acre per inhabitant. During the year 1901–02, the extent of area actually cropped (omitting double crops and

[1] *Report of the Irrigation Commission*, pp. 34–5.
[2] *Ibid.*, p. 43.
[3] *Report*, Vol. I, p. 34.
[4] The increase has been more than proportional to the increase in total population; and one lamentable feature of it is the rapid growth of a landless proletariat. From 1891 to 1901, the number of landless labourers nearly doubled itself, and from 1901 to 1911, farm servants and field labourers rose from 34 to 41 millions, though part of this increase has been attributed to changes in census classification and to the circumstance that the demand for agricultural labour in 1901 was below, while that in 1911 was above, the normal. The 1921 census shows that farm servants and field labourers had declined by 8·1 per cent. from 1911, while the class "labourers and workmen unspecified" had risen in the same period by 12·4 per cent. One chief reason for the decline of farm servants and field labourers was certainly the influenza epidemic of 1918. (See *Census Reports*: 1901, Vol. I, p. 238; 1911, Vol. I, 413–4; 1921, Vol. I, p. 246.) *A propos* of this, it is stated in the *Imperial Gazetteer of India*, Vol. III, p. 2: " A considerable landless class is developing, which involves economic danger, because the increase has been most marked in districts where the rural population is already congested, or in Provinces in which there is special liability to periodic famine."
[5] *Dictionary of Statistics*, 1901 edition, p. 631.

fallows, as they are not available at any given time for the support of population) in British India was 199,708,422 acres, while the population supported by agriculture was 155,476,788, giving something more than 1·28 acres per unit supported. In 1911–12 the area cropped rose to 215,981,683 acres, but the increase in the agricultural population reduced the acreage per unit to something less than 1·24.[1] Sir Thomas Holderness calculates that, subtracting the land utilised for supplying foreign markets from the total area under cultivation, we shall find that what is left over does not represent more than two-thirds of an acre per head of the total Indian population. India, therefore, feeds and to some extent clothes its population from what two-thirds of an acre per head can produce. There is probably no country in the world where the land is required to do so much.[2] That there has been a shrinkage since 1911 is evident from the later figures. In 1917–18, just before the great influenza epidemic, the total population in British India was 258,216,617, while the net area under crops was only 229,620,075 acres.[3] In other words, the total cultivated area had diminished to less than nine-tenths of an acre per head of population. Further calculations[4] show that the extension of cultivation has not always proceeded at the same rate as the growth of population, though, over a term of years, they show a fairly parallel development. It has been suggested[5] that any conclusions drawn from the cultivated area alone as compared to population would be of little value, if due regard were not had to the total cultivable area, and to the lessening of the pressure on the soil that could be brought about by a more equitable distribution of the population. In 1911,[6] for example, one-fourth of the population had concentrated itself on one-twentieth of the area, with more than 600 persons to the square mile, two-sevenths of the population on one-

[1] *Cf.* the figures given at p. 65, P. K. Wattal's *The Population Problem in India.*

[2] *Peoples and Problems of India*, p. 140.

[3] See Cmd. 1778 of 1922, *Statistical Abstract*, pp. 128 and 204.

[4] See the present writer's article on "Population and Food Supply in India," *Indian Review*, August, 1924.

[5] See Sir Herbert Risley, *Census Report* of 1901, Vol. I, pp. 86 *et seq.*

[6] In 1921, about a third of the population occupied rather more than two-thirds of the area at a density below the mean of the country (177 per sq. mile), while one-sixth of the area is occupied by nearly half the population at a density of over 350 per sq. mile.

eighth of the area with more than 300 persons to the square mile, while less than half the population had spread itself over a little more than four-fifths of the area. The agricultural statistics for 1911–12 show that only 216 million acres were cultivated, as compared to 54·8 million acres of fallow land, and about 115 million acres of culturable waste. The argument is that a more equitable distribution of population would tend to bring a substantial part of the waste land into cultivation, and that the sparsely populated areas can provide an outlet for the surplus of the other regions. Now, it is generally admitted that a great part of this "culturable waste" is such as could not be cultivated with profit under existing conditions.[1] That not much relief could be expected from this source is clear from the following Table, giving the density on cultivated and cultivable area in some of the sparsely populated districts.[2]:—

Province	Density per sq. mile on total area.	Density per sq. mile on cultivable area.	Density per sq. mile on cultivated area	Percentage of cultivable to total area.	Percentage of cultivated to cultivable area.
Kashmir ...	37	740	1022	5	84
Burma ...	53	126	515	42	32
Sindh	75	590	—	49	28
Coorg	111	370	792	30	45
Assam	115	151	766	76	24
Central India Agency ...	121	257	482	47	53
C.P. and Berar	122	187	360	65	60

There are also other reasons to suspect that the burden on the land is heavier in India than in other countries. Comparative figures show that, ordinarily, a density of 200 to the square mile presupposes the existence of industries and manufactures to support it. Trunnier[3] calculated that, in Germany, agriculture alone is unable to support more than 250 to the square mile, and the statement appears to be equally true of other countries. The pressure on the land in India is such that there are some purely agricultural tracts where it already supports two or even three times that number.[4] Bengal supports 578 to every square mile of

[1] See *Irrigation Commission Report*, p. 16. Also *Moral and Material Progress Report* (Decennial), 1901–12, p. 223, para. 3.
[2] Figures from the *Census* of 1911, Vol. I, p. 48.
[3] *Beitrage zum Problem der Volksdichte.*
[4] See *Census Report* of 1921, Vol. I, Part I, Table at p. 58.

total area, while the corresponding figures in some countries where both agriculture and industries are equally well developed are: Great Britain, 460; Germany, 311; and France, 189.

Along with this increasing pressure on the land must be considered the prevailing belief in India that the productive power of the soil is diminishing. "The exhaustion of the soil," it has been said, "is proceeding fast, the cropping is becoming more and more inferior, the crop yield per acre, already the lowest in the world, is declining still further."[1] Mr. K. L. Datta, who went carefully into the question, was unable to find any definite foundation for this theory, but surmised that the inclusion in the cultivated area of the new and comparatively less fertile lands brought under cultivation in recent times under the stress of the pressure of population must have diminished the average yield per acre. To establish deterioration, however, it has to be shown that the land which was under cultivation in former times now yields less than before. Statistical data on this point are still lacking, but the opinion of competent observers is to the effect that no such deterioration as alleged has taken place, but that "the system of agriculture has been so worked as to secure practically constant productivity on the whole and in the long run."[2] It is true that an old agricultural country like India is more susceptible to the influence of the Law of Diminishing Returns[3] than new or industrial countries. But that is not an inexorable Law, and its operation may be delayed by improvements in science and art. Assuming that Diminishing Returns have already supervened in Indian agriculture, there is ample reason to believe that, with the widening practice of the New Agriculture, their course will soon be arrested, if, indeed, that has not already been done. If the case for diminishing productivity stands "not proven,"

[1] The late Mr. Gokhale insisted on this point in his budget speeches; see his remarks in 1904 and 1905, pp. 71 and 95, *Gokhale's Speeches*, third edition, Natesan.

[2] See on this point the views cited by Mr. Datta at pp. 70–3 of his *Report on the Rise of Prices*.

[3] Nicholson states the Law thus: Whether we consider an acre of land or a whole country, after a certain period is reached, the return to a given amount of labour and capital will diminish. It will do so, however, only under the supposition that the arts of agriculture, using the phrase in the broadest sense, remain stationary. *Political Economy*, Vol. I, p. 163.

the increase of population, more especially of the agricultural section of it, is an established fact, and this leads us to another aspect of the question of agricultural productivity. The plea for a purely agricultural advance in India has at its basis the assumption that that industry can continue *profitably* to absorb increasing quantities of labour. The scientific relation of labour to return is that, while increasing use of labour up to a certain point is attended by increasing proportionate returns, beyond that point further increase is attended by diminishing proportionate returns. Applying the doctrine to the entire sphere of industry, Professor Cannan says: "Mankind cannot produce an unlimited amount of calico any more than an unlimited amount of wheat. It would be impossible to produce more than a certain amount, however many persons are engaged upon the production: and long before that amount was reached, the amount of additional calico which could be produced by each unit of additional labour would begin to diminish. At any given time, or, which comes to the same thing, knowledge and circumstances remaining the same, there is what may be called a point of maximum return, when the amount of labour is such that both an increase and a decrease in it would diminish proportionate returns."[1] A comparison of the numbers employed in agriculture and the out-turn per acre in India and in some other countries shows conclusively that Indian agriculture has long ago passed its point of maximum return. As already pointed out,[2] the area under cultivation in British India in 1911–12, excluding fallows, was about 216 million acres. The census returns of 1911 show that 80 millions are directly employed on the land, or one person to every 2·7 acres of cultivated land. Previous to the outbreak of war, the corresponding figures for Great Britain and Germany were one to 17·3 and one to 5·4 acres respectively.[3] The only crops grown in both England and India on a large scale are wheat and barley; the respective standards of yield are 1,645 lbs. and 877 lbs. per acre for barley, and 1,919 lbs. and 814 lbs. per acre for wheat. It becomes, therefore, regrettably clear that agricultural

[1] *Wealth*, p. 68.
[2] See p. 59 *supra*.
[3] Fallows included, since, unlike the case in India, they are kept clean and well-cultivated in these countries.

operations are conducted with much greater efficiency and economy of human labour in both Great Britain and Germany than they are in India. Even after making due allowance for the differences in the two systems of agriculture and in the intelligence and physical strength of the cultivators, adequate regard must be had to the excessive numbers employed in accounting for the smallness of the Indian out-turn per worker. And in so far as a large number of those now depending on agriculture is constantly under-employed, it is clear that they may be drawn off from the land without in any way impairing the efficiency of agriculture or diminishing its out-turn. With the increasing use of machinery and other labour-saving devices in agriculture, the percentage of those who may be dispensed with without any detriment to the efficiency of cultivation will go on swelling, and the growth of this excessive agricultural population in India will take her further and further away from the point of maximum return.

The obvious remedy for this economic mal-adjustment is to seek other outlets for this surplus population; and the cry for industrialisation is a natural outcome of this imperious economic necessity. This was perceived so long ago as 1880, when the Famine Commission demanded the introduction of a diversity of occupations in the country.[1] The subsequent history of Indian industrial policy has only been an elaboration of this theme. Recent political events, such as the War,

[1] Their principal recommendation was as follows: "We have elsewhere expressed the opinion that at the root of much of the poverty of the people of India, and of the risks to which they are exposed in seasons of scarcity, lies the unfortunate circumstance that agriculture forms almost the sole occupation of the mass of the population, and that no remedy for present evils can be complete which does not include the introduction of a diversity of occupations, through which the surplus population may be drawn from agricultural pursuits, and led to find the means of subsistence in manufactures or some such employments." *Report*, Vol. I, p. 175. Sir John Strachey also attributes the poverty of India to its being purely agricultural, and quotes Jacini (*Relazione sull' Inchiesta agraria*) to the effect that, everywhere and at all times, experience has proved that a purely agricultural country is never rich, even from an agricultural point of view. Where other industries and commerce also flourish, it is through their means that agricultural wealth is developed. See *India, its Administration and Progress*, p. 417. There is, however, no reason why that should be so if the country possesses the requisite natural advantages, and the cultivators are men of intelligence and skill, and—and this is a very important condition—if the population is of such a size as just to afford the labour supply, neither more nor less, needed for the country's one occupation.

have lent special emphasis to the question, and the political reasons in favour of an active policy of stimulating industries have been summarised thus: "On all grounds, a forward policy in industrial development is urgently called for; not merely to give India economic stability, but in order to satisfy the aspirations of her people who desire to see her stand before the world as a well-poised, up-to-date country; in order to provide an outlet for the energies of her young men who are otherwise drawn exclusively to Government service or to a few overstocked professions; in order that money now lying unproductive may be applied to the benefit of the whole community; and in order that the too speculative and literary tendencies of Indian thought may be bent to more practical ends, and the people may be better qualified to shoulder the new responsibilities which the new constitution will lay upon them."[1] To discuss the strictly political aspects of the new movement is beyond the province of the economist, though it has to be remembered that often there is no exact line of demarcation, and that the interaction of political and economic forces is so constant and connected that it is impossible to discuss the effects of the one as entirely distinct from the effects of the other. Thus the conclusion of the Industrial Commission of 1916–18, advocating an economically self-contained India on economic as well as political grounds, raises some important issues bearing on economic theory, the consideration of which, however, has to be deferred to a later stage.

[1] *Montagu-Chelmsford Report*, Cmd. 9109 of 1918, p. 267.

APPENDIX

Interesting particulars are now available regarding the conditions of rural life in some parts of the Bombay presidency, as a result of the investigations for the collection of family budgets set on foot by Mr. L. J. Sedgwick, I.C.S. The number of families examined was 1,387 in Gujarat, 728 in Konkan, 1,309 in Deccan, 1,320 in Karnatak, and 1,267 in Sindh. The general conclusion from the figures thus obtained is that conditions in the rural areas are, if anything, slightly worse than in urban areas. The following Tables give details regarding the distribution of these families into classes based on income, the proportions of expenditure to net income, the items of expenditure, and the extent and distribution of indebtedness by classes.

PERCENTAGE OF DISTRIBUTION BY CLASSES

Class by per capita Income		*Gujarat*	*Konkan*	*Deccan*	*Karnatak*	*Sindh*
I.	Rs. 0–25	0·9	14·6	2·5	3·0	0·6
II.	Rs. 25–50	11·5	32·3	16·3	13·0	7·8
III.	Rs. 50–75	23·5	18·7	23·7	24·3	13·8
IV.	Rs. 75–125	31·7	15·3	25·1	28·5	25·3
V.	Rs. 125–175	15·7	8·0	11·5	11·7	17·8
VI.	Rs. 175–225	6·0	3·6	7·4	5·5	10·9
VII.	Rs. 225–275	4·1	1·8	4·0	4·2	6·8
VIII.	Rs. 275–325	2·0	1·6	2·2	2·1	4·8
IX.	Rs. 325–375	1·2	2·3	1·6	1·8	3·0
X.	Rs. 375 and over	3·4	3·8	5·7	5·9	9·2
		100	100	100	100	100

It will be noticed that the largest number of families (the percentages of which are given above) belongs to Class IV, with an average *per capita* income of Rs. 100 per annum.

PERCENTAGE OF EXPENDITURE (AS SHOWN) TO NET INCOME (AS SHOWN).

Percentage of expenditure to net income	*Number of families in* *Gujarat*	*Konkan*	*Deccan*	*Karnatak*	*Sindh*
188% and over	25	21	47	102	46
163 to 188%	9	8	36	49	31
138 to 163%	35	19	61	64	55
113 to 138%	140	82	198	190	166
88 to 113%	740	433	675	648	568
63 to 88%	336	145	235	197	306
38 to 63%	90	13	50	56	82
13 to 38%	9	3	5	8	10
Below 13%	3	4	2	6	—

(This table is intended only as a check.)

The bulk of the people, it is clear, belongs to the fifth class above, and lives a precarious, hand-to-mouth life even under normal conditions. The Table below, indicating the extent and distribution of indebtedness by classes (only loans from money-lenders are here taken into account) confirms this dismal conclusion.

District	*Number of families according to per capita income*				*Percentages*			
	(I : Rs. 0–75)	(II : Rs. 75–175)	(III : Rs. 175–375)	(IV : Rs. 375 and over)				
GUJARAT	I	II	III	IV	I	II	III	IV
Not in debt ...	234	398	143	38	47%	60%	78%	81%
In debt ...	264	261	40	9	53%	40%	22%	19%
KONKAN								
Not in debt ...	107	155	43	19	32%	52%	63%	70%
In debt ...	227	143	25	8	68%	48%	37%	30%
DECCAN								
Not in debt ...	212	226	132	48	38%	47%	66%	66%
In debt ...	345	254	67	25	62%	53%	34%	34%
KARNATAK								
Not in debt ...	246	328	120	63	46%	62%	67%	81%
In debt ...	286	203	59	15	54%	38%	33%	19%
SINDH								
Not in debt ...	24	389	228	102	22%	53%	70%	88%
In debt ...	83	343	96	14	78%	47%	30%	12%

Dr. H. H. Mann is inclined to think that these figures understate the actual amount of indebtedness in the localities examined. Again, of even greater importance than the volume of indebtedness is the rate of interest charged. In his village studies, he found that it was about 20% in the west of Poona, and 23% in the east.

A third set of exhibits gives an interesting analysis of the items of expenditure. The result is summarised in the following Table :—

Items	*Poorest families*	*Richest families*
NECESSITIES :—	94%	74%
Food	68%	36·5%
Clothing	15%	12·0%
Rental	4%	4·0%
Ceremonies, charity, etc.	4%	11·5%
Other necessary expenditure	3%	10%
VOLUNTARY EXPENDITURE :—	6%	26%
Education	0·7%	3·0%
Medical expenses	0·3%	2·0%
Other voluntary expenses	5·0%	21·0%

The inclusion of ceremonies, charity, etc., among the items of necessary expenditure will not be demurred to by those who know what an important part they play in the social, religious and domestic life of the Indian people. The relegation of doctor's fees, etc., to voluntary expenditure needs little comment: *Res ipsa loquitur.* (For further details, see Appendix W, page xcvi, *et seq.*, *Census Report of the Bombay Presidency*, 1921, Part I.)

See also, in this connection, the report on an *Enquiry into Working-Class Budgets in Bombay* (1923), summarised at the end of Chapter IX.

PART II

CHAPTER III

AGRICULTURAL DEVELOPMENT[1]

Synopsis :—The place of agriculture in India's economic life ; the principal crops and their output. The present position in cotton, sugar-cane, indigo, and food-crops. Standard of production low, compared to other countries.

The distinctive features of Indian agriculture ; how they have barred progress. External tendencies that have aided agricultural development ; the growth of foreign trade ; rise in prices, and its effects on the ryot.

Specialisation in some areas in particular crops : commercialisation of agriculture displaces the self-sufficing economy of old.

The State's interest in agriculture : the need for revenue : Government as landlord. Lord Mayo's scheme of reform frustrated by the unsympathetic attitude of Whitehall. The Famine Commission's recommendations. Dr. Voelcker's enquiry and report.

Review of earlier attempts at reform by Sir F. A. Nicholson and by the Famine Commission of 1901. Lord Curzon and his agricultural policy. Development of agricultural technique and equipment. Varietal improvements in crops and the evolution of new types to suit the nature of the soil. The results achieved.

Improvement in methods and processes ; why they have been slow in coming.

Supply of water ; its importance in the climatic conditions of India. The Irrigation Commission ; recent irrigational developments in India.

The insufficiency of manure, and the wastage of the quantity available. The necessity for manure conservation.

Cattle. Inadequate provision for their maintenance and improvement. The new methods. Fodder depôts ; improvement on dual purpose lines. The work of the Veterinary Department. Scientific research. Agricultural education. The problems of the immediate future.

Note. Some agricultural facts and figures.

BY far the most striking characteristic of the economic life of India is the overwhelming preponderance of agriculture.

[1] First published in *The Calcutta Review*, 1924.

No less than 230,652,350 people out of a total population of 319 millions in 1921 derived their means of subsistence directly from the exploitation of animals and vegetation; and the normal volume of agricultural output is so great that, after meeting the demands of the entire population for all agricultural commodities save cotton and sugar, there is still left a large balance, which constitutes the bulk of the export trade of the country. It provides all the food-grains consumed in the country, and in normal years leaves a moderate surplus for export. It yields a very large crop of cotton, about half of which is worked up in the country, while half is exported. It provides the jute supply of the whole world; and it gives a large crop of oil-seeds which not only satisfies the entire demand of India, but leaves a large and valuable surplus for export. It supplies some 40 per cent. of the tea supplied to the world's markets, and finally it provides the whole of the raw sugar consumed in the country, which is roughly seven times as great as the quantity of refined sugar imported. In 1920–21, agricultural produce formed 69 per cent. of the total export trade.

Even in the classical days of Greece and Rome, the agricultural products of India had won her special fame, and cotton, sugar-cane, and indigo were distinctively her specialities. The present position of these crops in India serves to show how her precedence in this direction has long passed away. To-day, the United States of America produce 200, and the Nile-fed regions of Egypt, 450 lbs., to every 85 lbs of ginned cotton an Indian acre yields. With half the world's acreage under sugar-cane, India's output is only one-quarter of the world's supply of cane-sugar; and the Indian Sugar Committee states that India's out-turn of sugar per acre is less than one-third of Cuba's, one-sixth of Java's, and one-seventh of Hawaii's. Her once famous indigo industry has received a mortal blow owing to the competition of synthetic substitutes. And even in the matter of food production, she has now receded to the background.[1]

Judged thus by the test of quantitative production, Indian agriculture appears on the whole to have remained backward and unprogressive; and the causes are not far to seek. They are to be found in the environments under which the

[1] Sir James Wilson estimated that the average out-turn of wheat per acre sown was 32 bushels in Great Britain, 22 in Canada, 16 in the

industry grew up, which, as we have seen elsewhere, were not favourable to development of any kind; and also in those features of Indian agriculture which are peculiarly its own. Those distinctive features may thus be summed up: "In the first place, the outlook of the Indian peasant is fundamentally vegetarian. He does not as a rule eat flesh of any sort, and the production for the market of meat and other animal substances, including even milk and butter, is mainly in the hands of special classes of the people, and does not enter into the business of the ordinary agriculturist. Secondly, capitalist farming is an exception; the bulk of the land is occupied in small holdings, cultivated largely by the labour of the peasant and his family. Thirdly, agriculture is even now largely in the self-sufficing stage; a supply of food for the household is still the peasant's primary object, although the importance of raising produce for sale is steadily increasing. Fourthly, the climate of the greater part of the country renders artificial irrigation either necessary or desirable, if not for the ordinary staples, at least for the success of the more costly and remunerative crops. Fifthly, the agricultural industry has been subject to frequent periods of entire disorganisation consequent on the failure of the seasonal rains, and resulting in the past not only in the terrible mortality which formerly marked the progress of a famine, but also in the destruction, more or less complete, of the meagre capital employed by the peasant. As the result of this and other causes, agricultural capital has been scarce and dear

United States, and 13 in the Punjab. Comparative figures for pre-war food production are as follows:—

Country.	Cultivated Acreage.	Acreage per head.	Population.	Food Production (Tons) 1911—1913.	*Calories per capital in millions.
U.S.A. ...	318,526,000	3·5	91,972,000	133,411,308	4·63
Russia ...	278,615,000	1·7	163,779,000	121,600,344	1·83
Br. India	264,858,000	1·1	244,268,000	59,637,968	0·81
German Empire	65,445,000	1·0	67,812,000	84,331,901	2·12
Argentina	44,446,000	6·3	7,092,000	14,479,614	6·45
United Kingdom	17,862,000	0·4	45,336,000	14,040,491	0·56
Japan ...	17,639,000	0·3	51,646,000	11,924,729	0·72

* A million calories=the fuel value of ten bushels of wheat. Prof. Atwater, an American authority, considers that an average man, at moderate muscular work, requires 3,500 calories per day. *Vide A Geography of the World's Agriculture*, U.S.A. Dept. of Agriculture, Washington, 1917.

throughout the centuries which are to any extent open to our observation. Lastly, and on a somewhat different plane, the industry grew up in conditions where iron was a rare and costly product—a fact of which the results are seen not merely in the nature of the indigenous appliances, but in the difficulty experienced by the peasants in maintaining the new implements now placed in their hands. These and other conditions, operating through a period which must be counted by centuries, have combined to produce the Indian peasant as the English found him in the eighteenth century, and substantially as he is to-day."[1]

But, if internal conditions were not favourable to development, there were powerful external agencies at work, transforming the character of Indian husbandry. The course of foreign trade and the development of communications led to the introduction of a variety of important crops, such as maize, tobacco, ground-nuts, and potatoes, while, at a later stage, the commercial activities of the East India Company involved development in such staples as indigo, jute, tea, and coffee, important to the foreign merchant rather than to the local consumer. The breakdown of rural isolation and the increasing response to the impulse which railways and steam navigation have given to the economic life of the country have resulted, among other things, in ushering in an era of high prices for agricultural commodities, which, in its turn, has led to increased specialisation in particular crops. The entry of India into the markets of the world, by which the farmer in his distant and land-locked village obtained a share of the price offered by far-off nations for articles which once merely supplied the needs of the rural life of his neighbourhood, offered him a splendid opportunity to earn greater profits and improve his material condition. The development of transport modified the one-time violent fluctuations between harvest and bazaar prices, and thus rendered the farmer less open to exploitation.[2] Before the advent of railways, as Mr Datta has pointed out,[3] in remote areas, whenever production was plentiful, prices went down very low, because of the difficulty and, in many cases, the impos-

[1] *Vide Quarterly Review*, October, 1916, p. 344.

[2] This point has been dealt with in great detail by Sir Theodore Morison, *The Industrial Organisation of an Indian Province*, pp. 215–229 and 235–8.

[3] *Enquiry into the Rise of Prices in India*, Calcutta, 1914, Vol. I, p. 78.

sibility of transporting it profitably to a place where prices were higher. On the other hand, whenever the crops failed prices rose exceptionally high, owing to the difficulty of importing supplies from outside. Railways have now linked up different parts of the country, and have const ituted it, as it were, one market. The deficiency in one part of India now makes itself felt all over the country within a very short space of time, and is made good at once, the rise in the price level being comparatively small. The powerful and ubiquitous agency of organised commerce has taken the place of the old system of isolated self-supporting villages. And everywhere within the railway zone, there has been a general levelling of prices, and even the local prices are nowadays greatly affected by prices in distant parts of the world. The opening of the Suez Canal, which rendered it possible to place in the European markets the bulkier and heavier kinds of Indian produce, has also directly assisted this tendency.[1] Defects of internal business organisation have, however, prevented the farmer from obtaining his legitimate share of the high prices paid; but not even the unconscionable profits intercepted by the vast army of middlemen who infest the Indian market have been able to withhold from him some share in it; and, however minute in amount, in the aggregate it must be considerable and, wisely expended, must play its own part in strengthening the peasant's position. What

[1] The following Table illustrates the rise in Indian price-levels:

*Index Numbers of Prices**

(Average price in 1904–13 = 100)

Period	Rice (Calcutta)	Wheat (Karachi)	Raw Cotton (Bombay)	Jute (Calcutta)
1869–73 quinquennial average	47	75	93	45
1874–78 ditto	69	83	76	49
1879–83 ditto	58	87	85	50
1884–88 ditto	60	80	83	48
1889–93 ditto	75	90	83	68
1894–98 ditto	84	84	75	69
1899–1903 ditto	76	85	74	68
1904–08 ditto	103	92	90	99
1909–13 ditto	97	109	110	102
1914–18 ditto	113	133	141	118
1919 annual average ...	147	184	236	185
1920 ditto	176	172	187	162
1921 ditto	159	220	120	169

* *Vide Prices and Wages in India*, 1923 edition, Ap. A; Ap. C gives an explanation of the price-levels.

has been the actual effect of this rise in prices on the peasant himself has been a highly controversial point. Similar experience in other countries would naturally suggest that its effect on the producer must have been beneficial.[1] That the Indian peasant utilised his opportunity, and made some more money, is undoubted. He is getting, and spending, much more than formerly; and he has prospered most in tracts where the increasing profits of the cultivation of jute and cotton have tempted him to extend their cultivation, or where extension of irrigation has enabled him to convert dreary sands and jungles into smiling fields of wheat.[2] The standard of living among all classes of the population, especially among land-holders, traders and ryots, has risen very considerably in recent years, and extravagance on occasions of marriage and other social ceremonies has seriously increased. The average villager lives in a better house and eats better food than did his father; brass and other metal vessels have taken the place of coarse earthenware, and the clothing of his family in quality and quantity has improved.[3] But in considering a rise in the standard of living, it is necessary to distinguish between a high standard and an efficient standard. A high standard of living ordinarily means only an expensive standard. If every additional expense added to one's standard of living adds correspondingly to one's productive efficiency, then a high standard is also an efficient standard; but if it does not in any way increase one's efficiency, then it is merely an expensive standard, and will handicap its possessor in the struggle for existence. A standard of living must be protected by its own efficiency, and the problem of maintaining it is, in final analysis, the problem of rationalising the high standard and making it efficient.[4] In applying this proposition to India, two points

[1] *Cf.* Thorold Rogers, *History of Agriculture and Prices.* Vol. IV, Chap. XXVI: "A rise in the price of agricultural produce, unless it be the result of moderately bad seasons, is always advantageous to those who are tilling land, whether it comes from a change in the value of money, or from an increased demand, or from a greatly deficient supply."

[2] *Report on the Enquiry into the Rise of Prices in India*, pp. 154 *et seq.*

[3] *Ibid.*, p. 185.

[4] Prof. T. N. Carver elaborates this point in *The Annals*, XL, March, 1912, *Country Life*, 21–25. It is of special importance in adjudging the relative merits of the arguments for and against the importation of cheap labour into countries where a high standard prevails, and the complaint is urged that, in the conflict of standards, the lower drives out the higher.

have to be kept in mind. First, owing to the inexpansiveness of wants among the Indian people, whatever rise has taken place has reference to quantity and quality rather than to variety. Their few wants satisfied, their increased income is made use of, not to develop further wants which promote efficiency, but, as Mr Datta has pointed out, to indulge in wasteful extravagances. In the second place, their higher income is in many places being utilised for securing greater leisure, and doing less work. More will have to be said of this later on; here, we may sum up the situation by saying that, while that part of the increased earnings which has gone to improve the land has undoubtedly improved the farmer's position, the same cannot be asserted of all that part of it which has gone to raise his standard of comfort; and when it is remembered that a rise in agricultural prices has been a normal feature of at least the last half century, it will have to be admitted that its beneficial effects have not yet manifested themselves appreciably, either in the standard of living or in that of farming, and it has, therefore, to be concluded that the opportunity thus presented has not been made use of to the fullest extent by the Indian agriculturist.

Another direction in which the rise of prices consequent on the opening up of the country to foreign markets has affected the rural economy of India is in the increased specialisation in some areas in some particular crops. "Cotton is now no longer planted in small patches in almost every village where conditions are not absolutely prohibitive, but is concentrated in areas which are specially adapted to its various types. The dry plains of central and western India are admirably suited to a short-stapled but prolific kind; while the canal-fed zones of the Punjab, the United Provinces and Sindh are producing an increasing quantity of longer stapled types, which are also grown in the retentive soil and moister climate of Gujarat and in the well-irrigated zones in Madras. The peculiarly favourable climate of Bengal has tempted the ryots to extend their jute cultivation, often at the expense of their food-stuffs, while sugar-cane is disappearing from tracts not specially suited for it. A visible sign of this movement may be seen in the abandoned stone cane mills lying near villages in the arid plains of Central India, which now prefer to keep their scanty stores of water for other

crops, and pay for their sugar by the sale of their cotton."[1] The Punjab Canal Colonies are specialising in wheat production, while capitalist agriculture, as represented by the planting industries of tea, coffee, rubber, etc., is confining itself to areas where the natural advantages favouring the special crop are greatest, though, in this case, it has to be remembered that these crops are mainly new introductions into areas previously unoccupied, and do not, therefore, indicate correctly the phase in the transition in Indian agriculture we are now discussing. In the more progressive tracts, it is coming to be realised that it may be more advantageous to grow a more profitable crop for sale, and to buy the needs of the household from the proceeds, than to produce all one's necessaries oneself. In other words, the cultivator now realises that it pays him better to live on the profits derived from his farm than on the products that he himself grows. This commercialisation of agriculture takes us further and further from the old self-sufficing ideal of economic life, and furthers a better exploitation of the land and of its natural qualities than was previously possible.[2] While external influences have thus profoundly modified some aspects of Indian husbandry, they have not been able in any sensible degree to affect its internal economy. Whatever progress has been made in this direction is mainly due to the exertions of the Government in that behalf. The motives that induced the Government to interest itself in agriculture were two-fold. In the first place, it was a question of getting more revenue. To no country in the world does Quesnay's well-known maxim, "Pauvres paysans, pauvre royaume ; pauvre royaume, pauvre roi" apply with greater force than to India. "For generations to come," so runs one of Lord Mayo's despatches, "the progress of India in wealth and civilisation must be directly dependent on her progress in agriculture. . . . There is perhaps no country in the world in which the State has so immediate and direct an interest in agriculture. The Government of India is not only a Government, but the chief landlord. The land revenue is derived from that portion of the rent which belongs to the State, and not

[1] *Indian Industrial Commission Report*, Cmd. 51 of 1919, p. 8.

[2] See on this point *Wealth and Welfare of the Punjab*, by Mr. H. Calvert, I.C.S., pp. 11–14, where the author examines some of the objections raised against this tendency in India.

to individual proprietors. Throughout the greater part of India, every measure for the improvement of the land enhances the value of the property of the State. The duties which in England are performed by a good landlord fall in India in a great measure upon the Government. Speaking generally, the only Indian landlord who can command the requisite capital and knowledge is the State."[1] Apart from this desire to secure greater revenues from the land, there was the humanitarian impulse to improve the conditions of the one occupation to which the vast bulk of the people looked for their livelihood. On the one hand, there was the recurrence of famines, when millions were thrown into unemployment and privation; on the other, there were those undesirable features of Indian husbandry, increasing indebtedness and inability to hold over stocks for sale in a rising market, which have operated through generations to depress the peasant and impair his efficiency. The idea of creating a Government Department of Agriculture appears to have been first mooted in 1866, on the conclusion of the work of the Bengal and Orissa Famine Commission; but Lord Lawrence thought the step premature. Outside pressure was soon brought to bear on the Government of India by the Manchester Cotton Supply Association, which urged the more active employment of District Officers in the cultivation of Indian cotton. With the arrival in India of Lord Mayo, himself a practical agriculturist, the problem began to receive serious attention. In 1869, definite schemes were formulated for organising an Agricultural Bureau, and the next year saw the establishment of a "Department of Agriculture, Revenue, and Commerce," with the late Mr A. O. Hume as Secretary. Lord Mayo's enthusiasm for agriculture, however, evoked no responsive echo in Whitehall. The Secretary of State, in his anxiety to concentrate all attention on revenue, transformed the new Department primarily into a Revenue Department,[2] and burdened it with heavy duties of such a multifarious description that, in the words of an official document, "it had neither the leisure nor the power to take up either directly or efficiently the many problems which affect the agriculture and rural economy of the

[1] Sir W. W. Hunter's *Life of Lord Mayo*, Vol. II, p. 322.

[2] See his *Despatch of the 3rd August*, 1871. Also Sir W. Wedderburn's *Life of A. O. Hume*, pp. 27–28.

Empire."[1] In 1879, the Department ceased its independent existence, having being re-absorbed in the Home Department.

The Famine Commission of 1880 once again brought the matter to the fore. It emphasised the necessity for calling into existence an organisation invested with the following duties :—

First, to ascertain more systematically and completely, and to render more generally available, statistics of important agricultural and economic facts in order that the Government and its officers may be always in possession of an adequate knowledge of the actual condition of the country, its population, and its resources.

Secondly, to pay attention to the general improvement of Indian agriculture with the view of increasing the food-supply and general resources of the people.

Thirdly, to effect the better and more prompt organisation of famine relief whenever the actual approach of famine may be indicated by the statistical information mentioned in the first paragraph above.

The Commission therefore recommended the creation of an agricultural department, to be aided by provincial departments, the absence of which was one of the causes of the failure of the earlier experiment.[2]

Accordingly, in 1881, the central department was resuscitated, and provincial departments of Land Records and Agriculture also came speedily into being. The spirit, however, in which the work was undertaken once again threatened to wreck the experiment. What the Famine Commission obviously meant by agricultural enquiry was as much the collection of data regarding the crops and methods of cultivation and the manner in which they could be improved, as of statistics regarding systems of land tenure, and the taxable capacity of land. And while the Government was undoubtedly right in putting agricultural enquiry before agricultural improvement, as it did in its Resolution of December, 1881, it was only reverting to the error of 1871 when it subordinated agriculture to the preparation of Land Records and other kindred matters. In its chosen track, however, the re-

[1] Government of India's Resolution of December, 1881.

[2] *The Indian Famine Commission Report*, Cmd. 2591 of 1880, Vol. I, p. 41, para. 125.

organised department, under the able guidance of Sir (then Mr) Edward Buck, did excellent work, perfecting the Land Record system and drawing up a famine code; and, in 1888, it announced itself ready to embark on the more ambitious task of agricultural improvement.

Toward the end of 1889, Dr J. A. Voelcker, of the Royal Agricultural Society, was sent out to make a study of Indian agricultural conditions, and in the memorable *Report on the Improvement of Indian Agriculture*[1] that he brought out, he expressed the belief that Indian agriculture was neither backward nor primitive, and that, where agriculture was manifestly inferior, it was more generally the result of absence of facilities than of inherently bad systems of cultivation. That improvement was possible was clear from the differences in agricultural conditions and practices existing in different parts of the country.[2] He recommended, therefore, the establishment of an organised system of agricultural enquiry and the spread of general and scientific education, and indicated in great detail directions in which improvements were to be attempted. In vigorously repelling the charge that Indian agriculture is, on the whole, primitive, the earlier writers have incurred the criticism that, by lending the weight of their authority to the cultivator's own belief that he knew all that was worth knowing about the capacity of his land and the growing of crops, they have in some degree retarded the pace of development[3] by turning public attention away from the obvious defects of the Indian system. All these writers were fully alive to the shortcomings of Indian husbandry, and were persistent advocates of the raising of the general level of tillage and culture by introducing into the more backward tracts the methods prevailing in the more efficiently cultivated regions. The immediate result of Dr Voelcker's visit was the starting of scientific investigation in agriculture. But the need for something more than chemistry was being felt, and the provinces were interesting themselves increasingly in the problem.

[1] Eyre and Spottiswoode, 1893.

[2] *Vide* Chap. II.

[3] *Cf.* Lovat Fraser, *India under Curzon and After*, 1911, p. 171: "The comfortable gospel expounded by Dr. Voelcker had checked agricultural development, though such a result was very far from his intention."

It was at this happy juncture that Lord Curzon assumed the Viceroyalty in India. Among the various schemes he initiated for the improvement of the material conditions of the people, the reorganisation of the Agricultural Department deserves a prominent place. In the Budget Debate of 1898, Mr (now Sir) F. A. Nicholson, had called his attention to the fact that, owing to lack of funds, the Department of Agriculture was merely a "nominis umbra," and made the suggestion that there should be a clear indication from the Government that strenuous effort after agricultural development, as distinct from statistical and record work, was to be the immediate and urgent order of the day. The Report of the Famine Commission of 1901 also put in a similar plea. The relevant passage may be quoted: "Much progress has been made in the last twenty years, but the progress has been unequal, and the time has, in our opinion, now come for a further advance. These agricultural departments have a double function to discharge, and this is expressed in their designation as Departments of Land Records and Agriculture. They have on the Land Records side to register all facts connected with the tenure of land, with questions of rent and revenue, and with agricultural statistics. On the agricultural side, they have to deal with the condition of the cultivating classes, with agriculture, and with agricultural methods, and the various questions connected with their efficiency. We are, indeed, far from thinking that the Indian cultivator is ignorant of agriculture; in the mere practice of cultivation, agricultural departments have probably much to learn from the cultivator. But in the utilisation of his hereditary skill, in economy of the means of production, and in the practice of organised self-help, the Indian cultivator is generally ignorant and backward. It is in correcting these deficiencies that agricultural departments will find their richest fields of labour. Without pretending to exhaust the number of subjects on which these departments may usefully employ themselves, we may mention the following:— Improved agricultural teaching to the better classes; the promotion of Mutual Associations; agricultural research and experiment; enquiries regarding tillage and manure; the investigation of crop diseases and their remedies; the provision of improved seed; the experimental introduction of new staples; the improvement of cattle breeding; the

investigation of cattle diseases; and the development of the fodder supply. To some of these subjects, more or less attention has, we know, been already given; but they all claim greater and more systematic attention. To this end the employment of a stronger expert staff in every province is necessary. The steady application to agricultural problems of expert research is the crying necessity of the time."[1] The Government of India adopted the policy here adumbrated; steps were taken to separate Land Records from Agriculture; and an Inspector-General of Agriculture was attached to the Government of India to secure co-ordination among the various provincial departments, and give unity to the scheme of development. "Such," sums up Mr J. Mackenna,[2] "such were the beginnings of agricultural policy—if it can be called a policy. Early endeavours were too ambitious, and the machinery—a centralised secretariat—was imperfect. The object aimed at was to increase the revenues of India by the improvement of agriculture, but nothing was done for that improvement, and the expansion of the land records staff and the compilation of statistics almost entirely occupied the attention of the Provincial Departments. But the foundations had been laid, and the next few years were to witness a rapid development."

Lord Curzon's reforms were exceedingly well-timed; and with their inauguration opens a fresh chapter in the history of Indian agriculture. The earlier efforts of the Department, as we have seen, were not exactly calculated to win the ryots' confidence. Whether it was owing to the paucity of trained agricultural teachers, or because of the mistaken methods adopted by the men who were already available, certain it is that much of their earlier work proved fruitless and disappointing. Even as early as 1870, Lord Mayo had clearly laid down the limits within which the department could profitably act. He realised the folly of trying to teach the Indian husbandman his own trade by means of steam ploughs and ammoniac manure. "I do not know," he once wrote, "what is precisely meant by ammoniac manure. If it means guano, super-phosphate or any other artificial product of that kind, we might as well ask the people of

[1] *The Indian Famine Commission Report*, Cmd. 876 of 1901, pp. 112–3.

[2] In his pamphlet on *Agriculture in India*, 1915, Calcutta Govt. Press.

India to manure their ground with champagne." And again, " In connection with agriculture, we must be careful of two things. First, we must not ostentatiously tell native husbandmen to do things which they have been doing for centuries. Second, we must not tell them to do things which they can't do, and have no means of doing. In either case, they will laugh at us, and they will learn to disregard really useful advice when it is given." Yet, curiously enough, these were precisely the mistakes made by the earlier reformers, and, as the Famine Commission of 1880 pointed out,[1] the defect in the efforts made by Government to instruct the cultivator consisted in the failure to recognise the fact that, in order to improve Indian agriculture, it was necessary to be thoroughly acquainted with it, and to learn what adaptation was needed to suit modern and more scientific methods and maxims to the Indian staples and climate.[2] But the earlier failures were helpful in their own way in that, besides emphasising the necessity for a close study of local conditions and practices before framing a programme of development, they had also served to train up farm staffs in the work of careful observation and record. The ground was thus prepared for the scientific and demonstration work of

[1] *Vide Report*, Cmd. 2591, Vol. I, Part II., p. 138.

[2] A few examples may be given to illustrate how the new-found enthusiasm of the earlier agricultural reformers allowed itself to be diverted into unprofitable channels. In 1863 the Government of Sir William Denison in Madras ordered " a steam plough, some harrows, and cultivators, seed-drills and horse-hoes, threshing machines and winnowers, chaff-cutters, water-lifts," etc., and started a model farm at Saidapet to demonstrate the use of these implements. It was an ill-conceived experiment. The site chosen was not suited for farming purposes, the whole scheme was founded on wrong principles, and there was infinitely little prospect of the machinery they had imported finding its way to general adoption in the agriculture of the country ; and, in the words of the Director of the Madras Agricultural Department, "the results obtained were, so far as the agriculture of the country was concerned, purely negative." (*Vide* Dr. Voelcker's *Report*, p. 370.) Similar misfortunes awaited the Bengal pioneers, and the work of the Bengal Agricultural Department came in for some caustic criticism from the Government in 1893–94 : " The record of the ignorant and unsuccessful experiments conducted on private estates at the instance of the Department is rather ludicrous, and at the same time, rather lamentable. It is, perhaps, good for Government officers and Zemindars to have taken this interest in the crops and learnt a few rudimentary lessons in cultivation, and enabled themselves to share in the feelings of agriculturists as to the vicissitudes of weather ; but it is idle to hope for any serious improvement in the agriculture of the country to be effected in this way." (Quoted at p. 12, J. Mackenna's *Agriculture in India*.)

Lord Curzon's new department—work which has since proved so abundantly fruitful.

It will be beyond the scope of this study to attempt anything more than a rapid survey of the work already done by Governmental agencies in the development of agricultural technique and equipment. On the side of cultural improvement, the effort has been in the direction of studying local conditions and practices, and trying to level up the differences noted by introducing in the more backward provinces the practices in vogue in the more advanced. In the matter of crops, they have aimed at the improvement of indigenous varieties by isolating the pure types, selecting those which promise the best yield and quality, and supplying the defects in the types selected by hybridisation on Mendelian lines. The new seed is then widely distributed, while at the same time, attempts are made to introduce new but thoroughly adaptable types. This is accompanied by experiments to ascertain the character of the soil, and the effects on it of the various ameliorative processes such as draining and irrigation; and attention is also being paid to the principles of manuring and the maintenance of fertility. The aim throughout has been the evolution of such types as would fit in with local conditions, rather than the introduction of absolutely new ones; and in adjudging the importance of this work, it is necessary to remember that, while the question of the suitability of crops to existing conditions is a matter of little moment to a farmer possessing the necessary capital to supply irrigation water, plenty of manure, and efficient tillage implements, to the Indian ryot, possessing few of these advantages, this is a matter of the most vital concern. The improvement of the soil and other local conditions will be a matter of slower progress, as capital, or at least credit, will have to be more abundantly forthcoming for its fulfilment. The chief advantage of varietal improvement lies in the fact that, once the improved strains are established, propagation is simple, and little, if any, extra cost is demanded of the grower. Another advantage is that types may be evolved which not only yield better quality and quantity, but resist, not only the various plant diseases, but also such natural disadvantages as short seasons and the occurrence of drought. The task of selection and hybridisation can, however, proceed only slowly, on account of the numerous varieties now cultiv-

ated, while the difficulties of keeping the newly-evolved strains pure and free from degeneration can easily be imagined when the vast areas over which the new seed has to be distributed, and the ignorance of the peasant, are kept in mind. Much valuable work in these directions has already been done in the more important crops. Thus Mr and Mrs Howard have evolved several new types of wheat,[1] and "Pusa 12" is now ranked with Manitoba spring wheat—the best in the world—possessing milling and baking qualities of a high order. Dr Barber's experiments on sugar cane have yielded valuable results, "red-rot" resisting varieties have been introduced, and attempts are being made to produce superior seedlings by hybridisation between the canes of northern and southern India, which will suit the climate and agricultural methods of North India and give a better yield. The popularity of such high-yielding varieties as "Punjab-American," "Cambodia" and improved "Karunganni" shows the success attained in the improvement of cotton strains. It has now been proved that India can produce long stapled cotton of the finest quality, but the difficulties in the way of popularising it are great. The subject has received the most careful consideration at the hands of the Indian Cotton Committee,[2] who are satisfied that, given favourable conditions, the cultivation of long stapled cotton will show a considerable increase in the course of a decade. The reason why India has remained essentially the producer of the short stapled variety is that it suits the climate better, and also that the country's trade is in short staple. The chief consumers of Indian cotton before the War were the Indian cotton manufacturers, and then, Germany and Japan; and in Germany it was used for mixing with wool, and thus served a special purpose. Secondly, short staple cottons give a better yield, and require less trouble and expense to grow. The demand for long staple comes from Lancashire. The Indian growers were unwilling to give up a steady market and fair prices for the short staple in favour of Lancashire, whose main supplier was America, and whose market, they therefore feared, might be unsteady, and who might not be willing to pay a price for the newly-grown crop sufficiently high to cover the loss in yield which must inevitably occur

[1] See their monograph on *Wheat in India*.
[2] See the *Report of the Indian Cotton Committee*, 1919.

in changing from a short to a long staple.[1] In view of the recent rise in American cotton prices, and the general shortage of supply, there appears to be no reason to fear that Indian long staples will not fetch their proper price; and, accordingly, larger areas are coming under long staple cultivation, especially in Sindh and the Punjab, where some long-stapled varieties do extremely well.

A word must here be added regarding improvements in the methods of cultivation. Tillage, which, according to Cato,[2] forms the first and second essentials of farming, still appears in India to be in a very primitive condition, and the ordinary Indian plough—a simple grubber only one stage ahead of the stake with which the savage scratches up the soil—does little more than roughly scarify the ground. But, as has been often pointed out, this is not because the ryot is ignorant of the importance of tillage. When growing valuable crops, which will sufficiently compensate him for the extra trouble, he digs the field carefully with the spade; but the less valuable crops, naturally enough, do not receive the same meticulous attention. His objections to deeper tillage are based on his anxiety to retain the moisture in the soil, and his unwillingness to widen the area to be manured when, as often, the stock of manure is strictly limited, while his cattle, as a rule, are not strong enough to draw a heavier or a deeper plough.[3] The question of improved tillage, therefore, resolves itself into a question of water, manure, and cattle.

Long before the Agricultural Department was organised on its present basis, the attention of the Government had been directed to the necessity for providing water for agricultural purposes, not only to meet a general failure of the monsoon, but also because, even in good seasons, artificial irrigation was a necessity for the successful cultivation of many of the more valuable crops; and the irrigation canals of Northern India which turn to productive use the waters of the Indo-Gangetic system rank amongst the greatest and most beneficent triumphs of engineering in the whole world. The Irrigation Commission of 1901–03, appointed at the instance

[1] See *Agricultural Progress in British India*, 1909–10, pp. 2–3.

[2] "Quid est bene colere? Arare. Quid secundum? Arare. Quid tertium? Stercorare." *De ré rustica.*

[3] See Hume, *Agricultural Reform in India*, p. 5; Voelcker, *Report*, pp. 43, 219; Moreland, *Agriculture of the United Provinces*, Chap. V.

of Lord Curzon's Government, sketched out a rough programme of irrigation extension for a twenty-year period, estimated to cost thirty millions sterling, and designed to bring into cultivation 6·5 million acres. Most of the main projects they outlined have now been completed, and the field for the further extension of remunerative irrigation works is now very limited. There is, however, considerable scope for works of smaller dimensions, which might not be directly profitable, but which would reduce the cost and mitigate the intensity of future droughts.

There are various methods by which irrigation is accomplished in India. Apart from the splendid canal systems of Upper India, a very large area is irrigated by the cultivators themselves without any assistance from the Government, by means of wells, tanks, and temporary obstructions to divert water from streams on to the fields. There are at least three million wells in India from which water is lifted for irrigation, and, in Madras alone, there are nearly 30,000 tanks irrigating between 2·5 and 3 million acres. Almost every known system of raising water, from baling in wicker-baskets to pumping by machinery, is practised in India, and the Divi Island plant on the Kistna River is probably the largest pumping station for irrigation in the world. Some idea of the place of irrigation in the Indian agricultural system may be formed from the following figures. The total area irrigated in 1919–20 was 48,963,000 acres, as against 47,222,000 acres in the preceding year. Of this area, 20,550,000 acres were irrigated from Government canals, 2,647,000 acres from private canals, 7,337,000 acres from tanks, 12,692,000 acres from wells, and 5,737,000 acres from other sources of irrigation. Of the total area irrigated, 26% was in the Punjab, 22% in the United Provinces, 20% in the Madras Presidency, 12% in Bihar and Orissa, 7% in Sindh, and the remaining 13% in the other provinces. The proportion of irrigated to total sown area in the various provinces is as follows: Sindh, 79%; the Punjab, 50%; North-west Frontier Province, 42%; Ajmer-Merwara, 39%; Delhi, 27%; and Bihar and Orissa, 23%. These figures do not take into account areas sown more than once during the year with the help of irrigation; but only indicate the extent of land actually irrigated. Counting areas sown more than once as separate crops for each area, the gross

area of irrigated crops was 53,019,000 acres (estimated) in 1919–20. Of this area, it is interesting to note, about 86% was under food-crops, wheat leading with 10,106,000 acres, other cereals and pulses occupying 31,940,000 acres, and the remaining 3,416,000 acres being devoted to other food crops.[1] The total capital outlay on State irrigation up to 31st March, 1920, amounted to £51,447,375, which, apart from the advantages it conferred on cultivators, yielded a net profit to the State, after payment of interest charges, of about £2,275,000.[2] The annual value of the crops raised is estimated at over 150% on the capital outlay.[3]

Among the projects for further extension of irrigation which are now in progress, are the Sarda Kicha and the Sarda Canals in the United Provinces, designed to protect the north-eastern districts of Oudh, now extremely liable to scarcity, and to irrigate an area of 1,713,000 acres. The Sukkur Barrage and Canals project contemplates a barrage across the Indus at Sukkur, with three canals on the right bank, and one on the left. The new canals will irrigate 5·5 million acres, and the whole scheme will cost 18·4 millions sterling; but it has been calculated that the value of the crops lost in 1918–1919 alone through drought would have sufficed to pay the cost of the project. The Damadar Canal in Bengal has been designed to secure an adequate supply of water to the existing Eden Canal and, in addition, to protect a considerable area in the Burdwan District. The Kharung Tank, in the Bilaspur District of the Central Provinces, will consist of a large storage reservoir, with canals taking off on either side. It will cost 0·59 million sterling, will irrigate 97,000 acres, and will protect some 200 villages. The Government has also undertaken a very important project for the Sutlej Valley Canals, by which new irrigation will be provided for extensive tracts in the Punjab and the adjoining Indian States of Bahawalpur and Bikaner, bringing some 5·1 million acres of waste land into cultivation, and promising a return of more than 11% on the capital outlay. These projects in no way exhaust the irrigation

[1] *Agricultural Statistics for British India*, 1919–20, Vol. I.

[2] For details, see p. 150, *Statistical Abstract for British India*, Cmd. 1778 of 1922.

[3] *The Moral and Material Progress Report* for 1920 puts the value of the crops on areas irrigated by Government works at considerably more than twice the capital expenditure on the works. See p. 116.

programme; nevertheless they indicate the fact that the Government is fully alive to the situation and its needs.

The insufficiency of manure has been mentioned as one of the causes of the backwardness of Indian cultivation. Dr Voelcker cites many instances to show that, while the ryot is aware of the qualities of both farmyard and green manure,[1] he is compelled by poverty to use his cattle manure for other purposes. The wide use of it, in the form of cakes (varatties, as they are called in S. India) as fuel is highly uneconomical so far as the maintenance of the fertility of the soil is concerned, and this could easily be avoided by rendering available for the farmer a cheap supply of fuel. Rich both in organic and inorganic substances, both in nitrogen and in minerals, farmyard manure is the only manure containing in itself all the constituent elements of fertility. Agricultural proverbs, like "Old muck and lots of water," current among the peasantry of South India, show that its high manurial value is generally recognised. But it suffers both waste and impoverishment from the manner in which the cattle are housed, in open unsheltered yards, exposed to sun and rain; from the non-provision of litter to catch and retain the manure; and from the general ignorance of the value of the liquid element; and one of the duties the Agricultural Department has taken upon itself to-day is to teach the farmer more efficient methods of manure conservation. There is also another fertiliser available in large quantities, the use of which is certain to increase the yield of land. The success of the Flemish, German and Japanese systems is, in large measure, due to the utilisation of night-soil as manure; and in speaking of Madras, Sir Frederick Nicholson has pointed out what a vast scope the country offers for the adoption of this plan of manuring. "In a poor country like Madras," says he—and his remarks will apply equally to the other parts of India—"which, over vast areas, knows nothing of fish or bone as fertilisers, practises little green manuring except for rice, and poisons itself with the natural fertiliser festering on village sites, its proper use is all-important agriculturally and hygienically; properly used, it would be of the highest assistance not merely in the improvement of the soil, but in preventing its degradation to that minimum productivity which, meagre in normal

[1] *Report*, Chap. VII, pp. 93-6.

years, disappears entirely in seasonal conditions which a healthy, well-worked and well-nourished soil would successfully resist."[1] Prejudice is the great bar to a wider adoption of this cheap and abundant manuring matter, but greater yields and greater profits will undoubtedly overcome this obstacle. There is also available in India another organic manure which again, owing to prejudice, is not made sufficient use of. Outside each village, says Hume, is a golgotha, where the bones of all dead animals whiten and decay in ghastly piles, and at present this vast amount of phosphatic manure is running to waste. The use of artificial manure in India is yet in its days of infancy, and its relatively high cost will militate against its wider adoption. India, however, possesses sufficient substances out of which artificial manures may be manufactured at a low cost. An eminent Indian geologist has recently pointed out the occurrence, " in almost fabulous quantities," of gypsum in Kashmir, and referred to its possible uses as a soil stimulant.[2] Modern researches in America have shown that sulphur is absolutely necessary to plant proteins and that the sulphur content of most farm products is much higher than had been previously suspected. The artificial addition of sulphates like gypsum to the soil not only confers all the benefits derived from acid phosphates but also encourages the sulphofying bacteria to work more energetically and increases the growth of the nitrogen-fixing bacteria. In dealing elsewhere with the iron and steel industry of India, reference has been made to the manufacture of ammonium sulphate and other fertilisers which is receiving attention in the Singhbhum region. Increasing attention is also being paid to the manufacture of guano, the number of private factories engaged in its production having increased by nearly 200 in 1920 in the Madras Presidency. Developments in the production and use of manure along lines such as these will prevent the Indian methods of cultivation from degenerating into a *system of spoliation*,[3] and tend to improve the productive powers of the soil.

The important part played by cattle in the agricultural

[1] See his *Note on Agriculture in Japan*, p. 43.

[2] See the *Presidential Address* of Mr. C. S. Middlemiss at the ninth annual meeting of the Indian Science Congress, 30th January, 1922, Madras.

[3] Liebig's words.

economy of India makes their care and improvement a matter of first-rate concern. Whether it be for supplying manure, or for ploughing, or for raising water from wells, or for threshing grain, or for carrying produce, or for working the primitive oil-mill, the cattle are the principal coadjutors of the ryots. Meat-eating is not yet a national habit in India; but as suppliers of milk, they are greatly in demand. No doubt, there are some good breeds of cattle in India, such as the Hissar, Dhanni, Hariana, and Sahiwal breeds, but, "owing to climatic conditions, combined, to a great extent, with the ignorance and apathy peculiar to indigenous cattle-breeding, neglect, starvation, in-breeding, and the usual anti-castration attitude,"[1] there is a general tendency to deterioration. There is also at the same time an increasing demand for the purer types, and a proportionate reduction in the supply, almost leading to the extinction of some of the better breeds. The problem in regard to cattle improvement is two-fold: that of keeping the existing cattle alive, and secondly, of improving their quality. The provision of proper food and shelter, therefore, forms the first step in any programme of improvement. Generally speaking, the ryot does not grow any grass or fodder crops, but is content to let his cattle fare as best as they can on the grass they can pick off the fields and roadside during the wet season, and the stubble and straw of the cereal crops. The breaking up of the grazing areas and the reservation of forests considerably reduced their food-supply, and in a resolution of March 1st, 1883, the Government of India had to emphasise the great usefulness of such fodder reserves during times of drought. The various Famine Commissions, too, have looked with anxiety at the absence of due provision of fodder even in normal times, while, during the abnormal famine seasons, the cattle mortality caused thereby has been very severe.[2] The extension of arable cultivation has also trenched on the areas available for grazing, so that the question of providing a sufficient fodder supply is becoming more urgent than ever. The difficulties in the way of an extension of fodder cultivation are that it requires fairly good land,

[1] *Report on the Operations of the Agricultural Department*, 1918–19, p. 132.

[2] See *Report of the Famine Commission* of 1901, Cmd. 876 of 1901, pp. 72–6.

some irrigation water, and some capital, all of which could be turned to more profitable account by the cultivation of food-grains or of the more valuable crops. Not infrequently, the cultivator who is enterprising enough to start on the new line would find that the Mahajan refuses to advance money for the growing of a crop which, unlike the cereals, will not benefit him directly. The Agricultural Department has been pointing out the advantages of putting lands under fodder crops; and, despairing of gaining easy converts, has itself taken the matter in hand. A scheme, initiated by Mr G. Keatinge, formerly Director of the Bombay Agricultural Department, for storing grass and dried *juar* stalks in portable form in good years for use in periods of scarcity has been found not only useful, but also financially successful, and during a recent fodder famine in Ahmednagar, 350,000 lbs. of first-class dry fodder were issued from the Kopergaon Depôt.[1] Famine camps for cattle had also to be organised in Bombay early in 1919, and, by the end of March, over 4,000 cattle subsisted on cactus alone in the camps of Ahmednagar. Conditions such as these are by no means conducive to the improvement of cattle; and any attempt at improvement must of necessity proceed along the line of a surer provision of cattle food.[2] The importance of stock-feeding, however, will be realised only when it becomes economically sound for the cultivator to breed and rear cattle. The high prices which good draught and milch cattle fetch nowadays, the demand that is springing up for Indian cattle of the best sort in foreign countries, the abnormal rise in the price of all sorts of dairy produce, and the need of the cultivator himself for strong cattle—all tend to indicate the fostering of cattle-breeding on dual purpose lines, *viz.*, dairying and draught,

[1] *Agricultural Operations in British India*, 1920–21, p. 73.

[2] Apart from preventive measures like those indicated above, the Department has not been able to do much, except indirectly through increasing straw yields. It must, however, be remembered that a decrease in the area under pasture need not always be accompanied by a shortage in the fodder supply. Compare Sir A. D. Hall, *Agriculture After the War*, p. 24, where he says that a given area of land will produce, when under the plough, in addition to its usual yield of wheat and barley, just as much cattle food as the same area of land under grass. Also p. 32: "We may conclude that the crops from land under the plough, when used for feeding cattle, will produce of either meat or milk more than twice as much as the same land will yield when under grass."

as the best solution of the economic problem involved.[1] A scheme for the investigation of cattle-breeding and of dairying was drawn up by the Board of Agriculture in India in 1916, and has lately come into operation, but it is too early yet to speak of its work.[2]

A reference must be made in this connection to the work of the Civil Veterinary Department, which was first constituted in 1889. Cattle diseases, such as rinderpest, anthrax, and foot-and-mouth disease, have been causing frightful losses, and the main duty of the Department is to ward off these diseases. The general ignorance of the farmer, and his suspicious attitude towards the young veterinary assistant sent out by the Department, have prevented its work from being as useful as it would otherwise have been, but the number of cases brought to the hospitals and dispensaries for treatment and inoculation against rinderpest is steadily on the increase, showing that the confidence of the cattle-owners is being slowly won. The following figures tell their own tale: the number of students in Veterinary Schools and Colleges rose from 319 in 1912–13 to 614 in 1920–21; dispensaries increased from 374 to 574 in the same period; the number of veterinary assistants rose from 849 to 1,554; of cases treated in hospitals, from 656,296 to 1,096,834; and of inoculations, from 467,860 to 856,583. With an estimated cattle population of 146 millions scattered throughout the country, it is idle to expect that 1,554 veterinary assistants (who form the back-bone of the Department) and 574 dispensaries can produce any appreciable effect either in checking mortality or in combating disease; and one of the principal matters to which the newly-established Ministries of Development will have to address themselves will be the building-up of an adequate veterinary organisation.

A great deal of valuable research work on the nature of soils and their treatment, fertilisers, diseases of crops, and other kindred matters is being carried on at Pusa and other agricultural institutes, and considerable headway has been made in the provision of suitable educational facilities by the

[1] The lesser profits derivable from cattle-raising as compared with crop-growing accounts for the neglect of cattle-breeding in India; and until the price of draught cattle rises to the cost of production in the arable areas, things can hardly be expected to adjust themselves; p. 113, *Moral and Material Progress Report* for 1920.

[2] See *Agricultural Operations in British India*, 1919–20, p. 133.

establishment of agricultural colleges at Pusa (Research Institute for post-graduate study), Poona, Cawnpore, Sabour, Nagpur, Lyallpur and Coimbatore; and of veterinary colleges at Bombay, Lahore, Calcutta, and Madras, and of the Imperial Bacteriological Laboratory at Muktesar. When laying the foundation stone of the Phipps Research Institute at Pusa in April, 1905, Lord Curzon expressed the hope that it would, in course of time, become "the centre of a great organisation with ramifications extending to all parts of the Indian Continent, training a series of native students who will devote their acquired knowledge to the practical pursuit of agriculture, and able to point to the tangible results of successful experiments, both in the quality of seeds and plants, in the destruction of pests, and in improvements of breeds of cattle." Subsequent experience has shown that the training of a few students will not, by itself, usher in an era of progressive agriculture. The object with which the agricultural colleges were founded was largely defeated when it was found that the majority of the students did not intend to apply their acquired knowledge to their own farms, but were looking forward to obtaining employment in the Government Agricultural Departments. A more promising line of agricultural education was the starting of demonstration farms. The appalling illiteracy of the people places narrow bounds on the utility of leaflets, circulars, etc., by means of which information is disseminated in the more enlightened countries. Ocular demonstration is, therefore, the only method to be relied on; and this is now being carried on, not only on the Government seed farms, demonstration farms, and implement depôts, but also in many places on the ryots' own lands. That the propaganda work of the Department, even under these unfavourable conditions, is yielding some result is evident from the increased demand for improved seeds, manures, and implements, and from the widening areas laid down to the new crops.[1] In South India, in particular, the cultivator has already learnt to look upon the agricultural expert as a friend and guide, and his willingness to learn the new methods and processes is being hailed in responsible quarters as the dawn of a new era of intensive

[1] The official review of *Agricultural Operations in India* for 1920–21, publishes a statement showing the acreage under the crops evolved by the Department at its various laboratories.

cultivation. It is difficult to assess in £ s. d. the value of the work thus being done; much of it is capital expenditure, and the dividend-yielding stage can hardly be considered to have yet begun; but some idea of the profits awaiting the improved methods may be formed from Mr J. Mackenna's estimate in 1915 that the increase in the value of agricultural produce due directly to the Department's economic work on crops was in the neighbourhood of 2·3 millions sterling.

Encouraging as is the progress already made, it must be remembered that the New Agriculture has not yet touched more than the outermost fringe of the vast agricultural population of the country. A reference to the agricultural conditions prevailing in England during the opening years of Queen Victoria's reign shows that, in the essentials, they more or less approximate to modern conditions in India. "No one who studies the agriculture of 1837," says the distinguished historian of English farming, "can fail to notice the perpetual contrast, often in the most glaring form, between the practices of adjoining agriculturists. A hundred farmers plodded along the Elizabethan road, while a solitary neighbour marched in the track of the twentieth century. . . . The great need was the existence of some agency which would raise the general level of farming by making the best practices of the best agriculturists common knowledge. The problem was not readily solved. To diffuse scientific and practical information among agriculturists was difficult seventy years ago. Books were expensive, and those for whom they were written were often unable to read. . . Extravagant promises and incorrect science too often discounted the value of useful suggestions. What was really wanted was ocular demonstration of the superiority of the new methods, or the example of men of authority who combined scientific with practical knowledge."[1] These are the conditions, and these the problems, that Agricultural India is facing to-day.

[1] Lord Ernle: *English Farming, Past and Present*, Chap. XVII.

APPENDIX

Agricultural Statistics of British India

The actual area of British India, excluding Indian States, is 622,468,000 acres, as shown by the village records, as against 625,149,000 acres according to the professional survey. For the purpose of agricultural statistics, this area is classified as shown below:—

	Acres	*Percentage to total area*
Forests	88,323,000	14
Not available for cultivation ...	145,770,000	23
Culturable waste (other than fallow)	113,415,000	18
Current fallows	52,135,000	9
Net sown area	222,825,000	36
Total ...	622,468,000	100

The term " forests " above includes " any land classed or administered as forest under any legal enactment dealing with forests." Of the total forest area, 25% lies in Burma, 19% in the Central Provinces and Berar, 15% in the Madras Presidency, 11% in the United Provinces, 10% in the Bombay Presidency, and the remaining 20% in the other provinces. The area not available for cultivation includes land absolutely barren or unculturable, or covered by buildings, water, and roads, or otherwise appropriated to uses other than agriculture. About 33% of this lies in Burma, 15% in Madras, 10% in Sindh, and 9% in the Punjab. Culturable waste other than fallow represents land available for cultivation, but not taken up, the main reason therefor being that, under existing conditions, it is not profitable to do so. It also includes areas such as groves not classed in the sown area, and also areas under bamboos and thatching grass, when not forming part of the forest area. Of the total culturable waste land, 22% is in Burma, 14% in the Punjab, 12% each in Assam and the Central Provinces and Berar, 11% in Madras, and the remaining 29% in the other provinces. (Figures for 1919–20.)

Principal Crops.—The following table represents, in percentages to the total cropped area, the areas occupied by the principal crops :—

Crops	1912–13	13–14	14–15	15–16	16–17	17–18	18–19	19–20
Food-grains ...	78·9	77·7	78·6	80·1	78·9	78·4	77·9	78·4
Condiments and spices	0·6	0·5	0·5	0·6	0·6	0·6	0·6	0·6
Sugar	1·1	1·1	0·9	1·0	1·0	1·1	1·3	1·1
Fruits and vegetables ...	2·1	2·3	2·3	2·2	2·2	2·2	2·4	2·2
Miscellaneous food-crops ...	0·5	0·5	0·4	0·4	0·4	0·4	0·5	0·5
Total food crops	83·2	82·1	82·7	84·3	83·1	82·7	82·7	82·8
Oil-seeds ...	5·9	6·0	5·9	5·6	5·5	5·3	4·6	4·9
Fibres	7·2	8·0	7·5	5·8	6·6	7·2	7·7	7·4
Dyes and tanning materials ...	0·2	0·2	0·2	0·3	0·5	0·5	0·3	0·3
Drugs and narcotics ...	0·8	0·8	0·8	0·8	0·8	0·8	1·0	0·9
Fodder crops ...	2·3	2·4	2·5	2·8	3·1	3·1	3·2	3·2
Miscellaneous non-food crops	0·4	0·5	0·4	0·4	0·4	0·4	0·5	0·5
Total non-food crops	16·8	17·9	17·3	15·7	16·9	17·3	17·3	17·2
Total ...	100	100	100	100	100	100	100	100

Geographical Distribution of Crops (1919–20).

Food-grains : 19% of the total area under food grains was in the United Provinces, 15% in Madras, 14% in Bihar and Orissa, 11% each in Bengal and the Punjab, 10% in Bombay, and 8% in the Central Provinces.

Oil-seeds (linseed, sesamum, rape, and mustard, etc.) : of the total area under oil-seeds, 21% was in Madras, 17% in Bihar and Orissa, 15% in the Central Provinces and Berar, 12% each in Bengal and Burma, 8% in the Punjab, 7% in Bombay, and 5% in the United Provinces.

Sugar cane.—The United Provinces lead with 53% of the total Indian area under sugar-cane, followed by the Punjab with 18%, Bihar and Orissa with 10%, Bengal with 8%, and Madras with 4%.

Cotton.—The principal cotton tracts are : Central Provinces and Berar, with 30% of the total Indian area under cotton, Bombay with

28%, Madras with 15%, the Punjab with 14%, and the United Provinces with 8%.

Jute.—88% of the jute area lies in Bengal, and the remaining 12% in Bihar and Orissa and Assam.

Indigo.—Madras leads with 42% of the indigo area, followed by Bihar and Orissa with 23%, the United Provinces with 20%, and the Punjab with 9%.

Live-stock, Ploughs and Carts. (Those marked * are in units of thousands.)

Province.	Bovine.*	Ovine.*	Others.*	Ploughs.*	Carts.*	Oxen & Buffaloes to 100 acres of sown area.	Oxen & Buffaloes to 100 of population.
Bengal ...	24,724	4,396	126	4,448	737	101	55
Madras	22,294	16,515	181	4,287	1,037	67	54
Bombay	8,184	2,890	205	1,094	625	30	54
Sindh ...	1,818	1,592	300	264	57	45	52
U.P. ...	29,764	6,100	764	4,872	841	84	63
Bihar and Orissa	20,180	4,079	194	3,036	494	79	59
Punjab	14,409	7,086	1,265	2,244	302	56	74
Burma ...	5,983	255	115	665	669	39	57
N.W.F.P.	1,132	834	200	213	10	49	50
C.P. and Berar	11,626	1,169	183	1,431	908	49	83
Assam	5,472	796	20	942	48	97	82
Ajmer-Merwara	293	406	12	40	11	86	58
Delhi ...	136	30	10	17	6	64	33
Coorg ...	145	3	—	31	1	101	83
Manipur	6	1	—	1	—	86	86
						Average for Br. India.	
Total	146,166	46,152	3,577	23,585	5,746	66	61

Of the live stock, the bovine class (oxen and buffaloes) is the most important, and its distribution as compared to sown area and population is shown in the Table above. It will be seen from the figures that the U.P. accounted for 20% of the entire bovine population, while Bengal had 17%, Madras 15%, Bihar and Orissa 14%, the Punjab 10%, C.P. and Berar 8%, Bombay *cum* Sindh 7%, and the remaining provinces 9%. The ovine class comprises sheep and goats, of which Madras accounted for 36% of the total number, the Punjab 15%, U.P. 13%, Bengal 10%, Bombay *cum* Sindh 10%, and Bihar and Orissa 9%.

Land Revenue.—The actual demand on account of land revenue, excluding cesses, for the whole of British India amounts to 36 crores of Rupees. Its incidence per head of population varies from province to province. It is 11 annas in Bengal, Rs. 1. 10. 0 in Madras, Rs. 2. 3. 0 in Bombay, Rs. 1. 7. 0. in the U.P., Rs. 2. 14. 0. in Sindh, Rs. 2. 9. 0. in the Punjab, Rs. 4. 1. 0. in Upper, and Rs. 5. 6. 0. in Lower Burma, and Rs. 2. 15. 0. in Berar.

State Expenditure on Agriculture.—In 1920–21 the headquarters of the Imperial Department of Agriculture at Pusa were maintained at a cost of slightly more than £65,000 ; while the total expenditure of all the provincial departments amounted to £594,000. This works out at a total charge on the country of about one half-penny per acre per annum (p. 153, *Moral and Material Progress and Condition of India*, H. of C., 171 of 1922). Compare this with the figures for some other countries :—

Country.	State expenditure on agriculture per 1,000 of population.	per 1,000 acres of total area	per 1,000 acres of cultivated area.
U.S.A., 1919–20 ...	£68	£4	£14
Germany, 1910 ...	£63	£31	£47
U.K., 1921 ...	£64	£65	£92

(*Vide* Sir Henry Rew : *Agriculture and the State*, the *Edinburg Review*, April, 1922.)

CHAPTER IV

Some Problems of Land and Labour

Synopsis :— Agriculture in relation to industrial development. The supply of food and raw material. How the home market depends on agricultural prosperity.

The internal organisation of rural society; are there conflicting interests in it? The landlord: his relation to the tenants: tendency to rack-rent. The various Tenancy Laws; how they delimit his powers. Do they confer a premium on inefficiency? The ordinary landlord's attitude to the land: a rent receiver: how he shirks the responsibilities of rural leadership.

The agricultural labourer: his numerical proportion to the cultivator; distribution among the several provinces, and its connection with the social system. The depressed classes.

Agrestic serfdom. Is it dead? Mr. Sedgwick's picture of the Halis of Bombay. The Padials of Madras, and the Pulayas of the Malayalam countries. The recent case in Chota Nagpur.

The inadequacy of wages. Why agricultural labour is scarce in some provinces. The case of Madras. Recent rise in agricultural wages.

Labour scarcity considered in greater detail. How to reconcile this cry with the increase in the number of agricultural labourers shown in the census returns. Increase in the numbers of the non-cultivating classes, and the consequent withdrawal of a large quantity of potential labour. The position in Madras and Bombay referred to.

The efficiency of agricultural labour.

The actual cultivator: his mental outlook and its depressing effect. His thraldom to the village Bania. History of agricultural indebtedness in India. The extent of indebtedness and its annual cost. How the land is passing into the money-lender's hands. The remedies attempted; the emergence of co-operation.

Marketing organisation: a new form of co-operative effort.

The influence of the revenue demand analysed.

It has been necessary in this study to bestow special attention on agriculture, not only because it is the one main industry of the people, but also because the present position and the future prospects of Indian manufacturing enterprise are to a great extent bound up with agricultural improvement.

The primary function of agriculture is to produce a sufficiency of food for the entire population, including the industrial workers. "The problem of the pressure of population on food and wealth production is one which is receiving more and more serious consideration at the hands of Indian economists. There are many obstacles in the way of improvement in conditions of cultivation, the ignorance, immobility and conservatism of the agricultural population, the system of land tenure with its progressive fragmentation of holdings,[1] and the difficulties connected with the introduction of agricultural machinery. Yet, industrial development, even if it be possible on a large scale in India, cannot take the place of agriculture. The country must produce food for an increasing population, or become dependent on the world's food-supplies with disastrous consequences. We have had in the last few years the new phenomenon of an import of wheat into India from Australia. India requires much from outside for her development, and she must depend for many years on what she produces from the ground to pay for what she must get from other countries."[2] Some aspects of the problem of food-supply have been considered elsewhere[3] but, important as this question is, it by no means exhausts the claims of agriculture to independent consideration. The present-day schemes of industrial development are all based on the prolific raw material that is now available in the country—raw material, which, in the majority of cases, is the product of agriculture. Cotton and jute, sugar-cane

[1] Some aspects of this question are discussed in the present writer's article on "The Future of Indian Agriculture" (*Asiatic Review*, London, April, 1923), to which reference may be made. The census results of 1921 give figures of the average acreage under the plough per cultivator, "cultivator" being interpreted to exclude both dependants and farm servants, and fallow land being included in the calculation. In some of the more important agricultural provinces, *e.g.*, in Bengal, Assam, Bihar and Orissa, and the United Provinces, the cultivated area per worker is about three acres, which is too small a surface to absorb the worker's labour throughout the year. It has, in fact, been estimated that the work done by the cultivator in the Punjab does not represent more than 150 days' full labour in the twelve months, and this insufficiency of work is probably the root cause of the poverty of the cultivator, although excessive sub-division of holdings is also stated to be a part cause. Mr. Thompson discusses the problem at some length in the *Bengal Census Report* of 1921.

[2] Mr. C. J. Marten, the present Census Commissioner for India, at the Royal Society of Arts, 16th February, 1923.

[3] See the present writer's article on "Population and Food-Supply in India," *Indian Review*, August, 1924.

and oilseeds, will readily occur to the mind; and there are many other crops which may serve as the basis of future industries. A large part of the present output, however, is earmarked for exportation, since it is by this means that India now pays for her imports from abroad, and meets her diverse foreign liabilities. Till her manufactures are more fully developed than they are at present, it will not be possible to satisfy the claims of her foreign creditors in any other manner; at the same time, the very establishment of indigenous industries has to be based on these same raw materials. Increased agricultural production, therefore, is essential to industrial development. There are other directions in which a backward system of agriculture adversely affects industry. To begin with, the purchasing power of the people is low, and unless the prosperity of the agricultural classes is augmented, leaving them a margin wide enough to absorb the finished articles which Indian industries contemplate putting on the home market, manufacturing enterprises of all kinds must inevitably suffer. Again, the cotton industry requires a better staple of cotton, the leather industry a better quality of hides, and improved methods of handling them before they reach the factory, the woollen mills a better and more abundant supply of home-grown wool in place of the present imports from Australia, and the sugar industry a better quality of cane.[1]

From the point of view, then, not only of the wider interests of the community, but also of the special interests of the manufacturers, it is essential that the economic structure of India should be broad-based on a sound and efficient agricultural system. Taking the surplus agricultural produce which an agricultural country is capable of exporting as a criterion of the prosperity of the people, the witness above referred to points out that British India can only export a 7s. 9d. value per head of population, while New Zealand exports £17 per head, Australia £11, Canada £10, and Argentine £12. These are all comparatively new countries, but among the older countries Denmark exports £10 per head of population, Egypt £2 7s., Russia, a notoriously poor country, 12s. 3d. value per head besides a large value in minerals and manu-

[1] See on this point the evidence of Mr. T. Gavin Jones before the Industrial Commission; Evidence, Vol. I, Cmd. 234 of 1919, p. 235.

factures, and South Africa, with a population of a little over a million whites and four million negroes (notoriously indolent), exports £1 10s. value per head of agricultural produce. China appears to be the only country which fares worse than India in this respect.

The defects in the Indian system of agriculture have been traced to the nature of its internal organisation, and also to that of the external agencies on which it has to rely for support for financing itself and for the marketing of its output. In the internal arrangement of rural society may be sought some of the causes which have led to the general neglect of agriculture in the country; for, there are some parties in it who behave as if their interests collide with the true interests of the industry. The main classes of rural society are the landlords, the cultivators and the agricultural labourers, and their numerical strength in 1911 was as follows:—

Landlords—8 millions (principals and dependants).

Persons cultivating their own or rented land—167 millions (principals and dependants).

Farm servants and field labourers—41 millions (principals and dependants).

Estate agents, managers and their employees—1 million (principals and dependants).

Total population supported by ordinary cultivation—217 millions.

To take the landlord first: It has often been pointed out that the only interest he takes in the land is to extract from it the maximum amount of rent. The economic conditions prevailing in India during the earlier years of the 19th century were such as to favour low rents, because the internecine warfare which preceded British occupation had depopulated the country, compelling the landlords to bid against each other for tenants, and also because, the country being still in an unsettled condition, the landlord had to rely on his tenant for defensive purposes as well, and had therefore to keep him reasonably contented. The economic changes wrought by the establishment of a settled Government weakened the motives for a continuation of the old policy; and with the growth of population and the introduction of

the English theories of property in land, the landlord began to exact more and more from his tenants, either by directly raising the rent, or more frequently by the addition of fresh imposts to the old rate. The ignorant and resourceless peasantry, who knew of no other occupation save agriculture by which to earn a living, still continued to compete among themselves for the land even at the enhanced rates; and rack-renting and heavy indebtedness were the inevitable sequelae. Mill has given a powerful account of the consequences which such a course of events must necessarily lead to: "When the habits of the people are such that their increase is never checked but by the impossibility of obtaining a bare support, and when this support can only be obtained from land, all stipulations and agreements respecting amount of rent are merely nominal; the competition for land makes the tenants undertake to pay more than it is possible that they should pay, and when they have paid all they can, more must always remain due."[1] Mill's own remedy for the evil was that "peasant rents ought never to be arbitrary, never at the discretion of the landlord; either by custom or by law it is imperatively necessary that they should be fixed: and where no mutually advantageous custom, such as the Metayer system of Tuscany, has established itself, reason and experience recommend that they should be fixed by authority, thus changing the rent into a quit-rent, and the farmer into a peasant proprietor."[2] The policy pursued by the Indian Government in the solution of the landlord-and-tenant problem has been in strict accordance with Mill's teachings. It began with the passing of the Bengal Rent Act (X) of 1859, afterwards amended by the Bengal Tenancy Act of 1885. The Act provides that every ryot who has held any land in a village for 12 years acquires thereby a right of occupancy, and 80 to 90% of ryots have such rights. A small number of ryots hold at fixed rates of rent, and the remainder are without a 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 5 years. The Act was amended by Bengal Act I of 1907, with the object of giving greater facilities to landlords for the collection of rent and, at the same time, of

[1] *Principles*, Bk. II, chap. IX, sec. 2.
[2] *Principles*, Bk. II, chap. X, sec. 1.

guarding against enhancement of rent by collusive compromises, and removing the ambiguities, anomalies and defects brought to light by twenty years' experience of the working of the Act.[1] Similar Acts have been passed in the United Provinces, the Central Provinces and in Madras, tending to regulate the relations between landlord and tenant, and their general aim has been to give the tenant fixity of tenure, fair rent and full compensation for improvements.[2]

The general position of ordinary and privileged tenants in the principal provinces may now be summarised. " In the Central Provinces, the United Provinces and Bengal the rents paid by ordinary tenants are subjected to a certain amount of legal control, but are very largely at the discretion of the landlord. In Bengal, the ordinary tenant (not a very important class, so far as numbers are concerned) can have a fair rent fixed by a court of law, which can be enhanced after a period of five years. In the Agra Provinces an ordinary tenant's rent, when once determined, can be enhanced at an interval of five or seven years. In Oudh, the rent may be increased at intervals of seven years and by an amount not exceeding 6·25%. In the Central Provinces, the increase can be made at intervals of seven years and is limited to 33%; similarly the rents of sub-tenants in the Central Provinces can be modified at settlements; and in Bengal, these can be raised to an excess of 25 or 50 per cent. over the rent paid by the tenant. It has often been pointed out that the limits prescribed by law are not always observed in practice. With this exception, however, it may be laid down that the rent laws, while preventing sudden enhancements, do not stand in the way of a gradual increase of rents in sympathy with rise of prices.

" Next, with regard to privileged tenants, the general result of our enquiries is that they are able to keep in their hands a considerable share of the increased profit due to the rise in the prices of the gross produce. An increase of rent by the landlord is difficult as regards privileged tenants. In a small number of cases no enhancement is possible, the cash

[1] *Decennial Report on the Moral and Material Condition of India*, 1913.

[2] *Vide* the Agra Tenancy Act, the Oudh Rent Act, the Central Provinces Tenancy Act, the Madras Estates Land Act, the Malabar Tenancy Act, etc.

rent of the privileged tenants being fixed. Sometimes, however, there are intervals between successive enhancements, as in the case of the unprivileged tenants noted above. An occupancy tenant in Bengal, for example—and this class of tenants is by far the largest—may have his rent raised by contract by only two annas per rupee and at an interval of fifteen years. An enhancement by suit can, however, be made both in Bengal and in the United Provinces, to bring the rents up to the prevailing rates of the neighbourhood. There is also, in theory, a power of obtaining enhancement by suit in the United Provinces and Bengal on the ground of a rise in the price of produce, but, owing to the difficulty of proving the rise of prices, enhancements of rent on these grounds are difficult to obtain. In the thickly populated parts of Bengal and also in those parts where no record of rights has been prepared, there can be no doubt, according to the experienced Settlement Officers consulted, that the law regarding enhancement is often, if not commonly, evaded."[1]

The restraints that have thus been placed on the landlord's powers are bound to do good, in so far as they will induce in the cultivator a greater sense of security and freedom; but critics are not wanting who argue that the protection thus afforded encourages inefficiency in the farmer, and makes it easy for him to be careless and lazy, since the fear of being ejected by a landlord who is anxious to keep his estates well farmed and maintained no longer operates to keep him busy and industrious. The objection would certainly have had some weight if the landlords of India as a class were interested in the sound and efficient administration of their lands, and anxious to develop it to its maximum productiveness. But the Indian landlord differs from his confrères in the more progressive agricultural countries in that he has all along been content to remain a mere rent-receiver, and has seldom interested himself actively in agricultural matters. Here and there, it is true, may be found isolated instances of landlords setting a good example by spending money on land improvements, by introducing new or improved crops, or otherwise taking a prominent part in agricultural development; but these are the exceptions that prove the rule.

[1] Paras. 375 and 376, *Report on the Enquiry into the Rise of Prices in India*, 1914.

In England, on the other hand, we are told that the agricultural progress of the 18th century was largely due to the great landlords, who "were the most zealous students of agriculture and the boldest experimentalists in the new methods of culture."[1] They equipped the farm with most of the permanent capital necessary for its working, and wielded considerable influence in deciding the system of farming; and a tenant contemplating any new improvement, or faced with any difficulty, seldom looked to his landlord in vain for support and assistance. Witnesses before the Haversham Committee of 1911 were practically unanimous in expressing the view that the tenants farming on the large estates of England and Wales desired nothing better than to remain as tenants under their present landlords, and the Committee reported that, in view of the remission of rent by landlords in bad seasons and the execution of repairs and improvements over and above the strictly agricultural requirements of the farms, the position of tenants under good landlords is apparently a satisfactory one.[2] Before suggesting, as Prof. Stanley Jevons does,[3] that the agricultural organisation most appropriate to the stage of social development in India is the landlord-and-tenant system with fairly large estates, it will be necessary to create in India a body of landlords of whom their tenants will speak in the same way as the witnesses before the Haversham Committee spoke of their landlords. At the present day, the Indian landlord is taking advantage of the period of high agricultural profits to leave his fields and enjoy the pleasures of an urban life. And yet he stands for the class whose natural function is to assume the leadership of rural society, and by its superior brains, training, and resourcefulness, to lead agriculture along the path of progress. The want of proper guidance in agricultural matters, which it is the clear duty of this class to provide, is felt all the keener in India, where the bulk of the land is held by tenants who do not possess the capital, the knowledge, or the initiative to venture along untried paths. To-day, therefore, this class is a burden on the community; and the weight of that burden is evidenced by the following figures: in 1911, the

[1] Thorold Rogers, *Agriculture and Prices*, Vol. V, Preface.
[2] *Report*, 1912, para. 10.
[3] *The Economics of Tenancy Law and Estate Management*, 1921, Allahabad University.

proportion of landlords to cultivators exceeded one in twenty only in the North-West Frontier Province, Madras, Bombay, and the Punjab; in Bengal, it was one in twenty-six; in the United Provinces, one in thirty-four; in Bihar and Orissa, one in thirty-six; and in the Central Provinces and Berar one in fifty-nine. The Madras statistics elsewhere referred to show that the non-cultivating classes who are supported by agriculture have increased from 20 in 1901 to 77 in 1921, for every thousand of workers (*i.e.*, excluding dependants). The responsibility of having to maintain in comparative idleness a parasitic class may entail too great a strain on the industry concerned; while, even to the country at large, the existence of such an unduly large non-producing class cannot but be a source of economic weakness.

We shall now consider the position of the agricultural labourer, and examine how far he helps or hinders the development of his industry. In 1911, on the average, in the whole of India, every 100 cultivators employed 25 labourers; but the numbers varied in the main provinces from 2 in Assam, 10 in the Punjab, 12 in Bengal, and 16 in the United Provinces, to 27 in Burma, 33 in Bihar and Orissa, 40 in Madras, 41 in Bombay, and 59 in the Central Provinces and Berar. Apparently, therefore, these variations have little relation to the fertility of the soil and to the density of the population. The case of Assam, which is a sparsely peopled province, where there is plenty of land available for all, is easily explained. But if the area of the land available were the governing factor of the situation, it is difficult to see how in the Central Provinces and Berar, where there is still much unoccupied land, the proportion of field and farm hands is higher than in the other provinces. Again, one should have expected to find that Bengal, with its overcrowded population, had a larger percentage of field labourers than elsewhere, while, as a matter of fact, the proportion there is very small when compared to some other provinces. Both Bombay and Madras, which have but few points in common, have a comparatively high proportion of agricultural labourers; and the social conditions prevailing in these provinces as well as in the Central Provinces and Berar lead one to the conclusion that these differences are due to the social system, those provinces which contain the largest section of the depressed classes having the largest number

of field labourers.[1] It is astonishing how the traces of mediævalism still linger persistently in India, and nowhere are they so clearly discernible as in the status of the agricultural labourer. Agrestic serfdom is by no means extinct in the country, and in describing the condition of the " Halis " who largely contribute to the supply of agricultural labour in the Bombay Presidency, Mr L. J. Sedgwick, I.C.S., writes that " they are not employed at their own convenience on wages, but are maintained usually hereditarily, as permanent estate servants, by the larger landlords—furnished by these with homes and food, and not regarded as in a position to resign service and seek any other occupation. There is virtually no difference between the position of these Halis and the slaves of the American Plantation prior to the Civil War, except that the courts would not recognise the rights of the master as absolute over person and services. But in this country where—more probably than in others—the rich have a better chance in the courts than the poor, this difference diminishes in importance. We might describe the situation by saying that these Halis are freemen *de jure*, but serfs or slaves *de facto*."[2] The description above applies to large numbers of the agricultural labourers of the Madras Presidency,[3] and in particular to the Pulayas of the Malayalam

[1] *Vide Census of India*, 1911, General Report, pp. 412–3. The *Census* of 1921 gives the following figures :—

Number of Farm Servants and Field Labourers per 100 *Cultivators* (*British Districts*).

Province	1911	1921	Province	1911	1921
Assam	3	3	C.P. and Berar ...	86	82
Bengal	18	19	Madras	55	53
Bihar and Orissa ...	47	28	Punjab	15	12
Bombay	67	41	United Provinces ...	22	16
Burma	27	29			

As it is practically certain that a considerable part of those enumerated under " Labourers and Workmen Unspecified " in the 1921 *Census* are closely connected with the occupations of the land, the above figures should be checked by the following Table :—

Total	1911	1921
Field servants and farm labourers	41,246,335	37,924,917
Labourers and workmen unspecified ...	8,273,650	9,300,105

The former shows a decline of 8·1 per cent., and the latter an increase of 12·4 per cent.

[2] *Vide Census Report of the Bombay Presidency*, 1921, Part I, pp. 219–23 ; see also *Baroda Census Report* of 1921, Part I, p. 367, para. 441 ; the conditions there are exactly similar.

[3] Compare Dr. Slater's description of the Padials of Madras, p. 9, *Some South Indian Villages* ; also p. 168, *Madras Census Report* for 1921.

tracts; and recent settlement operations in Chota Nagpur have revealed that predial slavery was a normal feature of the economic life of that region.[1]

The inadequacy, until recent times, of agricultural wages, which barely sufficed for food and clothing, is indicative of the fact that this wages system is only a continuation of the old system of slavery when all that the master cared to see was that the serfs did not die of starvation. Wages have slowly been rising during the last thirty years, and the index numbers prepared by Mr K. L. Datta go to show that the nominal wages of agricultural labour rose from 105 in 1895 to 189 in 1912; and real wages from 103 to 138 in the same period.[2] But the wage statistics on which the above calculation is made make no allowance for the fact that agricultural employment is not continuous throughout the year,[3] and that the wages a labourer receives during his busy season do not represent his real remuneration throughout the year. There is, therefore, reason to think that, till quite recently, agricultural wages have not risen in proportion to prices.[4] Casual agricultural labour in the Madras Presidency obtains about 5 to 8 annas a day for a man, or 3 to 4 annas for a woman;[5] and this can hardly be considered a living wage.[6] The result has been that there has been a steady stream of emigration of agricultural labourers from the East Coast to Burma, Ceylon, or the Straits Settlements, and the supply of local labour has diminished in like proportion. In 1901, there were 270 working labourers for every 1,000 persons (workers and dependants) supported by other agricultural

[1] *Moral and Material Progress Report* of 1920, Cmd. 950 of 1920, p. 126. In 1920 legislation was undertaken to end this system.

[2] See *Report on the Rise of Prices*, p. 169; for rates of wages in rural areas in 1911 and 1916, see *Prices and Wages in India*, 1923 edition, Tables at pp. 180–195.

[3] Dr. Slater estimates that, taking the land of South India all round, there is agricultural work for the agriculturist only for about five-twelfths of his possible working time; see his article on "South Indian Economics," *Indian Journal of Economics*, July, 1918.

[4] See Wage and Price Table at p. 74, *Population Problem in India*, P. K. Wattal.

[5] *Madras Census Report* of 1921, p. 168.

[6] In the Deccan, according to Dr. H. H. Mann, the cost of living of a labourer's family, consisting of himself, his wife and two children, rose from Rs. 13·85 per month in 1914 to Rs. 34·65 in 1918; and conditions in the Madras Presidency do not greatly differ from those in the Deccan; on this basis, the above wages are grossly inadequate. For Dr. Mann's Note, see *Journal of the Indian Economic Society*, Vol. II, No. 1, pp 15–9.

occupations ; in 1911, the proportion had fallen to 245 ; and in 1921 to 212 only. In some other provinces, agricultural wages have shown a remarkably rapid rise in recent times ; in some parts of the Bombay Presidency and in the North-West Frontier Province, unskilled casual labour rose in 1921 to between twelve annas and a rupee a day.[1]

Attention may here be drawn to a report on agricultural wages in the Bombay Presidency, issued by the Labour Office at Bombay.[2] The object of the enquiry was to ascertain annual changes in agricultural wages from 1900, and especially from 1913 onwards, up to the present time, and to consider whether the undoubted rise which has taken place in wages in industrial occupations in a period which has been notable for its rapid industrial and commercial progress is also to be traced in wages in agriculture. The figures on which a series of very detailed Tables and Charts have been drawn up have been collected monthly, since 1900, for the chief town and for another town representative of rural areas in each district. They have been weighted according to population.

Three kinds of labour have been classified, namely, field labour, *i.e.*, ploughing, reaping, sowing, weeding, transplanting ; ordinary labour, *i.e.* (for agricultural purposes), embankment, well-digging, canal-silt clearing, etc., work requiring sometimes a higher degree of skill than possessed by the field labourer and paid for at a slightly higher rate ; and skilled labour, *i.e.*, carpentry, smithy, mason, wheelwright's and leather work used for agricultural purposes. The figures quoted for field labour are cash wages, which, according to the Report, are certainly tending to displace grain wages or cash wages with a grain supplement.

In the first place the interesting result appears that between 1911 and 1921 (the 1901 census figures proved incomparable) there was a net decrease in the Presidency of 14 per cent. in the total number of persons engaged in agriculture (interpreting that term as including cultivating owners and tenants, but excluding those merely deriving income from land). Further, the decline over the same period of agricultural

[1] *Bombay Labour Gazette* January, 1922, p. 14 ; *Moral and Material Progress Report* for 1921.

[2] *Report of an Enquiry into Agricultural Wages in the Bombay Presidency*, by G. Findlay Shirras. Government of Bombay Labour Office, 1924. Tables and Charts, 152 pp. The above summary is taken from *Industrial and Labour Information*, Geneva, 14th July, 1924.

labourers only (reckoned as part of the whole number of persons engaged in agriculture) was as much as 37 per cent.; in both cases dependants were excluded. Due allowance must, however, be made for the decline of the total population of the Presidency from 27·1 millions in 1911 to 26·8 millions in 1921, principally in consequence of the appalling ravages of the influenza epidemic of 1918, which destroyed between 12 and 13 millions of the population of all India. The decline in the number of persons cultivating the soil, *i.e.*, those actually engaged in carrying on agriculture as an occupation (who must be carefully distinguished from the general population residing in rural districts) is nevertheless far too marked to be accounted for in this way in bulk. Taken together with an increase of 24 per cent. over the same period in the number of ordinary labourers (non-agricultural), of 49 per cent. in the number of factory workers (actually 129 per cent. increase since 1900) it is clear that there was a drift away from agricultural to other occupations. The result was an automatic rise in agricultural wages due to a certain scarcity of labour.

Money wages have risen in urban areas by 200%, 182% and 149% (field, ordinary, and skilled labour respectively) since 1900 and in rural areas by 190%, 183%, 133%. These, however, are naturally no true indication, and the result of analysing real earnings is not quite the same. Taking all real earnings together of agricultural labour of all classes, in both urban and rural areas, there has been an undoubted general wage rise; in urban areas this rise is registered for all classes of labour, both for 1914 over 1900 and for 1921 and 1922 over 1914, *i.e.*, the rise has been universal and continuous; but in rural areas the rise is registered, for all classes, only between 1900 and 1921–1922; between 1914 and 1921 (1922) there has been a slight decline in the case of field and ordinary labour. In other words, the peak of real earnings in the two most numerous classes in rural districts was reached before the War, and has not been absolutely maintained. The illustrative index figures are shown on page 112.

Another point which is brought out very distinctly is the practically immediate effect of a bad season. The line of wages is most pronouncedly governed by this factor. The seasons as indicated for the years 1917 to 1921 were " barely

fair," "distinctly bad," "good," "bad," "distinctly good," and the wage line shows a direct relation to the season, changes in the season from year to year being clearly reflected.

INDEX NUMBERS OF REAL WAGES OF AGRICULTURAL WORKERS IN THE BOMBAY PRESIDENCY, 1900 TO 1922.

Year	Field Labour		Ordinary Labour		Skilled Labour	
	Urban areas	Rural areas	Urban areas	Rural areas	Urban areas	Rural areas
(1900 = 100)						
1914 ...	143	154	126	156	114	114
1921 ...	145	138	139	132	118	111
1922 ...	150	145	141	142	125	117
(1914 = 100)						
1921 ...	102	90	110	84	104	98
1922 ...	105	94	112	91	109	102

The question of hours has also received some examination, but not on a statistical basis. The general consensus of opinion among those reporting is that hours have tended to decrease and now often average something between 8 and 10 per day.

In general, it may be said that the Tables amply illustrate the statement made that "the increase in prices, especially from 1905, the decrease in the supply of labour as compared with the demand, owing to plague during the years 1902 to 1907 and influenza in 1918, the increased mobility of labour consequent on an increase of communications, and the general expansion of commerce and industry, mainly account for the large leap upwards in wages in this Presidency during the first two decades of the present century."

The rate of wages has an intimate bearing on the availability of labour and its efficiency. The scarcity of agricultural labour has often been referred to in official and other writings, but the census statistics show that the percentage of the population supported by agriculture has been steadily rising, and that there has been a more than proportionate increase in the number of agricultural labourers, who rose

from 18,673,206 in 1891 to 33,522,682 in 1901, and to 41,246,335 in 1911. Yet is the cry persistently heard that a sufficient number of agricultural labourers is not forthcoming. An official publication gives a succinct explanation of the position: "The landowners are slow to recognise that they must revise their methods, and give a fair day's wage for a fair day's work. Service bonds are in the present day frequently treated as so much waste paper by the ignorant Warli or Thakur, when the temptation of a daily wage is dangled before his eyes by the forest contractor; sometimes the bulk of the labouring population of a village is enticed away in this way, and when the harvest season comes round, the labour is not forthcoming to reap the crops at the proper moment, and much loss is caused."[1] It has also been suggested that the population has been reduced by plague and the influenza of 1918–19, and that new manufacturing industries have drained off a considerable part of the labour previously available for agriculture. These causes, of course, have had their effect, though it is possible to exaggerate the effect of industrial developments on the supply of labour, since, according to the latest figures (1919), the large industrial establishments in India gave employment only to less than 1·4 million persons. An important contributory cause of the scarcity of agricultural labour has been the withdrawal from the ranks of workers of large numbers of smallholders who have profited by the rise in agricultural prices, and who use their increased income partly in buying more necessaries and luxuries and partly in doing less work. "It is a matter of general comment that whole classes of cultivators who formerly used to do their own field work have now ceased to take any active part in field operations. This is said of the Patidars in Gujarat, of the better class Lingayets in the Southern Mahratta country, of the Havigs in Canara, and of the more substantial cultivators everywhere. So also with the smaller proprietors. Many a man who formerly supported himself on his holding during part of the year and was glad to work for hire in the off-season, now finds that he can get on without the latter source of income, and keeps out of the labour market altogether unless exceptionally high wages in the neighbourhood of his home tempt him to forgo

[1] *Bombay Land Revenue Administration Report* for 1911–12, Part II. p. 19.

his hot weather holiday."[1] It is possible on this basis to explain the changes in the numerical strength of the various agricultural classes which have been taking place in the Madras Presidency during the last twenty years. For, there we find that, although the proportion of the population supported by ordinary cultivation has risen from 6,831 out of every 10,000 in 1901 to 7,025 in 1921, a further analysis reveals the fact that the growth of the non-cultivating agricultural classes has been far more rapid than that of the cultivating classes. The details are as follows :—Out of every 1,000 principals (*i.e.*, excluding dependants) there were :

Agricultural Classes	1901	1911	1921
Non-cultivating landowners	19	23	49
Non-cultivating tenants	1	4	28
Cultivating landowners	484	426	381
Cultivating tenants	151	207	225
Farm servants and field labourers ...	345	340	317

And in the Punjab, we are told that, between 1889 and 1907, the area cultivated by owners themselves decreased from 14·5 to 13 million acres.[2] The increase in the number of the non-cultivating classes and the decrease in the number of cultivating landowners may, partially at least, be regarded as an index to the rate at which the quantity of available agricultural labour is shrinking.[3]

[1] *Agricultural Progress in Western India*, pp. 145–6. By Mr. G. Keatinge, C.I.E., Longmans, 1921.

[2] Sir James Wilson : *Recent Economic Developments in the Punjab.*

[3] For every 100 rent-receivers, the number of cultivators in the following provinces fell, from 1911 to 1921, as shown below :—

Province	1911	1921
Bengal	2,743	2,407
Bombay	1,913	1,625
C.P. and Berar	6,125	3,808
Madras	2,380	779
N.-W. Frontier Province ...	1,347	99
Punjab	1,146	1,098

The increase of cultivators for every 100 rent-receivers was as follows :—

Province	1911	1921
Assam	11,107	12,014
Bihar and Orissa	3,549	8,752
Burma	2,758	4,812
United Provinces	3,977	4,655

The decline of 45 per cent. in the number of landlords in Bihar and

A few words may now be added as to the efficiency of agricultural labour. The question has hitherto received but scant attention, and the deductions that we are able to make have to be based upon a few isolated observations which do not warrant any exact degree of comparison with similar work done in other countries; nevertheless, the broad conclusion that Indian agricultural labour is very inefficient may safely be accepted. In the West Indies, we are told, a labourer gets thrice the wages of his Deccan confrère, but, being more than thrice as efficient, it is cheaper to have a ton of sugar-cane cut and stripped there than in India; and in cotton-picking, an Indian woman does only one-half as much as an Egyptian woman, and one-third as much as a woman in the United States. In the case of ploughing, the results differ according to the nature of the soil, and of the implements employed; and even then, how are we to apportion results between the cultivator and his draught-animal? Dr H. H. Mann has recorded the results of some ploughing tests,[1] but they do not help us much. In harvesting, it has been said that it takes 10 men or 10 or 12 women to reap an acre a day.[2] "From a comparison of results in reaping and ploughing, it might be estimated roughly that a week's work by a ryot or coolie in the Madras Presidency is about equal to a day's work by a British agricultural labourer if unaided by machinery. As, in the Madras Presidency, on one-crop land the agriculturist works for only about five months in the year, and on two-crop land only for about eight months, it would follow that on the average the Indian agriculturist during a year does only what would on British standards be one month's work."[3] But the Indian agricultural worker is no more to be compared to the English worker than his weak and emaciated bullocks to the Clydesdales. There are

Orissa is due partly to changes of Census classification. In the U.P. the increase of cultivators was at the expense of labourers. The rise in grain-prices and in wages was not accompanied by a rise in rents, so that while enhanced grain-prices attracted more people to cultivation, and high wages provided capital for investment in, and cultivation of, agricultural holdings, the slow adjustment of rent to prices made the rentier's position less profitable than that of the cultivator.

[1] *Indian Journal of Economics*, Vol. I, pp. 456 *et seq.*, *The Efficiency of Agricultural Labour.*

[2] *Notebook of Agricultural Facts and Figures*, Madras, Govt. Press, p. 35.

[3] Dr. G. Slater, *Some South Indian Villages*, p. 17; *see also* pp. 149–150, *Indian Journal of Economics*, July, 1918.

the differences in diet, climate and physical vigour to be taken into account; nor does the Indian yet possess the equipment of improved implements and machinery which have so largely increased the productive power of human labour elsewhere.

The inclusion of the cultivator himself in the category of those whose interests seem to run counter to the real interests of agriculture may at first sight appear to be something in the nature of a paradox, but is justified by the poor response he has hitherto made to the many stimulating influences which are at work around him. The prolonged period of rising prices has offered him an exceptional opportunity for improving his farming methods and increasing his output, but he has chosen to utilise his greater earning power to enjoy longer spells of leisure. The Agricultural Departments have been trying to teach him the value of the new methods of cultivation, but, except in a few cases, their expert knowledge does not seem to have affected sensibly the current agricultural practice. And yet, peasant farming, as it is carried on in India, demands for its successful working not only great application and perseverance, but also the unwearied exercise of prudence, forethought, and watchfulness, and the utilisation of scientific knowledge so far as it bears on the peasant's calling. The value of the human element, therefore, is not a factor to be neglected in taking stock of the agricultural situation; for, as Prof. Carver says: "Communities and nations have remained poor in the midst of rich surroundings, or fallen into decay and poverty in spite of the fertility of their soil and the abundance of their natural resources, merely because the human factor was of poor quality, or was allowed to deteriorate, or run to waste."[1] The ordinary conditions under which agriculture is carried on all the world over are not generally such as to call forth the powers of the mind. First, agriculture has to be spread over the broad land, and necessitates a life of comparative isolation, whereas mental development is best promoted in compact centres of life and thought by the stimulus and suggestion derived from the thoughts and experience of others; and, in conservative minds, tradition ruled, and particular experience seldom developed into successive steps of cumulative progress. Again, "every agricultural problem had peculiarities of its own; and some sides of it can be

[1] *Principles of Rural Economics*, p. 174.

mastered by shrewd, experienced, alert, instinctive judgment, better than by systematic reasoning based on ordered knowledge. Therefore, the agriculturist has never been apt to search for the general in the particular, and the particular in the general. His instinct and insight have for the greater part died with him. The progress of his art remained for the greater part empirical until men trained in industry, or commerce, or in scientific schools came to his aid."[1] Secondly, and in India more so than in other countries, agriculture is far too much a matter of the seasons and the monsoons, and this undue dependence on Nature has engendered in the cultivator a keen sense of his own helplessness if unassisted by external agencies. In India, there are only too frequently years of short rainfall when the excellence of his culture will avail him little ; and the knowledge of this has a depressing effect on him, and produces an exaggerated feeling that the out-turn of his fields will bear little relation to his efforts. In those parts of the country where the fear of famine is little felt, the cultivator is found to be unceasingly industrious, but where a season of good and well-distributed rainfall is the exception, he is invariably found to be slack and careless. " The one has learnt that he will reap what he sows ; the other has learnt by bitter experience that this is not necessarily the case."[2] Within limits, however, scientific methods might diminish the evil of bad seasons ; but so long as the farmer looks at it as the prime source of all his troubles, it is difficult to make him appreciate the value of agricultural education. The unsuitable type of education offered has also, to a large extent, contributed to its ineffectiveness ; and the evolution of a suitable type of instruction, designed not merely to supply graduates seeking employment as Agricultural Inspectors under the various Agricultural Departments, but also to create a class of educated farmers who will apply the knowledge acquired in the schools on their own farms and fields, is a matter of vital economic consequence.

So far we have discussed the defects of the three important classes constituting the rural community ; but there are two other classes who, though not engaged in agricultural production, yet profoundly influence it. All through history,

[1] Marshall, *Industry and Trade*, pp. 199–200.

[2] *Rural Economy in the Bombay Deccan*, G. Keatinge, p. 58 ; see also p. 23, H. Calvert's *The Wealth and Welfare of the Punjab*.

the agriculturist seems to have been pursued by a malign fate, which has saddled on him the burden of maintaining, out of his profits, a large outsider class. In the Moghul days it was the crowd of courtiers and soldiers; and with their disappearance, two other classes have come into being to take their place—the money-lender fattening on the needs of his neighbours, and the middleman who lives on the ryot's intercepted profits. The economic conditions of the ryot, and the defective organisation of his calling, are such that he is powerless to withstand the depredations which these two classes now make upon his earnings; and, to this extent, they weaken his incentive to further productive exertion. It is, therefore, needful to enquire into the conditions that have led to the emergence of these classes, and, to the organisations that have been recently called into being with the object of freeing the peasant from their thraldom.

The universal lesson of agrarian history, we are told, is that the cultivator is always in need of credit. His capital consists in his land and stock, and cannot be easily mobilised; and for the performance of current field operations, he is obliged to go in for borrowing. While borrowing, therefore, is not always a sign of economic weakness, it is certain to degenerate into a serious evil where satisfactory conditions of credit are not in existence. The main conditions of productive credit are proximity of lender and borrower; security to lender; safety and facility to the borrower in his ability to obtain cheap loans, at any time, to an amount proportionate to the security he can offer, upon terms which will be equitable in themselves, so convenient as regards repayment, so free from all risks of deliberate entanglement, so based upon published rule, so devoid of any tendency to discount necessity or urgency otherwise than by an equitable insurance, that he can calculate on reaping the full fruits of his prudence, and find in credit a powerful auxiliary to his own productive powers and stability.[1] These conditions, unhappily, are still absent in rural India; there, money cannot be had on equitable terms; nor is it, in the majority of instances, applied to productive purposes. The reasons therefore have to be sought in the environment in which

[1] *Vide* p. 3, *Nicholson's Report regarding the Possibility of Introducing Land and Agricultural Banks into the Madras Presidency*, Vol. I, 1895.

the industry has grown up and in the personal qualities of the borrower and the lender.

In the disturbed times that preceded the British occupation, there was little demand for capital for agricultural improvements; and whatever money was raised on loans was for immediate necessities or to stave off importunate demands. The poverty associated with an uncertain and precarious rainfall and irregularity in the receipts of income, both as to period and as to value, as well as the demands of custom and social laws necessitating expenditure for unproductive purposes, had even then been causing the peasantry to get into debt, but the amount of indebtedness was limited by one or two circumstances: first, there was little accumulation of capital to lend; there was little surplus from which a loan could be repaid; there was practically no security to offer; and there was no sure means of enforcing recovery against a defaulting borrower. Nevertheless, according to Munro in Madras and Elphinstone in Bombay, at the beginning of the last century the ryot had managed to entangle himself inextricably in debt. Nearly all the ryots, said they, depended on the money-lender for maintenance from crop to crop; the whole of the surplus produce went to him as payment of interest; as for the payment of the principal, it never entered the ryots' heads. But it was the produce, and not the land, that was the money-lender's security; immovable property was not sold for debt; and individual debt was therefore moderate in actual amount. The widespread nature of the disease and its malignity were even then noticeable, for, in 1826, it was stated that in the Bombay Deccan numerous enquiries showed that there was only one Kunbi (cultivator) spoken of as free from debt, and that the ordinary rate of interest was 24%.[1]

With the establishment of law and order, rural indebtedness entered upon a fresh phase of its history. The fixation of the revenue demand at a moderate rate, and the bestowal on the tenant of the rights of fixity of tenure, fair rent and freedom to effect sales, bore fruit in the stimulus to agricultural production that resulted, and this was accentuated by the growth of trade and the rise of prices. The effect of the land policy was to widen the difference between the cultivator's production and the external demands on it; and with

[1] See Keatinge, *Rural Economy*, p. 81.

this increase in his net profits, the land acquired a saleable value. Unfortunately, however, the peasant had not been taught to make proper use of these opportunities for bettering his economic position ; principles of thrift and the desirability of applying borrowings to productive purposes alone had not been inculcated in him ; and the uneducated farmer, suddenly endowed with new rights and new values, readily pledged those rights and those values, till it was found that it was only the form of servitude and dependence that was altered, and not the substance of it. For, with the expansion of his credit consequent on the rise in agricultural prices and land values, the cultivator found himself unable to resist the temptation to go in for more loans, not realising the dangers of such a policy, and neglectful of the inevitable day of settlement. " In a good year, although he has means to pay off a large portion of his debt, he does not repay what he conveniently can, and indulges in some other extravagance ; while in a bad year, he has not the wherewithal to live, much less to clear his debt, and it becomes hopeless for him to free himself from this burden." The shrewd money-lender, however, was fully alive to the situation and its possibilities : he saw that it was the increased produce of the land that gave it its commercial value, and set himself to obtain that produce for himself without actually undertaking the responsibility of cultivation. On the additional security of the land, against which the law-courts were now taking out execution of decree-debts, and under cover of the new enforcement of the sanctity of contracts, which till now had no meaning to the ryot, the Sowcar was prepared to fool his hapless client to the top of his bent. Among the reasons mentioned by the Deccan Riots Commission for the increasing indebtedness were the expansion of credit associated with the stimulus to agricultural enterprise caused by the Survey Settlement, and the facilities for borrowing, owing to the number of competing money-lenders attracted to the business by the advantages offered to them by the newly-established legal system.[1] The enquiries of the Famine Commission of 1880 showed that those who had the best security to offer were the heaviest

[1] See para. 67, p. 49, *Report of the Committee on the Riots in Poona and Ahmednagar*, 1875. Also *Report of the Famine Commission* of 1880, Vol. I, p. 130 *et seq.* : *Famine Commission of* 1901, p. 108 *et seq.*; S. S. Thorburn's *Report on Peasant Indebtedness in the Punjab*, 1896, p. 73.

in debt; "about one-third of the landholding classes were deeply and inextricably in debt, and at least an equal proportion were in debt, though not beyond the power of recovering themselves; landlords were more involved than tenants with occupancy rights, and tenants with rights more than tenants at will." But the increase in the value of the security, it is noticeable, has had little or no effect on the price of the capital supplied; and the lender has utilised the commercial helplessness of the ignorant peasants and their increasing competition for loans to maintain rates of interest which tend to make the business of agriculture impossible.[1]

It is not easy to ascertain with any degree of accuracy the extent of indebtedness in the country or its annual cost. Sir Frederick Nicholson estimated the total debt of the rural population in the Madras Presidency in 1895 at 45 crores, (made up thus: existing rural debts, 20 crores; cash debts 15 crores; grain debts, 10 crores), which worked out at an average of Rs. 13 per head of the rural population. "If the average interest on this be taken at 15%—an assumption assuredly not too high considering the rates on registered mortgages below Rs. 100, grain debts, sums claimed in small cause suits, etc.—rural Madras pays at least 6·75 crores annually as bare interest, and more probably, 8 crores, at an average of 18%. If to this are added all extra charges for stamps, registration fees, commission, brokerage, penal interest for unpunctuality, costs in litigation and arbitration —the mere costs awarded in a series of small cause suits averaged 22% on the sums claimed—it is certain that the annual cost of its borrowings to rural Madras is from 8 to 10 crores at least; or, in other words, at the mean of 9 crores, 15% of the gross annual produce taken as 60 crores."[2] The Famine Commission of 1901 found that at least one-fourth of the cultivators of the Bombay Presidency have lost possession of their lands, that less than a fifth are free from debt, and that the remainder are indebted to a greater or less extent.[3] In the Punjab, according to a recent estimate,

[1] See *Imperial Gazetteer of India*, Vol. III, p. 90, where the defects in the system of agricultural financing are said to be excessively wide credit and excessively dear money.

[2] *Report Regarding the Possibility of Introducing Land and Agricultural Banks into the Madras Presidency*, Vol. I (1895), pp. 18–20; also pp. 237–42.

[3] *Report*, para. 334.

the total average debt of the large proprietors is seven times the land revenue paid by them, and of the smaller proprietors, owning or cultivating less than 8 acres, 28 times the land revenue; the aggregate indebtedness in the province comes to about 30 millions sterling.[1] Corresponding figures are not available for the other provinces; but the following Table, which relates to conditions in 1891, shows how the money-lenders are gradually ousting the agriculturists from the proprietorship of the land: the proportion of quasi-agriculturists is higher among the money-lenders than any other non-agricultural class, save perhaps the village menials.

Percentage of landholders in 1891 amongst total non-agricultural population and amongst money-lenders[2]:—

Province	*Total non-ag. popn.*	*Money-lenders*
Bombay ...	9·24%	31·22%
Madras ...	6·54%	17·77%
Central Provinces	5·56%	36·74%
Berar	2·54%	23·21%
Assam ...	38·02%	67·75%
N.-W.P. (now U.P.)	18·28%	46·57%
Punjab ...	7·96%	18·37%

The speed at which the cultivators are being expropriated is evidenced by the following figures from the Punjab: from 1866 to 1874, sales averaged about 88,000 acres a year; in the following quinquennial periods, the acres sold averaged 93,000; 160,000; 310,000; and 338,000 acres a year. Mortgages amounted to 143,000 acres a year in the first period, and to 212,000; 296,000; 590,000; and 554,000 acres a year in the succeeding quinquennial periods. The new owners, as has been indicated, have not generally turned to the cultivation of the soil; the old cultivators were to remain, but as tenants and not as owners.

Numerous and varied have been the attempts made by the Government to solve the problem; but they cannot yet be said to have met with any considerable degree of success. The enforcement of the revenue demand was made less rigid than of old, and by suspending or remitting the Government's share in periods of partial or complete crop-failure, one of the causes that led the ryot to the Sowcar was sought to be

[1] *Moral and Material Progress Report for* 1919, Cmd. 950 of 1920.
[2] From *Census of India*, 1891, *General Report*, Vol. I, Part I, p. 116.

removed ; but, it would seem, not with much success.[1] The civil law relating to debt was frequently and extensively amended, notably by the Deccan Agriculturists' Relief Act of 1879 and its amendments, and the Commission that enquired into the results of its working twelve years after its enactment reported that it made the professional money-lender more cautious, and the ryot more reluctant to borrow on his land ; nevertheless, land continued to pass from the possession of the ryots.[2] Restrictive legislation on the transfer of land has been applied to the Punjab, the United Provinces and Bombay ; and it is said to have resulted in a shrinkage of credit. Attempts have also been made to make advances to the ryot out of State funds. The Acts dealing with these loans were passed in 1871 and incorporated in the Acts of 1883 and 1884.[3] Under the former Act, money is advanced for specific purposes of land improvement, and under the latter, for seed, cattle, and other miscellaneous purposes. These Acts have since been amended ; where money is borrowed for agricultural improvements, special concession extending the term of repayment till the improvements begin to yield profit is now allowed, and the amount of security demanded has also been lessened.

Now, while these reforms were all more or less in the nature of palliatives, no serious attempt was made to get to the heart of the problem. In treating the poverty and indebtedness of the people, it is essential to find out the root cause ; else, the treatment will be of the symptoms merely, and not of the disease. The eradication of the evil of indebtedness cannot be effected by any single remedy, but will require the persistent and simultaneous action of a diversity of remedies, the most important of which is the education of the peasant himself. The great merit of the Co-operative Credit Movement is that it is a force of great educational value. Briefly stated, the theory of co-operation is that an isolated and powerless individual can, by association with others and by moral development and mutual support, obtain in his own

[1] Mr. Thorburn found that 12 per cent. of the debt in the Punjab was borrowed to pay land revenue This was in 1896 ; and in 1920 we read again that 12·5 per cent. of the money advanced by the Co-operative Societies in the Province was for the same purpose.

[2] Keatinge, *Rural Economy*, p. 88.

[3] Land Improvement Loans Act, XIX of 1883, and the Agriculturists' Loan Act XII of 1884.

degree the material advantages available to wealthy or powerful persons, and thereby develop himself to the fullest extent of his natural abilities.[1] We have seen how the want of business education, of habits of thrift and punctuality, and of the power of realising the future, has been amongst the most powerful causes of borrowing. Co-operation seeks to remedy these defects, and to make material advancement go hand in hand with self-reliance, foresight and independence, and is therefore at once an alleviative and a curative remedy. The response which India has made to its higher appeals has been very encouraging; and though Co-operative Credit Societies were started only in 1904, under Act X of that year, they had risen in 1911–12 to 8,177, with a membership of 403,318 and a working capital of Rs. 33,574,162. The Co-operative Societies Act II of 1912 gave the Movement further room for expansion; and, in 1921–22, the total number of co-operative societies of all kinds had risen to 52,182; the total membership of primary societies to 1,974,290; and the total working capital to Rs. 311, 224, 000. The pecuniary advantages resulting from the spread of the Co-operative Credit Movement may be gauged from Sir E. Maclagan's computation[2] that on every crore of rupees lent out by the societies, the peasant community is saved from an absolutely unnecessary burden of at least ten lakhs of rupees. Figures which are available for 140 co-operative societies which have been working in the Punjab for ten years in 14 districts in that province show that 28% of the members are now entirely free from debt, that well over £100,000 of debt has been paid off, and that, at this rate, ten years of co-operation will on an average reduce a member's debt by one-half.[3] It is in the spread of co-operation, therefore, that we must seek the solvent of the cardinal defect of Indian husbandry.

Another defect in th Indian agricultural system is the absence of any organisation for the marketing of agricultural produce. In the earlier days of the self-sufficing economy, a marketing organisation was not an absolute necessity, since there was little produce for sale; but with the commercialisation of agriculture, when the peasant looks to the profits on his marketed commodities for the supply of his necessaries and

[1] *Maclagan Committee's Report*, p. 2.
[2] At the 6th Conference of the Registrars of Co-operative Societies.
[3] *Moral and Material Progress Report*, 1919, Cmd. 950 of 1920.

comforts, it becomes essential that those profits should be secured to him. The system of rural financing in India, under which the Sowcar was both a money-lender and a grain-merchant, placed him in a position of peculiar advantage to get control over the cultivator's produce; and with the extension of the export trade, his activities in the latter direction extended, and he became the middleman through whose hands the produce passed to the ultimate purchaser. The big export merchant found it a matter of difficulty to deal with numerous isolated units of small producers, and preferred to do business with the village *bania*, who could gather up the produce of a village and offer for sale commodities in fairly considerable quantities. The *bania* thus established himself as the only possible purchaser in the village, and was in a position almost to dictate his own terms; and the impecunious condition of the ryot often forced him to rush to the market immediately after harvest, instead of waiting till the glut was over and prices became normal again. The existing commercial organisation for the sale of agricultural produce was thus forced on the ryot by the middleman seeking his own profit, and it is no wonder that only an infinitesimal part of the profits reached the actual producer. Here, again, the way to a more equitable organisation was pointed out by co-operation. The establishment of Co-operative Purchase and Sale Societies is only an off-shoot of the Credit Movement, and in 1919, the total number of co-operative purchase, sale and production societies was only 597, with a membership of 34,674, a working capital of Rs. 1,946,874, and a turnover of Rs. 5,652,363. As a beginning, however, it is distinctly encouraging; and better prices, grading, and quality have been the results of the new organisation.[1]

We may conclude this analysis of the defects in the Indian rural organisation with an examination of the influence of the revenue demand on agricultural progress. Where the State has created a body of privileged landlords standing between it and the cultivator, it takes a certain definite share of the rent which the landlords receive; in cases where it deals directly with the cultivator, as in Madras and Bombay, it steps into the position of the landlord, and can, if it is so

[1] For greater details, see the present writer's article on *Agricultural Co-operation in India*, *Irish Economist*, April, 1923.

inclined, raise the pitch of assessment so high as to make the land-tax virtually the same as economic rent, if not a rack-rent, especially since legislative sanction is not needed for its enhancement. The controversy over the land-tax has turned both on a point of fact and on a question of policy. The late Mr. R. C. Dutt and his followers argue that (1) the tax is excessive and trenches on agricultural capital; and (2) that the policy of revision at periodic settlements introduces an element of uncertainty which deters the cultivator from investing capital on the land and undertaking improvements. Their case is summarised in Sir Louis Mallet's remark: "On the one hand, we see a system which sweeps into the coffers of the State fifty per cent. or more of the net produce of the soil, thus diverting a fund which, in countries where private property is absolute, would to a great extent find its way back again into the channels of agricultural improvement. But the amount of the produce thus diverted is not only large—it is also uncertain."[1] The principles on which this criticism is based have long ago been accepted by the Government; indeed, they form the groundwork of the Ryotwari System as framed by Munro himself.[2] In his Minute, dated 31st December, 1824, he emphasised the importance of a policy of moderate assessment and of securing to the cultivators the fruits of their improvements. "They are never sure of enjoying this advantage as they are constantly liable to be deprived of it by injudicious over-assessment. While this state of insecurity exists, no body of substantial landholders can ever arise; nor can the country improve, or the revenue rest on any solid foundation. In order to make the land generally saleable, to encourage the ryots to improve it, and to regard it as permanent hereditary property, the assessment must be fixed, and more moderate in general than it is now; and above all, so clearly defined as not to be liable to increase from ignorance or caprice." In accordance with this policy the share of net rental claimed by the Government has been successively reduced; in the settlements effected in the United Provinces between 1820 and 1840, the standard adopted was five-

[1] Quoted at pp. 184–5, Dutt's *Open Letters to Lord Curzon on Famine and Land Assessment in India.*

[2] See *Selections from the Minutes of Sir Thomas Munro*, edited by Sir A. J. Arbuthnot, Kegan Paul, 1881, Vol. I, pp. 250–1.

sixths, which was lowered to two-thirds in the latter year, and to one-half in 1855. In the Punjab, since 1871, the standard has been one-half, and the same proportion applies to the Central Provinces and Madras. This standard, however, represents the maximum which may not be exceeded; in reality, the pitch of assessment is very much lower. Comparing the revenue demand with the gross out-turn of the land, we are told that, in the Deccan, it works out only at 4 per cent;[1] that, in the Punjab, it is between 8 and 10 per cent.;[2] and, in Madras, where the Agricultural Department made a very careful estimate, it was only 2 per cent. in 1920–21. The effect of periodical settlements remains to be considered. At present, the normal term is thirty years over the greater part of India, though, in some special cases, a shorter period is fixed. The plea for the extension of the term of temporary settlements loses its weight in view of the laws and regulations by which improvements are already protected to a certain extent in different parts of the country. It must, however, be possible to extend to the other parts of India the rules in force in Bombay and Madras, where improvements are expressly exempted; but the more pressing need, perhaps, is to provide for such a change of practice on the part of the assessing authorities, and such recognition of the weight of expert evidence, as will ensure that the peasant shall retain the extra income due to his efforts and outlay.

In this and the foregoing chapter, an attempt has been made to describe some of the principal defects in the Indian rural system, and the means by which they are being slowly remedied; and if, compared to the rapidity with which some of the Continental countries have overhauled their systems and methods in the closing years of the last century, progress in India is still at snail's pace, there is at the same time no room for undue pessimism. In the race for material wealth and prosperity, India has, in every direction, been a late starter; but now that she has commenced her onward career, her programme has been one for an all-round development. The policy of the plough is one of fairly recent adoption in the economically more advanced countries of

[1] *Rural Economy in the Bombay Deccan*, p. 36, where the details are given.

[2] Sir Patrick Fagan's estimate.

the West, and, partially at least, has been dictated by the fear that rural life is fast being engulfed by the advancing waves of industrialism. If the tendencies in Indian rural life have been correctly diagnosed in this study, their effect will be to promote a healthy rural development which shall not be dwarfed or stunted by the increasing industrialism of the towns; and Agriculture and Industry, instead of becoming competing forces, will work out on co-ordinate lines the common aim of national well-being.

PART III

CHAPTER V

INDUSTRIAL ORGANISATION IN INDIA

WITH SPECIAL REFERENCE TO COTTAGE INDUSTRIES

Synopsis :—Occupational distribution in India : the absence of diversity in employment.

Distribution of population between town and country.

How far census statistics may be relied upon as a correct clue to occupational distribution : their limitations analysed.

The simplicity of the industrial structure of the village community. The self-sufficing village economy ; its gradual disintegration.

Why rural industries still survive ; their adaptation to modern conditions.

The typical cottage industry, hand-spinning and weaving. Its slow decline.

The economic conditions of the rural workers ; their financial embarrassments ; inability to resist famine.

Their position compared with that of the English weavers at the time of the Industrial Revolution.

Will the Indian hand-loom weaver disappear ? Statistical data to show that, in the manufacture of the coarsest and the finest counts, his position is likely to remain unimpaired. The range of competition with machinery.

The effect of tariffs on the hand-loom industry ; how the removal of the excise duty will affect it.

The need for organisation. Mechanical improvements ; financial assistance ; marketing facilities.

The same defects of organisation observable in the other cottage industries. How to help ? The co-operative principle. The views of the Industrial Commission.

Is it worth while to develop cottage industries ? Their place in the economy of a highly industrialised community. Comparisons with other countries. The necessity for providing spare-time employment

to the agriculturist in his periods of enforced leisure. Industrialism alone no remedy for absence of diversified forms of employment.

IN order properly to understand the industrial organisation of India, it is necessary to keep in mind the comparatively narrow range of occupations in which her population is engaged. A natural corollary to the overwhelming preponderance of agrestic pursuits is the absence of diversity in employment. The occupational statistics collected in 1921 show that, out of every hundred of her population, India gives 72·98 to agriculture and pasture, 10·49 to industry, 5·73 to trade, 1·37 to transport, 1·59 to the learned professions, 1·53 to Government service, and 1·45 to domestic service. Occupations connected with the preparation and supply of material substances supported 55·6 million persons, or only 17·59% of the population in 1921, as compared with 58·2 million persons, or over 18% of the population in 1911. The extremely primitive character of the general functional distribution is clear from the Table appended below,[1] which

[1] *Occupations in* 1911	*No. per* 10,000 *of total population*
Landlords and tenants	5606
Agricultural labourers	1316
General labourers	287
Stock-owners, milkmen and herdsmen ...	164
Cotton-workers	207
Blacksmiths	44
Brass, copper and bell-metal workers ...	9
Carpenters and woodcutters	99
Fishermen, boatmen, and *palki* bearers ...	113
Oil-pressers	37
Barbers	68
Washermen	68
Toddy-drawers	20
Grain-huskers and parchers	68
Leather workers	90
Basket makers, leather workers, and drummers	107
Priests	64
Potters	63
Mendicants	128
Cartmen and pack-animal drivers	47
Village quacks and midwives	6
Goldsmiths	57
Grocers and confectioners	119
Grain-dealers and money-lenders	109
Village watchmen and other officials	64
Vegetable and fruit sellers	51
Makers and sellers of bangles	18
	9029

Occupations connected with the preparation and supply of material substances support 58·2 million persons, or over 18 per cent. of the

gives the numbers per ten thousand of the population who were supported in 1911 by the simple occupations commonly followed in every village, which, taken together, meet all the ordinary requirements of village life.

The nature of the vocational distribution is reflected in the unequal distribution of the population between town and country. India has many ancient and historic cities, but, taken all together, they hold only a tiny fraction of her enormous population. It may, perhaps, be assumed that the first approach to urban conditions in modern times occurs when, say, ten thousand people reside together in the same place; for, on that scale, questions of water-supply, lighting and drainage—the material things that nowadays awake men to a consciousness of their common needs as neighbours, as contrasted with the need of defence in the earlier days—begin to be a serious concern. On that basis we may say that about 93% of India's population lead a rural life. In India, however, places with 5,000 or more inhabitants are generally counted as towns, and that, for good reasons. "In fixing the standard for India at 5,000," says Sir Edward Gait, "we have certainly not erred in the direction of over-exclusiveness. The local conditions are wholly different from those prevailing in Western countries; and the great majority of places with that number of inhabitants, whether Municipalities or not, partake rather of the nature of over-grown villages than of towns, as the term is understood in Europe. Trade and industry are still to a great extent monopolised by the larger towns. With the spread of railways and the general improvements in the means of communication, the smaller towns are growing in importance as distributing centres, but the process is a slow one, and comparatively little progress in this direction has yet been made. The small market-town so common in Europe and America is rarely found in India. Nor, as a rule, do the smaller Indian towns possess the other amenities associated with urban life in Europe, such as the better class of schools and public institutions of various kinds. It is true that a new type of town is springing up in the neighbourhood of important railway stations, with stores and provision shops and a

population. Of these, industrial occupations support a little over 11 per cent. of the total population, transport 1·6 per cent., and trade 5 to 7 per cent. *Census Report of* 1911, Vol. I.

considerable *coolie* population, and that these, in many cases, have not yet reached the prescribed standard of population. But the total number of such places is still small, and their exclusion has had no material effect on the statistics."[1] Even in the rural areas, the population is so distributed that about a third of the total lives in villages of less than 500 inhabitants; about a fourth in villages of between 500 and 1,000; about a fifth in villages of between 1,000 and 2,000; and about an eighth in villages of between 2,000 and 5,000 souls. About 90·6% of the population in 1911, and 89·8% in 1921, were village-dwellers; and only 9·4% in 1911, and 10·2% in 1921, dwelt under urban conditions; in England and Wales, the present proportion is 79·3 in urban to 20·7 in rural, areas.

The Census statistics do not, however, correctly represent the true situation as regards the occupational distribution of the population. In India, as has often been pointed out, it is extremely difficult to show the number engaged in each occupation. This is a difficulty which is felt by Census officers even in more advanced countries. In the United States and in Germany, it has been held that a population census cannot be expected to give the requisite information regarding occupations, and that a comprehensive industrial survey obtained by detailed investigation and spread over a considerable time is to be preferred. In the Report of the Census of England and Wales for 1891, it was said: "A census . . . does not supply data which are suitable for minute classification or admit of profitable examination in detail. The most that it is reasonable to expect from data so collected is that they shall give the means of drawing such a picture of the occupational distribution of the people as shall be fairly true in its main lines, though little value can be attached to the detailed features. It is not wise to demand from a material a result for the production of which it is unsuited."

In India, these difficulties are intensified by the presence of some very characteristic disturbing features. The idea of caste as governing vocation is still so dominant that many persons return their caste occupation as their actual vocation, and the Madras Census Report of 1911 gives an amusing instance of a well-to-do gentleman, a barber by caste, but

[1] *Census of India*, 1911, Vol. I, p. 30.

a prosperous money-lender by profession, being returned as a barber, though he had never in his life plied the razor for hire. Secondly, the census returns show occupations with reference to a particular date only, whereas, in the majority of cases, they vary from season to season with the same individual, who may at one time be a hired labourer, at another, a proprietor tilling his own soil, and at a third, a factory hand, or else working at some domestic industry. And even in cases where this pluralism in occupation is recognised, attention is concentrated on the principal means of subsistence, and the secondary occupations are only perfunctorily glanced at. Some of the persons classed as agriculturists follow other pursuits as a subsidiary means of livelihood, and in like manner, many classed under the non-agricultural head are partially dependent on the land. The classes that most largely combine some form of agriculture with their special occupation are, first, the village menials, such as the watchmen, etc.; then, the artisans forming part of the village community, such as the carpenter and the blacksmith; and still more, the potter and the oil-presser. The barber, again, is not infrequently a landholder, and the tanner, the cart-owner, and even the general labourer, eke out their income in this way. The weaver, the representative of perhaps the largest section of rural industry, appears to be largely free from this pluralism, and his own occupation, indeed, is hardly one that would fit him for strenuous outdoor work.[1]

On account of this intermingling of occupations, observable both in the village as in the town, it is somewhat difficult to draw a clear dividing line between rural and urban occupations. Thus, in the Census of 1891, it is pointed out that, though the general ratio of the urban population to the whole is about 9·5%, in the case of occupations this proportion is exceeded in all cases, except in those relating to agriculture, pasture and village service. It nearly recedes to it in the case of general unskilled labour, which is very considerably recruited from the ranks of field and farm hands, and again in the case of potters, cane-workers and the purveyors of minor forest produce. Yet, that only 10·2% of the people of India are at the present day living in towns in

[1] *Vide Census of India*, 1891, Vol. I, Part I, p. 116. Also, 1921 *Report*, Vol. I, Part I, p. 239.

itself furnishes a clue to the remarkable simplicity of the industrial structure of the community. Under the circumstances it is easily predicated that, next to agriculture, cottage industries must be the most important occupation in rural areas. So much has been written about the industrial organisation of rural India and its self-sufficing economy that it is difficult to escape the charge of being platitudinous in dealing with the topic.[1] In containing within itself almost all the elements necessary for a complete community life, the pre-railway Indian village shared the leading characteristic of English life of the Manorial period. On the manors, says Prof. Ely,[2] the needs of the community were satisfied almost wholly from the ploughing and tilling of the ground and from the use and increase of the domestic animals. What handiworkers or craftsmen came into existence were mainly for the furthering of these same needs, rather than for the satisfaction of new tastes or the development of new duties. Some trade, to be sure, existed, and the commodities in which rural trade first sprang up were perhaps salt and iron. Excluding the features introduced by the modern development of trade and transport, conditions in the present-day Indian village more or less answer to the above description. The census reports point out as a peculiar feature of Indian life in rural areas the circumstance that each village was provided with a complete equipment of artisans and menials, so that until the recent introduction of western commodities, such as machine-made cloth, kerosine oil, umbrellas and the like, it was almost wholly independent. Its Chamars skinned the dead cattle, cured their hides and made the villagers' sandals and thongs. Local carpenters made their ploughs, local blacksmiths their shares, local potters their utensils for cooking and carrying water, and local weavers their cotton clothing. Each village had its own oil-pressers, its own washermen, and its own barbers and scavengers. Where this system was fully developed, the duties and remuneration of each group of artisans were fixed by custom, while the caste rules prohibited inter-castal competition. The various classes of artisans, therefore, had all their own definite circle within which they worked ; and

[1] *Vide Census of India*, 1891, Vol. I, pp. 94–7 ; 1901, Vol. I, pp. 197 *et seq.* ; 1911, Vol. I, pp. 408 *et seq.*

[2] *Studies in the Evolution of Industrial Society*, R. T. Ely, pp. 50–1.

they received a regular yearly payment for their services, which often took the form of a prescriptive share of the harvest, apportioned to them when the crop had been reaped and brought to the threshing floor. But many disintegrating influences are now at work to break down this static rigidity of village life. The influence of caste as the determining factor in occupation is waning before the rising spirit of individualism and enterprise, which is impelling the humbler classes to aspire to higher and more dignified pursuits. The more ambitious among the village artisans have learnt that by migrating to the town beyond, they could add substantially to their income; and labour has consequently become more mobile,[1] and wages have slowly risen, the prescriptive yearly remuneration gradually giving way to payment for actual work done. Production also received a stimulus, when, with the opening up of markets outside the village, prices rose. It was not, however, till the construction of roads and railways facilitated and cheapened transport that rural areas began to lose their distinctive Arcadian flavour. Isolation was the principal rampart behind which the old-time village had entrenched itself; when that was carried, its entire internal organisation was thrown into confusion.

The gradual break-up of the village organisation has had its inevitable reaction on the industries of the village. With only a limited market and the simple needs of a rural population to cater for, the village artisan was content to work along the old traditional lines, while his place in the village community, which gave him an assured clientèle and a secure income, offered but little inducement to attempt innovation or improvement. He, therefore, received a rude shock when faced with the massed production of factories, whether Indian-made or imported; and some industries have collapsed before this unequal competition. The spinning of cotton by hand, for example, has almost entirely disappeared; and in the towns, the work of paddy pounding, wheat-grinding and other laborious home industries is being more and more performed by power-driven mills. Vessels and implements of iron, brass and copper made outside his own village are now commonly used by the villager, and their price is now

[1] Note, however, that in the *Census* of 1921, no less than 90 per cent. of the population were enumerated within the district in which they were born.

within the reach of almost all classes. In cases where the machine-made goods came into direct competition with the village-made article, the artisan has been forced to give up his vocation, and swell the ranks of agricultural labour. But in some other directions, the import trade has actually strengthened his position. The reason that cottage industries have survived is that they are in some respects adapted to their environment. The artisans produce commodities for which there is a demand, and which so far have not been displaced by factory-made goods; and they work under conditions which they prefer to factory life. Under the influence of the industrial changes of the past century, they have increasingly adapted their trades to the altered conditions. "Their methods remain the same, but in some instances they now work with superior raw material, and in others, with better tools. The weaver has taken to mill yarn, the dyer to synthetic dyes, the brass and copper smith to sheet metal, the blacksmith to iron rolled into convenient sections, in each case with advantage to himself from the lessened cost of production, which has greatly extended his market. In some districts in Lower Bengal, the weavers use the fly-shuttle sley extensively, and they have recently adopted it in large numbers in the coast districts of the Madras Presidency, while it is also gradually coming into use elsewhere. The tailors invariably employ sewing machines, and town artisans readily take to improved tools of European or American manufacture."[1] Owing to their corporate connection with the village organisation, and their numerical superiority over the town-workers, the rural artisans have always played a prominent part in the manufactures of India; and in such industries as hand-loom weaving, carpentry, shoe-making, pottery, building, oil-pressing, metal-work, etc., the production of the village workers approaches, and in some cases out-distances, the total output of their town competitors. Their intimate acquaintance with the tastes and desires of their would-be customers enables them to satisfy the exact wants of the market, and in the case of weaving, the great degree of resistance that has been offered by the hand-loom to the aggressions of the factory is attributable "to the great number of specialised

[1] *Vide Report of the Indian Industrial Commission*, Cmd. 51 of 1919, pp. 10 and 162; also *Journal of the Royal Society of Arts*, 1905, p. 753.

types of cloth of which slow-moving Indian custom decrees the use; to the fact that the demand for many of these is on so small a scale, while the types themselves are so special, as to render it difficult for the power-loom to produce them at a profit; to the faithfulness of the weavers as a caste to their hereditary trade, and their unwillingness, especially in the smaller towns, to take up factory work, and, to a less extent, to the money locked up—on a vicious system, it is true—in the financing of the weaver by his patron and incubus —the money-lending cloth merchant."[1]

By far the most important cottage industries of India are those connected with spinning and weaving. Though primarily a village occupation, 1,668,895 persons in towns returned the cotton industry as their means of subsistence in 1891. The main body consisted of spinners or weavers, who, with the factory hands, estimated at 120,000, reach a total of 7,380,278. Then there were the calenderers, printers and dyers, numbering nearly half a million. In 1901, cotton weavers showed a decline of 10%. There was an increase under this head in Berar, Rajputana and Kashmir, but a fall in the other provinces, which was especially noticeable in the provinces shown below :—

Province	*Numbers supported per ten thousand of population*	
	1891	1901
Burma	313	186
Central Provinces ...	447	329
Baroda	284	185
Central India Agency ...	193	125

In 1911, the number of persons supported by cotton spinning, sizing and weaving was close on six millions, and another half a million was employed in ginning, cleaning and pressing the raw material. The proportion of the population supported by the three former occupations was 37 *per mille* in the Punjab; 29 in Bombay and Rajputana; 27 in Madras; 22 in the Central Provinces and Berar; and 18 in the United Provinces. In Burma, Bihar and Orissa, Bengal, and Assam, it was much smaller, ranging only from 8 to 11 *per mille*. In the case of cotton ginning, cleaning and pressing, the number of factory employees was more than a

[1] Cmd. 51 of 1919, pp. 10–11.

quarter of the total number of actual workers; but the numbers employed in the factories for spinning, weaving, etc., were only 237,000, or one-thirteenth of the number of actual workers. As compared with 1901, Sir Edward Gait points out that there has been a decrease in 1911 of 6·1% in the numbers supported by textile industries, and attributes this to the almost complete extinction of hand-spinning. Hand-weaving, too, has suffered in competition with the mills; as the output per head in factories is far greater than that from hand-looms, the addition of a given number of factory hands involves the displacement of a far larger number of hand-workers. As a result, the weaver has been compelled, like other artisans, to fall back on the land as his principal means of subsistence.[1] The broad conclusion that follows from these figures is that the once-famous staple manufactures of India have fallen on evil days. A more detailed inquiry into the conditions of the industry in one or two provinces will throw additional light on the situation. Mr. J. G. (now Sir John) Cumming, in his valuable *Review of the Industrial Position and Prospects in Bengal in* 1908,[2] has given us a succinct account of the condition of the hand-loom industry in almost every important district in that Presidency. He shows that the yearly accounts of the industry from 1892 have been dispiriting, and that in 1898, Mr N. N. Banerjei, who wrote a monograph on the Cotton Fabrics of Bengal, stated that "large numbers of weavers

[1] *Vide Census of India*, 1891, I, p. 105; 1901, I, p. 213; 1911, I, p. 418. An interesting account of the conditions of the hand-loom industry in the various provinces is given in Vol. I, Part I, p. 270, of the *Indian Census Report of* 1921. It is there mentioned that the attempt to take a census of hand-looms in India was not successful, but the figures available are given below:—

Province	*No. of hand-looms*
Ajmer-Merwara	1,587
Assam	421,367
Bengal	213,886
Bihar and Orissa	164,592
Burma	479,637
Delhi	1,067
Madras	169,403
Punjab	270,507
Baroda State	10,851
Hyderabad State	115,434
Rajputana (Agency)	89,741

[2] Part II of *Special Report*, pp. 7–8.

had abandoned their looms, and taken to other pursuits," and that the cotton industry was generally in a decaying condition. In 1899, again, the industry was stated to be on the decline, but there was no change in the fine muslin of Golnagar, and in the coarse cotton cloth of Orissa. By 1901, it was stated that the competition of European piece-goods was lowering the indigenous industry in the Burdwan, Presidency and Patna Divisions, but that the fly-shuttle loom was coming into use in the two former areas. In 1905, it was stated that the coarse country-made cloths were preferred in the Orissa and Chota Nagpur Divisions and in the Sonthal Parganas. The Swadeshi movement of 1905–7 was responsible for galvanising the industry into activity for some time, but by 1911, there appears to have been another relapse, and Mr L. S. S. O'Malley reports[1] that, in spite of the stimulus given to it by Swadeshism and by the efforts of Government to introduce improved and more profitable methods of work, there was a serious decline since 1901, the actual decrease in the numbers of those who subsist by the produce of their looms in Bengal, Bihar and Orissa being about 23%.

Mr (now Sir Alfred) Chatterton discusses the question in the chapter on Industrial Occupations which he contributes to the *Madras Census Report* of 1911.[2] On a careful analysis of the Madras census figures from 1871, he comes to the following conclusion: "It is clear that in 1871 there were 376,561 weavers (males), but in 1881 188,157 males are returned as cotton manufacturers, and the weavers only number 196,610. The total comes to 384,767, and probably includes cotton spinners and ginners. We may assume, approximately, that these numbered about 20,000 and that therefore the number of weavers in 1881 was slightly over 360,000, showing a probable decrease of 15,000 weavers in ten years. This result would not be unexpected, remembering the havoc caused by the great famine of 1877. In 1891 the weavers are returned as 365,112, and in 1901 as 383,132. So far as can be ascertained, these numbers are comparable, and would show a slight increase in the actual number of weavers. The figures for 1911 are reported as 385,124, but this includes all mill hands and persons engaged in power

[1] In the *Bengal Census Report* for 1911.
[2] See *Census of India*, 1911, Vol. XII, pp. 207–9.

factories connected with spinning and weaving. The number of these latter is 16,615, and, deducting these, we obtain that the number of hand weavers in 1911 is 368,509. I think, therefore, we may safely accept the following conclusion: That in the last forty years the number of hand-looms has remained stationary, but that owing to stress of competition, they now turn out a larger amount of finished goods than was formerly the case; that is to say, the majority of them have to work harder to make a bare living." But in 1921 it is said that, even on the assumption that each weaver supports two others, the figure for 1921 deduced from that showing the population supported by the industry is rather less than 304,000.[1]

The conditions of the Madras hand-loom industry are, however, in some respects peculiar. The proportion of fine weaving is higher than in most other provinces; the industry is more concentrated in localities, and it relies to some extent on a regular export trade in certain special lines. In an Appendix (I) to the *Report of the Indian Industrial Commission*, the figures from 1891 for some other provinces are examined, but they are of such doubtful accuracy that we need not here enter into the details. The only safe conclusion from these figures is that, at the best, all that the hand-loom industry has been able to do has been to avoid the fate that has befallen the hand-spinning industry. But if the number of weavers has fallen away, the hand-woven production shows something of an expansion, justifying Sir Alfred Chatterton's conclusion that the present generation of workers is working much harder than their predecessors. The Statistical Atlas of the Madras Presidency shows that there were 167,806 hand-looms in certain districts in that Province in 1900; an enquiry conducted in 1913–15 showed an increase of 69% on the 1900 figures.[2] According to the census of 1921, however, the hand-looms in the Presidency only numbered 169,403.[3] But the statistical data available lead to the inference that more and more yarn is being taken up by the hand-looms. For a complete account of the methods and the results of the calculation, reference may be made to Statement II, attached to Appendix I of the *Indus-*

[1] *Census of India*, 1921, Vol. XIII, Part I, p. 196, para. 107.
[2] Cmd. 51 of 1919, p. 394.
[3] See *Census of India*, Vol. XIII, Part I, p. 196.

trial Commision's Report, according to which, the hand-loom consumption of yarn has been rising from an annual average of 21·85 crores of lbs. in the five-year period 1896-1900, to 24·2 crores in 1901–05, to 27·08 crores in 1906–10, and to 28·79 crores in 1911–15.

In view of the incomplete and unsatisfactory nature of the returns, the numerical tests as applied through the census figures are by no means final or decisive. But there are some other indications which *prima facie* lead to the assumption that the industry is far from prosperous. The economic condition of the smaller artisans, living at the best of times but a hand-to-mouth life, and exposed to peculiarly severe hardships in times of scarcity, has always been a source of grave anxiety to the Government. These humble workers, of whom the weavers form the vast majority, are distributed all over the country. As a rule, they are nowhere well-to-do, and the majority of them are in the hands of cloth merchants who finance them and take their finished articles in part repayment of advances. In the Punjab, where cottage industries appear to flourish better than in other parts of India, Mr H. A. Rose has thus described their financial position: "In the villages, the artisans and menials are by custom share-holders in the community, in spite of their dependence on the landholding tribes; but in the towns the artisan classes are entirely dependent on the capitalist classes, without a customary right to share in the trade profits as compensation, and this unsatisfactory condition of things arises out of the system of advances to operatives, which prevails on a very large scale, and especially in the cities. This system appears to be generally as old as the industries themselves, and it has grown with their growth until it has become a serious menace to their progress. Thus, in the case of the carpet weaving and several other industries at Amritsar, it is said that each master artisan who has workmen under him owes Rs. 300 to Rs. 1,000 to his employer. This debt is called balance or Baqi, and when an artisan leaves one employer for another, the latter must, by the custom of the trade, refund the outstanding advance to the former and thus himself become the artisan's creditor. In addition to this outstanding Baqi, other advances are from time to time made to the artisan. These are called Kharch, and money due for work done is credited to this Kharch, anything over

and above the sum advanced being credited to the Baqi, though in practice it is alleged by the capitalists themselves that on the Kharch account the balance is usually against the workman, whose Baqi, in consequence, is constantly increasing. It is admitted that the Baqi constitutes an irredeemable debt, which the workman can never hope to liquidate, and which thus renders him liable for life-long service to the capitalist, although interest is not charged on the amount outstanding. The system thus precludes any attempt on the part of the operatives to improve their skill or efficiency, for increased earnings would merely go to liquidate the Baqi. It is small wonder if under this system several minor industries have decayed."[1]

With the burden of indebtedness thus accumulating on their shoulders, and with an income which shows a tendency to fall rather than to rise, it is not strange that the artisans have been unable to offer any resistance to such a calamity as famine. The case of the weaver, in particular, has often come in for special comment in this connection. When the crops fail, the resources of the people at large are crippled; the customary demand for cloth is arrested; the weaving trade, ceasing, for want of a market, to be a source of profit, fails to be a means of support to those engaged in it; and the high price of food-grains induced by famine aggravates their depressed condition. As in the case of the poorer agricultural and labouring classes, it then becomes necessary for the State to intervene and help the weavers by providing them with the means of earning a wage sufficient at least for their bare subsistence. All the Famine Commissions were concerned at the problem presented by the weaver, and had to consider his case at some length.[2] This circumstance, and the fact that in the absence of extraneous aid, " many weavers were obliged under the stress of famine to fall off from their own trade and sink into and swell the ranks of ordinary labourers," form a melancholy comment on the instability and precariousness of the existing handicrafts.

In his work on the Lancashire Cotton Industry, Professor Chapman gives an interesting account of the English hand-

[1] *Census of India*, 1901, Vol. XVII, Part I, pp. 368–9.

[2] *Vide Famine Commission Reports*, Cmd. 2591 of 1880, p. 60; Cmd. 9178 of 1898, pp. 297 *et seq.*; Cmd. 876 of 1901, pp. 78–9.

loom weavers when faced with the competition of machine-production. During the interval between the introduction of machine-spinning and the emergence of the competition of the power-driven looms, they enjoyed a spell of short-lived prosperity. Thenceforward was a continuous decline, and the Royal Commission appointed in 1837 to enquire into the possibility of remedial measures found that " insufficient wages and excessive toil was the general lot of the hand-weaver," and that from being a small master, he had degenerated into a mere wage earner. Of the future of the hand-loom they had no hope, and they considered that the safest way of " saving " the weaver was to ask him to train up his children for some other trade. Prof. Chapman quotes John Fielden as asserting " that a very large number of weavers were unable to provide themselves and their families with a sufficiency of food of the cheapest and plainest kind ; that they were clothed in rags and indisposed, on this account, to go to any place of worship, or to send their children to the Sunday School . . . that, notwithstanding their want of food, clothing, furniture and bedding, they for the most part had full employment ; that their labour was excessive, not infrequently 16 hours a day." Yet, like his Indian colleague, he was faithful to his trade : " Only the direst necessity could drive the typical hand-loom weaver into a steam factory, and not infrequently he preferred to fight famine at close quarters rather than surrender his liberty. . . . The handicraftsmen as a whole at that time were entirely unenterprising ; it is small wonder, therefore, that competition cut prices at their expense. Their wages stood for the line of least resistance. The typical hand-loom weaver with his cottage loom, who dreaded the thought of factory life and remained rooted like a tree in his parish, represented a social order that was already obsolete."

This picture does not seem unfamiliar to Indian readers, and there can be no doubt that, with his present methods of work, the Indian weaver is an anachronism. Does it, therefore, follow that the same fate that overtook the English weaver would eventually befall him also ? The answer depends upon his capacity for responding to his environments. The competition of machinery has now existed for nearly a century, and the vast strides taken both in the import trade and the local mill-production of cotton goods have been noted in

some detail in another connection.[1] The obvious advantages of large-scale organisation and production have been in full operation during this long period, and yet the small, unorganised hand-loom weaver has not been crowded out. The competition no doubt has been in some instances severe; and it has left a deep and abiding impress upon the hand-workers. But, as a rule, the machine-made cloths do not trench on the hand-loom workers' special domain. "For the home product, strong and coarse, but genuine and durable, still holds the agricultural market amongst the lower classes, and, indeed, among the ryots generally, a fact that is obvious to anyone who goes about among the country people. In the towns, the competition is beyond doubt severe, for the finer fabrics of the hand-loom must be more expensive than the machine-made products of Europe, now that processes are so much improved and freights so low; and it is the townsman that takes first to a novelty. On the whole, therefore, looking to the very small proportion of the urban population, and of the wearers of fine raiment among the rustics, it does not appear that the field of the ordinary weaver is yet usurped by any competitor. The manufacture of muslin and 'woven air' and so on is the one to suffer."[2] These words wer written in 1891; but the nature of the competition has since changed. Nowadays, the hand-loom is easily worsted by machinery in the ordinary middling qualities, but at both ends of the scale it can still hold its own. There are many fabrics manufactured in India which cannot be made with commercial success by the power-loom; and in those branches of weaving, the only thing to be feared is that the weaver may lose his business through changes in the tastes and customs of the people. Thus the beautiful, solid-bordered cloths of Salem and Madura, the fine-woven "Nariels" of Malabar, and the magnificent Kincobs and brocades of Benares and Surat are as yet unaffected by the direct competition of power-looms. Likewise, in the manufacture of very coarse cloths, the large quantities of Dungaree cloth that are now made on the hand-loom do not compete directly with machine-production, inasmuch as they are made out of inferior cotton not possessing the requisite strength for being used on power-looms. The tendency is now towards

[1] See Chapter on the "Indian Cotton Mill Industry."
[2] *Census of India*, 1891, Vol. I, p. 105.

the production of the finer and more distinctive varieties on the hand-looms, and, according to the writer of the note on hand-loom production appended to the *Report of the Indian Industrial Commission*, the reduction in the number of weavers was confined mainly to the coarse weavers, whose products were less specialised, and more exposed to mill competition, and who found it more easy to take to unskilled labour. There are also other reasons for the survival of the hand-loom. According to a calculation made in 1905,[1] the comparative cost of weaving a pound of cloth is 14 pies in an English, and 17 pies in an Indian, power-loom, while it is 21 pies on an efficient hand-loom in India. But it may be pointed out that the hand weaver's plant represents only a small capital, and can be kept in use for many years, and that, therefore, his initial outlay need not be great; that the nature and amount of labour requisite for the great variety of design in the more artistic and elaborate garment precludes machine competition in such articles; that the hand worker has only a low standard of subsistence, and has also considerable advantage through inherited skill in the weaving of the finer articles;[2] and also that the hand weaver sometimes combines the industry with some other occupation, and therefore is not exclusively dependent on the earnings of this profession alone. Moreover, as Mr A. C. Chatterjee points out,[3] working at home in the midst of his own family, he is generally willing to, and does, work much longer hours than an operative at a factory. The women of the family also, in the intervals of domestic work, afford a great deal of assistance in the different preliminary processes between the purchase of the yarn and its actual weaving. If hand-weaving were altogether to disappear, only a very small proportion of such women would be engaged in any other industrial employment. These circumstances interfere with the operation of the economic law of wages, and the comparative cost of the hand-loom products is consequently not so disproportionate as the earlier estimates would have it. To-day, the difference in the cost of production between

[1] See Mr. S. M. Johnson's paper before the Indian Industrial Conference held at Benares.

[2] These points are fully set forth in the Government of India's memorandum on *Hand-loom Weaving in India*, circulated in October, 1906.

[3] *Notes on the Industries of the United Provinces*, 1908, p 13.

the hand and power-loom is even less. In the case of cotton coloured *sarees* (8 yards by 42 inches) of average 20 counts of yarn, which nearly 75% of the hand-loom weavers weave, it is said that the minimum cost of manufacture in the Bombay mills in 1914 was 4 annas 3 pies per pound of cloth, against 6 annas 2 pies representing the maximum cost of the hand-made article. In the latter case, however, the *saree* had a coarse silk border, and fetched in the market nearly twice as much as the mill-made *saree*.[1] In the case of grey goods, the cost of production in the mills during pre-war days is said to have been as much as 2 annas 6 pies per lb. (including, on an average, 20% of size) and this must since have doubled; for the cost of machinery and buildings, and also of coal, has gone up from two to three times. The labour charges have doubled with a proportionate increase in the cost of mill stores. But the wages of hand-loom weavers have gone up only by about 50%. Thus, even in grey goods, the difference has been abridged to a large extent, and a gap of about 5% of the current value of the finished article that still remains can easily be built over, and the advantage in competition brought over to the side of the hand-loom, if only the cottage industry is more efficiently organised.

Before passing from the question of competition, a reference may be made to the effect of tariffs on the hand-loom industry. The contentious cotton excise duty of 1896 and the alterations that subsequently followed, while tending to maim the indigenous mill industry, indirectly protected the hand-loom worker against the aggressions of the factory in India; and it is to be feared that, if the excise duty is altogether abolished, as recommended by the Fiscal Commission,[2] the competition offered by the Indian mills to the hand-loom may increase in intensity. Already, it has been adversely affected by a recent change in tariff legislation. In the early days of the Indian tariff, cotton yarn was subject to a low duty, which at the time of the general abolition of the customs duties in 1882 stood at 3·5%. When in 1894 the cotton duties were re-imposed, it was at first decided that the excise duty to countervail the import duties should be

[1] *Vide Journal of Indian Industries and Labour*, Vol. I, p. 474.

[2] *Vide* Chapter X, *Report of the Indian Fiscal Commission*, Cmd. 1764 of 1922.

imposed on yarn and not on piece-goods ; and, accordingly, an import duty and an excise duty, both at the rate of 5%, were levied on cotton yarn. This system gave way in 1896 to an excise duty on cotton cloth ; and it was decided that, as the Indian finished product was to be taxed, the raw material, *viz.*, yarn, should be freed both from the excise and the import duties. This policy was not departed from till March, 1922, when an import duty of 5% *ad valorem* on cotton yarn was imposed. Mr. T. V. Seshagiri Ayyar opposed it in the Legislative Assembly on the ground that it would inflict a serious blow on the hand-loom weavers.[1] The great bulk of the imported yarn is consumed by the hand-looms, and it was pointed out to the Fiscal Commission that the rise in the cost of the cloth which would result from such a duty was likely to affect the demand for the hand-loom products, that it was even probable that the cottage workers, owing to their lack of organisation, might not be able to pass on the whole of the duty to the consumer, but would be compelled to pay it directly out of their pockets. This, it was urged, would constitute a heavy burden on a poor class with limited resources. Again, in the coarser qualities of goods where the hand-loom is in direct competition with power-looms, the duty on yarn would confer a clear advantage on the Indian power-looms. The weaving mills for the most part obtain their yarn from their own spinning departments, and consequently the cost of the yarn which they use will not be affected by the import duty. The hand-looms, on the other hand, having to purchase yarn in the market, will undoubtedly have to pay a price which takes into account the import duty, whether the purchase be of imported or of Indian-made yarn. The Fiscal Commission, therefore, is inclined to think, from the industrial point of view, that a clear case has not been made out for its retention.

Apart from the question of relieving the hand-loom weaver from tariff disabilities, there are other directions in which the problem of the redemption of the industry may be attacked. It has already been pointed out that it is only by organising it on more efficient lines that it may be enabled to meet mill competition on a less unequal footing. Most of the efforts already made have been towards the introduction of improved looms, whereby the output may be considerably

[1] See the discussion on the Financial Statement for 1922-23.

increased; and an idea of the hopes entertained by the advocates of improved looms may be formed from the following extract from a paper contributed to the Indian Industrial Conference held at Calcutta in 1906: "The production of hand-looms working in the country is estimated at 1,650 million yards. The looms work at an average effective speed at 20 picks per minute, and if this can be increased to 50 picks, the increased production with the same number of looms will be 2,475 million yards. This increase more than equals the total cloth imports into the country. As this increase can be produced by the same number of men as are now engaged on the looms, the price per yard will be cheaper than at present, and their ability to withstand foreign competition will so far be increased." A good deal of work in this direction has been done during the last twenty years, and the technique and methods of weavers of the better classes of goods have been materially improved. Thus the fly-shuttle loom has been popularised in the Madras Presidency, and as a result of the Madras Weaving Competition of 1908, it is now established that the fly-shuttle sley is cheaper than the ordinary sley, and that the fly-shuttle gives a greater out-turn, the increase varying not only with the skill of the weaver, but also with the different counts of yarn used, the out-turn relative to that of the country loom being nearly double in the case of coarse counts, more than 150% with medium counts, and slightly less than 125% with finer counts ranging from 80 to 150. Sir Alfred Chatterton estimates that the adoption of the fly-shuttle increases the wages of a weaver by Rs. 2.8.0. per mensem. Mention must, in this connection, be made of the valuable work done to adapt the Paisley Shawl Loom to Indian conditions at such centres as Salem, Serampore, Barabanki, Ahmednagar, Bangalore and Ludhiana. But the preliminary processes before the yarn is ready for the loom need equally urgent improvement. These are many, and, as now performed by the weavers, some of them are exceedingly laborious; and it has been calculated[1] that, under the present methods of warping and sizing employed by the weaver, the average out-turn does not exceed 100 lbs. of cloth per head per annum. Unless, therefore, a great reduction in the amount of labour involved in the preparatory processes can be effected,

[1] *Madras Census Report*, 1921, p. 196.

there is little chance of introducing any very great advance in the industry as a whole.

The problems connected with hand-loom weaving have thus been summarised by Sir John Cumming :[1] " The problem of assisting the weaver in his old individualistic way is one thing ; for that, the cheapest form of mechanism which will give an increased out-turn is required. . . The problem of applying . . . labour to work looms is another . . . But even if these conditions are satisfied, this is not enough. Organised capital is required. The capitalist can either finance the weavers in their own homes in an existing weaver colony, and distribute their goods for them; or he can in a similar colony economise by bringing the weavers and their wives and children to work under one roof, in the manner in which the new Madras hand-loom factories are working. A factory does not necessarily connote mechanical power or unhygienic surroundings." It is, however, disheartening to read in Mr Boas's Report[2] that the attempts to organise the hand-loom industry in small factories has definitely proved a failure, owing to the indolence and indiscipline of the workers. Mr Boas also points out that for want of such organisation, even the fly-shuttle is being given up, the reason most commonly alleged being that *sowcars* who finance the industry find it difficult to market the increased out-turn and to keep the *coolie* weavers supplied with yarn. In the light of past experience, it appears that the right way to organise a factory would be to build it around the warping mill and the dressing machine ; the cardinal objection to grouped labour will disappear if weavers still work in their homes, while the managers of the factory will supply them with warps, and also undertake to finance the trade and place the finished goods on the market.

It is not alone to the cotton hand-loom industry that the conditions described above apply. Almost identical conditions, for example, exist in the silk industry. To indicate the intrinsic importance of this latter industry, it may be mentioned that the silk products, imported and Indian-made, amount on an average to about ten crores of rupees, and that nearly a million persons are more or less directly concerned in it. The silk industry has not attracted the atten-

[1] *Special Report*, referred to, Part II, p. 9.
[2] *Madras Census Report* of 1921, p. 196.

tion that has been bestowed on the cotton hand-loom industry, for the reason, among others, that the silk weaver is slightly better off than the cotton weaver. But there is reason to fear that the silk industry has been harder hit by the competition of imported goods. The exports of raw silk from Bengal have greatly fallen off, and though Kashmir is sending out more than in former years, these are still small in comparison with the earlier Bengal exports. The silk weaving industry appears to be doing fairly well, but the place of the Indian raw silk is being taken by imported silk. The local silk is full of knots and loose ends, and is of very unequal strength; and, as a consequence, the weaver prefers the more even re-reeled silk imported from China. Messrs. Chadwick and Black, in their report on Indo-French Trade, declare that Bengal silk is so badly reeled that the Lyons trade does not consider it suitable for weaving fabrics. The exports in silk manufactures have also fallen off; and foreign imports in this line have greatly increased.[1]

Internally, also, the industry exhibits all those defects we have already noticed in connection with the cotton hand-loom industry. Both in production, as well as in trade, there is an utter lack of organisation. In the matter of technical improvement, we have noticed that the weakest spots in the indigenous industry, apart from sericulture, are the primitive and inefficient processes used in preparing the silk yarn. These are both wasteful and unsatisfactory, and in some instances, as in the Madras Presidency, successful attempts have been made to effect improvements. The attitude of the merchant-financier in the silk trade affords a strong parallel to conditions we have observed in the cotton industry. "Wherever improvements have been attempted," says Mr. Ansorge, "they are frequently retarded by the small merchant-employers, the very persons who, under the present conditions, would profit by the change."[2] As a result, the economic conditions of the silk weavers are,

[1] See pp. 100–1; E. C. Ansorge's *Present Condition of the Silk Trade of India*, being Volume II of the *Report on an Enquiry into the Silk Industry of India*, Calcutta Govt. Press, 1917. The Indian Industrial Commission (Appendix G of *Report*) argues that the statistics yield no evidence of any serious decline in the silk industry, but its calculation is based upon the assumption, evidence in support of which is not forthcoming, that the production of Indian silk is at least equal to twice the export of chassam or silk waste.

[2] *Report*, Vol. II, p. 100.

like those of the cotton weavers, generally very unsatisfactory.[1]

Attention has, in this study, been concentrated on the organisation of the weaving industries inasmuch as they form the most representative of India's numerous cottage industries. In every case we notice that the cardinal features of the situation are, first, imperfect division of labour, secondly, bad financial conditions, thirdly, the

[1] See Prof. H. Maxwell-Lefroy's description of their condition: "It is a feature of every branch of the Indian silk industry that the organised co-operation of the workers is absent, and the workers have not the capital, the organisation, the means of getting raw material on a large scale, which the mills have; it is unfortunately another feature that any measure of co-operation to mutual advantage is excessively rare, and still more unfortunate is the almost universal fact that the Indian workers distrust each other, that the employer grinds the workman, that the dealer cheats the producer, and that there is a deplorable amount of sweating and cheating. This tends to put the worker gradually into the hands of the dealer or money-lender, and the spirit of co-operation, the spirit of fair dealing, which would help all in the struggle, is very largely absent. . . . The Indian industry is characterised by another feature, which tends to its decline; acting on the Get-Rich-Quick principle, the dealer, who employs weavers, cuts down wages, cuts down material, cuts down quality; the weaver must make the allotted amount quickly, works badly, makes poor stuff; but it is cheap, and sells well for a time; the dealer makes a large profit, but the craft loses its quality, demand lessens, the industry declines, it presently dies out. It is a feature, not in silk alone, but in many industries, in which the maintenance of a standard of quality is essential to the maintenance of reputation and demand. . . . There is a tendency in India among the weavers and craftsmen to make improvements difficult by their wanting too much. It is easily understood if one realises the attitude of the worker, ground down continually by pressure of circumstances and want of capital, and suddenly offered work at reasonable terms without restriction or usury; he jumps to the opposite extreme, wants to make too much and spoils his own market. He is not used to fair treatment, and when he gets it, cannot help abusing it, having all his life been resentful of the terms on which he had to work, and having always looked for chances, of evading it or of retaliating. I think, too, he is by generations of struggle suspicious, and especially so of what looks like a good offer. It is too good, and he suspects a trap. If he did not, and if he realised that it was serious business, he would meet one half-way; but he cannot. . . ." In another way, the Indian industry is hampered by the total absence of any feeling of patriotism, or of preference for articles of Indian manufacture. In any of the largest silk weaving centres you will find dealers selling Japan, China or Europe-made silk, while goods of practically the same quality could be, and often are, made in India. The same applies to raw silk, and there is really remarkable absence of any spirit of patriotism in the dealers and those who handle the products. They would sooner sell the Japanese goods brought to them by an energetic Bombay firm than deal in Indian goods; and the buyer cares not one whit where the cloth was produced, but takes what the dealer has." *Report on an Enquiry into the Silk Industry in India*, Vol. I, pp. 5–6.

absence of commercial organisations to place the output on the market, and over and above all, the artisans' inherent conservatism and lack of ambition, and present inability to appreciate a higher standard of living. A generously-planned and vigorously conducted programme of education, therefore, is the first condition for the improvement of the material conditions of the workers, to be closely seconded by a system for training the children of the artisan in his vocation in properly equipped industrial schools.[1] "The cheapness of living in India is a powerful weapon in international competition, but it is of little avail if the labour is inefficient and unorganised. There is no likelihood of cottage industries becoming extinct; but improvement in the condition of the workers is not possible, unless better tools and plant are employed and an intelligent sub-division of industrial processes introduced. There is a tendency, which will probably be accentuated, to organise small factories,"[2] which will further familiarise the workman with specialised processes and the advantages of mechanical aid. But their success will depend on proper business management, undertaken by men who have had a thorough grounding in their respective trades, and also upon their being disposed to deal fairly with their employees. The evils of the small factory, undertaking the financing and supervision of "commission work," are that it is generally unenterprising and out of touch with the market, and that it is likely to degenerate into a Bania business, with sweating as its principal characteristic.[3]

The problems of financing and marketing are thus brought into prominence. There is here ample room for private enterprise; the individual capitalist has already done something in this direction, and though his system of financing has not always been advantageous to the small worker, the commercial organisation that he has built up has opened up an Indian market for the cottage industries, and the special products of such important centres as Benares, Aligarh,

[1] For an account of the trade schools in Bengal, Madras, and the Central Provinces, see Vol. I, *Journal of Indian Industries and Labour.*

[2] Cmd. 51 of 1919, p. 164.

[3] See the evidence of the Hon. Mr W. W. Hornell before the *Industrial Commission*, Evidence, Vol. II, Cmd. 235 of 1919, pp. 226 *et seq.*; also E. C. Ansorge, *Present Condition of the Silk Trade in India*, pp. 51–2.

Moradabad and Madura are now to be seen fairly widespread all over the country. But the policy adopted has not been sufficiently virile and aggressive; the tastes of the consumers are not studied; there is no courting of publicity; and the arts of advertisement have yet to be cultivated. Public or semi-public bodies are also trying to popularise home industries by means of museums, fairs and exhibitions; and the Victoria Jubilee Technical Institute at Madras has a magnificent showroom where the arts and crafts of the Presidency are well represented. The Bengal Home Industries Association, started by Lady Carmichael, has for its object the encouragement of home industry by finding for its products a wider market; and the Swadeshi stores which are now springing up in different parts of the country may also absorb and distribute the home-made articles of India. The small size and scattered nature of these industries do not justify the hope that big financiers will ever be sufficiently interested in their development; but these very features lend themselves admirably for co-operative treatment. Small industries in other countries owe their flourishing condition to the influence of the co-operative principle; and in India, co-operative credit societies have been started among small urban artisans working in communities. The funds advanced are mainly used for the purchase of raw material and implements, or for financing the sale of finished products. Under-capitalisation and ineffective bye-laws have hitherto restricted the scope of their beneficence;[1] but the Industrial Commission considers that a more widespread organisation, based on the co-operative principle, will solve the problems connected with the further development of cottage industries if the following principles are kept in mind:—

In the first place, before any such movement can be organised, the ground must usually be prepared by the educative influence of co-operative credit, the simplest and most readily accepted form of co-operation in this country. In the next place, the central banks, the secondary co-operative bodies which are the main financing agents, look with considerable and quite justifiable doubt on societies of a new type, until their soundness has been thoroughly established by success, and, not least so, on industrial societies. Again,

[1] Consider, for example, the case of the Big Conjeevaram Urban Weavers' Union, pp. 52–3, *Ansorge's Report*.

in many cases, especially in those which require some degree of technical skill or knowledge on the part of the agents employed, or need a more widespread organisation than a single credit society can offer, it is better to work through co-operative bodies founded *ad hoc*, or unions, as they are often called, than to entangle ordinary primary societies in responsibility for work which is not understood sufficiently by many of their members and makes too large a demand on the capacity of the societies. It would, for instance, be undesirable to saddle a small credit society, of which perhaps only half of the members grow cane, with the task of financing and looking after a cane-crushing and *gur*-making plant. Mutual acquaintance and trust are necessary assets in the case of a primary credit society; but a primary weavers' society, small enough to fulfil these conditions, would not, in most cases, be strong enough to finance the sale of its output.

Where the products of an industry have a ready sale at a more or less fixed price, co-operative societies for credit or purchase are not difficult to work, but the advantages of co-operative sale in such cases are, as a rule, not very great. But where the market depends on casual purchase, or is a fluctuating or seasonal one, most of the workers are so largely in the hands of the money-lenders who take these risks and charge very high rates for doing so, that it is not easy to help them, unless an organisation can be set on foot large enough from the very beginning to finance stocks and arrange sales. Success is more likely to be achieved with readily marketable articles, and the more difficult cases may be taken up when experience has been gained with the easier ones. Urban artisans who work individually, such as smiths, carpenters and in many cases, metal and leather workers, do not readily combine in co-operative organisations with unlimited liability; and without this, their assets are not sufficient to command much credit. A Registrar of experience expressed the opinion that the most hopeful method of helping men of this sort might prove to be through urban banks of the Schultze-Delitsch type, which, though their aims are co-operative, do not work on the principle of unlimited liability, and lend to individuals on the security of two other names.[1]

The question has often been raised whether, in these days of big business, it is worth while to prop up the small

[1] *Industrial Commission Report*, Cmd. 51 of 1919, pp. 168–9.

producer against the mill and the factory; and there is a growing volume of opinion in India that its economic salvation lies in the emergence of towns like Bombay and Jamshedpur, which represent large-scale production. These despisers of humbler efforts do not realise that in many, if not the bulk of the cases, highly capitalised industry on European lines is not possible, that there is not the volume of trade to make it succeed; and that, even if it does succeed, fresh sources of employment must still be sought for those displaced by the increasing use of machinery. Another school of thought holds to what Professor Macgregor calls the Merrie England fallacy, would revive the simple life of the past, and would have none of machinery and industrialism. The idealism of this school is not easily translatable into practice without a heavy sacrifice in wealth and efficiency which the country can ill afford. There is yet another school which argues with Bucher[1] that the type of industry is suited to the type of social life, and that any attempt to change the industrial type without a corresponding alteration in social conditions is foredoomed to failure. But this argument involves the inference that small-scale enterprise, while suited to present conditions in India, will eventually give place to large-scale production, when urban population develops and alterations take place in the nature of the demand. A review of the present position of small industries in various parts of the world, however, leads to the conclusion that they form an organic part of the economic structure of each country. The imposingly rapid growth of large industry, " electric power and the steam engine, the demands of cheap goods of uniform pattern, capitalist power and the Juggernaut of modern labour policy crushing individualism under its huge wheels of insistence upon collective fighting with an ever-mobilised army, which grudges individual workers their freedom—these have wrought sad havoc in this once fruitful field of human industry." Yet it is a mistake to assume that small industry is yielding ground hopelessly to large. Recent investigations have shown that the employment of workers in their own homes or in large domestic workshops under small masters is still the prevailing industrial practice in the East End of London, and Charles Booth and his collaborators

[1] *Die Entstehung der Volkswirthschaft*, translated by S. M. Wickett under the title *Industrial Evolution.*

have given us a vivid picture of the conditions under which the typical industries of this class, the tailoring and shoe-making of Whitechapel, the silk-weaving of Bethnal Green, and the cabinet making of Shoreditch, are carried on.[1] Among the other industries in which the domestic system prevails are the cutlery trade of Sheffield, the pottery and the chain and nail making of the Black Country, the lace making and hosiery of Nottingham, the straw-plaiting of Bedford, the glove industry of Worcester and Oxfordshire, the smallware trades of Birmingham, and the silk-weaving of Macclesfield. In some of these cases—at Nottingham and Sheffield, for instance—an arrangement is found which is half-way between the domestic workshop and the factory. The small master continues to undertake the work upon his own account, but hires from a larger capitalist not only the room in which his occupation is carried on, but also the power necessary to keep his wheel or his loom in motion. Likewise, small industries show a remarkable vitality in other highly advanced industrial countries; in the United States, the weaving of tweeds and homespuns still holds the field against the factory; and the hand-loom of the small master is still to be found in many parts of France and Germany, not to mention the countries of Eastern Europe. Most of the small industries are common to all countries, but some have their own specialities, such as the production of articles of fashion in Paris, of toys in the Black Forest region in Germany, of watches in Switzerland, and of samovars in the Russian villages. And in Japan, the tireless energy and rare application of the cottage workers have found a grateful outlet for creative ingenuity and deftness of fingers in a large variety of small handicrafts.

The trend of evidence, therefore, is in favour of the conclusion that the elimination of the cottage worker is not an inevitable, or even a frequent, concomitant of the growth and development of large-scale production. In India, particularly, where there still flourishes an enormous diversity of handicrafts, some of which, like the hand-loom, have successfully withstood the competition of factory production, there is no reason to suppose that the days of the small producer are numbered. India has often been called a country of small industries (*Klein-Industrie Staat*), and fully does she

[1] *Life and Labour of the People of London.*

deserve the name. "Here," says Mr H. W. Wolff,[1] "Here is a population of many millions, 90% of whom are riveted to the soil, which, with its fragmentary small holdings, provides employment for the ryots only during part of their time, and yet prevents them from going away to seek a living elsewhere. They have skill, these men and women. What remarkably attractive toys and knick-knacks, but also what charming and artistic articles of silver and ivory, do they not manage to turn out! And there is much small industry surviving, not only of the comparatively 'heavy' kind, to which we are bound to look specifically for popular bread-winning in the future, such as spinning and weaving. Mr B. A. Collins has in a recent number of the *Bengal Co-operative Journal* reckoned up a whole host of such industries. Professor Radhakamal Mukerjee supplies even a fuller list, showing the great variety in which indigenous small industry survives. And Mr Ewbank found in the course of a recent enquiry that small industry figures very largely indeed in Indian economic life as a whole. There were, a short time ago, so he shows, of the 315 millions peopling India, 35 millions depending on industry. Of that number, 18 millions were dependants, leaving 17 millions actually employed. And of these, only 823,000 were known to be employed in power mills, leaving over 16 millions occupied in small workshops. That clearly shows the capacity of Indians for small industry and the readiness with which they take to such industry as a congenial calling."

There is also another reason why small industries should be supported and encouraged. It has been pointed out elsewhere that the crying need of India is for a diversity of occupations. The development of new industries on modern lines will, of course, ultimately increase the avenues of employment, but the present tendency of industrial development is to substitute the machine for the hand-worker. The available statistics leave no room to doubt that machinery is everywhere displacing the manual worker, who is thus forced to fall back on the land, and thus augment the evil for which we have sought a remedy in industrialism. The larger concerns in India gave employment for only 1,367,136 persons in 1919, out of a total population of about 319 millions; and, whatever may be the rate of industrial development, it

[1] *Co-operation in India*, 1919, pp. 280 *et seq.*

will have to be admitted that the multiplication of large-scale industries alone will not be a sufficient answer to the demand for employment. Again, cottage industries in India are in many instances the spare-time occupation of many people.[1] Complementary occupations of this nature, which regulate the fluctuations of the demand for labour in any single occupation, are everywhere being encouraged, and the recent extensions of small holdings and allotments in England, to which workpeople can resort during temporary unemployment in their main industry, serve as an example of this tendency. Prof. A. C. Pigou points out how the encouragement of such kindred occupations, especially when they are carried on in the same neighbourhood, minimises the cost of movement from one occupation to another,[2] and quotes the following passage from a recent Board of Trade Report: "The more competent and thoughtful employers endeavour to overcome the natural fluctuations of the seasons by superior organisation. With the manufacture of jam and marmalade they combine the making of sweets and the potting of meats. They thus occupy the time of the majority of their employees. An artificial florist, employing over two hundred girls and women in a trade which occupies six months of the year, has introduced a second trade, the preparing of quills for hat-trimming, and now the workers are employed all the year round. In Luton, where the staple trade is straw-hat making, and where work is always slack during six months of the year, felt-hat making has been introduced; and it is now very usual to find two trades carried on by the same firm, employing the same workpeople at different periods of the year."[3] It is precisely the same function that cottage industries have been performing in the economic life of India, where the peasant is compelled to sit idle during certain portions of the year.

In adjudicating upon the rival claims of small and large-scale production, it is necessary to take into consideration yet another point. The close and heated atmosphere of factory life, its congestion and insanitation, its hard work and discipline, are generally repugnant to the Indian villager, who is an agriculturist by tradition and temperament, and a

[1] Mukerjee, *Foundations of Indian Economics*, p. 323.
[2] *The Economics of Welfare*, 1921, p. 467.
[3] *Cost of Living of the Working Classes*, Cmd. 3864, p. 284.

factory worker only by necessity. The environments of the mill and the factory are not such as to attract him from the independent ways of a not unpleasant rural life; while the cleavages in family life caused by the abandonment of the home for the factory will have an effect on other things than mere production. The unity of interest and occupation among the members of an Indian family has always been one of its characteristic features. "The collaboration of the family members not only economises expenses, but sweetens labour. Culture and refinement come easily to the artisan through his work amidst his kith and kin."[1] In answer to this, it may be urged that shorter hours of work and higher wages will be the recompense for the sacrifice of independence and the abandonment of the home. The Indian artisan is tempted to ask himself, is not the sacrifice too great? the recompense too inadequate? To him, the "amenities" referred to form part of his real wages, and, even among English workers, there is a class which "cares very much about being able to settle its own time of work, and about being able to go out in the afternoons and to have visitors."[2] From the point of view of non-economic welfare, therefore, the policy of allowing the workers to carry on their occupation amid congenial surroundings and under conditions suited to their temperament is deserving of every encouragement.

[1] Mukerjee, *Foundations of Indian Economics*, p. 326.
[2] Miss Collet's *Evidence before the Committee on Home Work*, Q. 793.

CHAPTER VI

LARGE-SCALE PRODUCTION

Synopsis :—Towns and large-scale production: slow growth of towns in India.

Emergence of modern forms of production contemporaneous with the growth of towns.

Development of large-scale production; analysis of trade returns till 1922.

Is the pace of Indian industrialism fast enough? The conflicting views discussed and harmonised.

The development of the joint stock movement as a clue to manufacturing progress.

Why joint stock concerns develop so slowly in India.

The present position of Indian industries: the picture of the Industrial Commission.

The Large Industrial Establishments in India in 1919. Their provincial distribution.

Some important large-scale industries :—

Jute. Wool. Hides and skins. Mining, especially coal.

Deficiencies in Indian industrial equipment; backwardness in metallurgical and chemical industries.

Exotic origins of large-scale production. Lack of industrial training in the country. The problem of industrial leadership.

The necessity for depending on borrowed talent and technical skill.

The new education as a solvent.

WRITERS on economic history have often pointed out how every forward step in the evolution of industry has been conditioned by an extension of the market; how the artisan working for wages on the prospective purchaser's material in the village gives place to the small workshop in the mofussil town and to the large factory in the big city. The type of industry that flourishes in any particular locality, therefore, is the one suited to the type of social life; and the emergence of the factory may be explained as being due, not so much to improvement in the method of supply, as to alteration in the

nature of the demand. Increasing population, facilities for easy and rapid communication, and the development of education lead not only to an increased demand for commodities, but also to an increased standardisation of demand; and it is this that makes possible the huge output of standardised supply by the mill and the factory.

In trying to find the place of India in this scheme of economic evolution, one is struck by the fact that industrial conditions there are yet so amorphous as to defy definite classification; for the most part, however, it is possible to say that industry is in the stage of wage-work (where the artisan works for wage on material brought to him) or price-work (where he purchases the material, works it up, and offers it for sale), but that the system is modified by the existence of a retail trade in cheap imports. In the larger centres, at the same time, there are huge mills and factories representing large-scale production of the modern type, but their development is of recent origin, and the small part they play in the economic life of the country is evidenced by the fact that, in 1919, the large industrial establishments in India did not employ more than 1/245 of the total population.

The fewness of Indian towns and the small proportion of the urban population may be taken as indicative of the industrial position of the country. Town life in India in the modern sense is a creation of recent times. There were, indeed, some large and imposing towns in the Moghul days, but contemporary writers have pointed out that, in reality, they were no more than courts or camps, around which colonies of artisans formed themselves to supply the luxuries of Oriental life. It was only rarely that a proper industrial life developed in these centres; with the change of the capital to a more favoured spot, not infrequent in the earlier days, or with the decline of their patrons at the court, the artisans faded into insignificance, surviving here and there in impoverished groups to attest the former glory of the place. One of the earliest results of British rule in India was the growth of the great mercantile centres. "Emporia of commerce must grow of themselves, and cannot be suddenly called into existence by the fiat of the wisest autocrat. It is in this difficult enterprise, in which the Portuguese, the Dutch, the Danes, and the French had successively failed, that the British in India have succeeded. We make our

appearance in the long list of races who have ruled that splendid empire, not as temple-builders like the Hindus, nor as palace and tomb builders like the Musulmans, nor as fort builders like the Mahrattas, nor as church builders like the Portuguese ; but in the more commonplace capacity of town builders, as a nation that had the talent of selecting sites on which great commercial cities would grow up, and who have in this way created a new industrial life for the Indian people."[1]

The history of Indian towns in recent times has two phases. On the one hand, the tendency of modern industrial life to crowd vast masses of population into towns and cities has increasingly manifested itself. The introduction of machinery is causing the old cottage industries to be replaced by mills and factories, and these are necessarily located at those places where they can command ready facilities for the collection of raw material and the distribution of the manufactured article. The leading industries of the country have all contributed to the conversion of villages into towns and towns into cities. Bombay and Ahmedabad with their cotton mills, the Hooghly bank with its jute mills, Cawnpore with its woollen and leather factories, all owe a substantial part of their importance to their staple industries. Bhatpara on the Hooghly affords a striking example of the rapid expansion of industrial towns ; owing to its jute mills, it grew by 134% in 1901–11, and its population in the latter year was 4·5 times that recorded in 1872. The growth and development of Jamshedpur, which from an obscure Santali village of 5,672 persons, in 1911, has now risen to a flourishing and well-laid-out industrial town with a population of 57,360 inhabitants, is one of the marvels of industrial achievement in modern India. The increasing trade of the country and the improvements in railway communications have also led to the growth of towns. Not only are the great sea-ports growing in population, but various inland towns are benefiting from the same cause. Calcutta, with its suburbs, has grown by 4·3% in 1911–21, the population now standing at 1,327,547, but a considerable number of the inhabitants of some of the more congested quarters have moved out into the suburbs, the increase in the Manicktolla and Cossipore suburbs being as much as 25 and 17 per cent. respectively. The population

[1] Sir W. W. Hunter, *The Indian Empire*, pp. 659–60.

of Bombay is now 1,175,914, very little behind that of Calcutta, and shows an increase of 20·1% in 1911–21 as against 26·2% in 1901–11. Karachi grew by 42·8% in 1911–21, as against 30·2% in the preceding decade; and Rangoon by 16·6%, as against 19·5% in the earlier decade. Owing to its connection with the railway system and its consequent importance as a distributing centre, Delhi rose in 1901–11 by 12%, though the district in which it is situate actually lost 4·6%. In 1911–21 Delhi's population rose by 30·7%, so that it now takes rank after the three Presidency towns, though the increase is mainly attributable to its recognition as the new capital of India. Side by side with this increasing urbanisation must be noted the tendency of the older towns, rich only in religious or historic interest, to decline in population unless they, too, have been stirred by the vivifying breath of industry. Mandalay, the capital of the Kings of Ava, which lost a quarter of its population in 1901–11, is a case in point. Changing geographical values have brought about the decline of towns which previously owed their importance to their command of the river-traffic, now being superseded by the railways. Patna has thus kept on diminishing, and not even its selection as the capital of Bihar and Orissa has checked this retrograde tendency. The extent to which industry and trade are developing town-life is somewhat obscured by these features, as well as by the mortality caused by the plague and influenza, which was greater in the towns than in the country-side. The increase in the urban population of India, therefore, has been rather tardy, advancing from 9·4% in 1911 to only 10·2% in 1921. It is necessary, in this connection, to bear in mind that railways and industrialism are confined to strictly limited areas, and that, out of the 33 Indian cities of the present day, at least 22 owe their importance, partly at any rate, to other than manufacturing or commercial activities; and also that, according to the census of 1911, only 30% of the inhabitants of the cities were occupied in industrial pursuits. It follows, therefore, that India has not yet entered upon an epoch of urbanisation, such as characterises modern industrial countries.

In the opening chapter of this volume, it was pointed out how, under the new environments created by the British connection, a new era of production has opened in India,

an era of production on a large scale, based upon the co-operation of capital and labour in a manner altogether unknown in the earlier industrial life of the country. The trade statistics there examined revealed the significant fact that, in the course of the thirty years ending with 1907, the proportion of imports of manufactured articles to total imports, which was 65% in 1879, fell to 57% in 1892, and to 53% in 1907–08; and that, in the same way, the proportion of wholly or partially manufactured exports to total exports rose from 8% in 1879 to 16% in 1892, and to more than 22% in 1907–08. The tendency towards India's transition from a purely agricultural stage to the stage of manufactures which these figures indicate receives corroborative support from later statistics. The number of joint stock companies registered and working in India went up from 1,728, with a paid-up capital of Rs. 418,352,329, in 1905–06 to 3,668, with a paid-up capital of Rs. 1,232,135,739 in 1919–20. The average daily number of operatives employed in factories of all kinds rose from 832,136 to 1,367,136 in the same period; the number of factories under the Factories Act rose from 1,545 to 3,523; cotton mills, from 217 to 258, and their looms and spindles from 52,668 and 5,279,595 to 118,221 and 6,689,680 respectively; and the excise duty realised from Rs. 2,790,239 to Rs. 16,405,268. Jute mills rose from 39, with 21,986 looms and 453,168 spindles, to 76, with 41,045 looms and 856,307 spindles, during the same period. The looms and spindles of woollen mills rose from 719 and 27,387 to 1,385 and 47,020 respectively; coal production rose from 8,417,739 tons in 1905–06 to 22,628,037 tons in 1919–20, and the exports of Indian manufactures from about 36 crores to 102 crores of rupees.[1] And in view of this rapid extension of her manufacturing activities, India's claim to recognition as one of the eight States of chief industrial importance has lately been upheld by the League of Nations.

The rate of manufacturing progress which these statistics show has to be somewhat discounted in the light of two sets of circumstances. The first of these relates to the altogether exceptional character of the impetus that Indian manufactures received during the war-period. Confining ourselves to the exports in raw materials and manufactured

[1] *Statistics of British India*, Vol. I, Commercial, 1922, Summary Tables.

goods, their volume and proportion may be summed up as follows :—

	1913–14	14–15	16–17	17–18	18–19	13–14	14–15	16–17	17–18	18–19
	(Value in millions sterling)					(Percentage to total exports)				
Raw materials	81·6	53·4	67·1	55·2	57·7	50·1	45·1	42·4	35·5	36·1
Manufactured goods ...	36·4	33·1	51·3	48·5	58·5	22·4	26·2	32·5	31·2	36·6

The reduction of the proportion of raw exports from 50·1% to 36·1% and the increase of manufactured exports from 22·4% to 36·6% from 1914 to 1919 are a measure of the encouragement that industrial concerns received from war conditions; and a further examination will show that the industries which showed the greatest activity during this period were all connected with the supply of war material. It would, therefore, be a grave mistake to assume that the same speedy rate of progress would be maintained under normal conditions, when the demands of the war no more furnish the motive for increased production, and the belligerent countries turn once again to economic reconstruction and to a re-entry into the quieter ways of commerce.

Another feature which obscures the real rate of manufacturing progress is the fall in the purchasing power of money. This has, of course, been going on for a long time, but the war caused an enormous rise in prices, partly through scarcity of goods and partly through the policy of inflation of currency. To ascertain the volume of trade, therefore, apart from its money value, the course of prices has to be studied. The rise in average prices in respect of 61 articles of import and 50 articles of export, as compared with the pre-war price, is shown below :—[1]

	1913–14	14–15	15–16	16–17	17–18	18–19
Imports ...	100	101	126	170	211	268
Exports ...	100	102	103	117	125	150

And reducing the recorded values of the foreign trade to the price-levels of 1913–14, we have the Table :—

	1913–14	14–15	15–16	16–17	17–18	18–19	
Imports ...	127·5	95·6	73·1	62·8	51·9	46·9	In millions sterling
Exports ...	166·0	119·0	129·1	140·9	139·6	113·5	

[1] From the *Review of the Trade of India*, 1918–19, p. 2.

Even after making allowance for the vagaries of the war-period, it is incontestably clear that India has in recent times witnessed a remarkable development in her industrial activities; and, in the face of this progress, it seems surprising to find a considerable body of Indian opinion holding the view that the pace of industrialisation has not been fast enough. The Indian Industrial Commission has observed "how little the march of modern industry has affected the great bulk of the Indian population, and how such changes as have been wrought in rural areas are the effects of economic rather than of industrial evolution. In certain centres, the progress of western industrial methods is discernible, but the development has been uneven and inadequate, and the capitalists of the country, with a few notable exceptions, have till now left to other nations the work and the profit of manufacturing her valuable raw materials, or have allowed them to remain unutilised." The Indian Fiscal Commission disposes of India's industrial position in a couple of paragraphs,[1] and expresses its opinion that the rate of progress is not commensurate with the size of the country, its population, and its natural resources.[2]

The difference between these two schools is in reality a difference of outlook. Progress, indeed, there has been; no one denies that; but a comparison of India's industrial position with that of any western industrial country is certain to evoke dissatisfaction. At the present day, there are only three industries in India—cotton, jute and coal-mining—which employ more than 200,000 workers each; according to a recent publication,[3] the total number of factories in 1921 was only 4,080, of which 118 remained closed throughout the year, and the total average daily number of persons employed was only 1,263,658. While, therefore, there is room for comfort in the thought that, as compared with the past, the country is showing signs of improvement, the vastness and magnitude of the work yet to be attempted before India can stand equipoised and fully developed induce a sense of discontent, and provide an incentive for a speedier rate of industrialisation.

[1] Paras. 30 and 31 of the *Report*.

[2] Para. 41.

[3] *Statistics of Factories Subject to the Indian Factories Act, XII* of 1911, for the year ending December 31, 1921. Govt. Press, Delhi, 1922.

The history of the joint stock movement in India furnishes a reliable index to the development of industrial and commercial activity on any considerable scale. The readiness of the many to put their money into an undertaking to be managed by a few among them postulates a confidence in the managing ability of the few and in the soundness of the projects they put forward. Large aggregations of capital and a minimising of risk by spreading it among a large number of shareholders are possible only by such conjoint action, and industrial organisation on this basis is all the more suited to India, where capitalists are few, and money for industrial purposes has to be garnered up from several isolated sources.

The inherent incapacity to combine for a common object, together with a dread of new schemes and ideas, has rendered the joint stock company system less successful here than it might have been; and in the earlier cases, success was only assured where the company consisted of men of the same caste or following similar occupations.[1] Nevertheless the movement has been showing a steady development, and the Table appended to the chapter on the "Financing of Industry" shows how, in the course of the last quarter of a century (1895–1920), the number of companies at work in India rose from 1,309, with an authorised capital of Rs. 416,189,114 and a paid-up capital of Rs. 291,147,434, to 3,668, with an authorised capital of Rs. 5,482,259,476 and a paid-up capital of Rs. 1,232,135,739. In 1920, there was a boom of company promotion, caused by the optimism of those who had made money during the war-days, the rise and fall of which have been described in some detail elsewhere. Considering the fact that industrial promotions are yet in their infancy in the country, every possible care has to be taken to ensure the safety of the new promotions in order that the investing habit may be properly encouraged. It may, therefore, be expedient to provide for a more careful supervision over the doings of a joint stock company than the present Indian Companies Act would warrant. "A crying need of this Province," says Mr A. Latifi, in his book on *The Industrial Punjab*, "is a drastic amendment of the law relating

[1] *Cf. Census of India*, 1901, Vol. XVII, Part I (the Punjab), p. 370; also 1921, Vol. XIII (Madras), Part I, p. 183.

to joint stock companies, which in its present shape is only suitable for countries where the principle of self-government permeates the industrial as well as the political life. If more power is given to the Registrar of Companies to look into the affairs of these bodies, and if a system of voluntary audit by Government auditors is introduced, everybody will be pleased, except a few company promoters. When a strong check is placed on the directors, the people will learn to confide in limited companies. . . ."

It would not be possible within the limits we have set to ourselves to review even cursorily the various aspects of the industrial life of India, but an extract from the *Report of the Industrial Commission*, which gives a bird's eye view of the position may be quoted :—

" The most convenient way of presenting the commercial and industrial conditions of the country . . . is by a description of selected areas or centres as specimens of economic development, in which the factors with which we have to deal appear in varying circumstances and degrees. Prominent among these are the great cities of Bombay and Calcutta ; up-country manufacturing towns like Cawnpore ; distributing markets like Delhi ; the cotton and jute tracts, where machinery and markets have been gradually called into existence to deal with important commercial crops ; the railway workshops ; and the coal and iron districts of Bengal and Bihar. These are alike characterised, in a greater or less degree, by the presence of large traders and leaders of organised industry, accustomed to buy and sell or to manufacture on a wholesale scale and in close touch with the conditions of world markets and world industries ; of aggregations of capital ; of groups of factories and bodies of semi-skilled or unskilled labourers who have migrated thither, temporarily or permanently, from distant places, leaving the homes and small farms which they often still possess to the care of their families or relatives ; and of larger or smaller engineering works, which have sprung up to supply the needs of organised industries and require the services of skilled mechanical engineers and artisans."[1]

We may now go into somewhat greater details. The Table next page gives a list of the industrial establishments of India at the end of 1919. They include not only the factories

[1] *Report*, Cmd. 51 of 1919, p. 12.

under the Factories Act,[1] but also other establishments which are considered to be of sufficient industrial importance, regarding which information was available; but mines, electrical generating or transforming stations, indigo factories, and factories situated on and used solely for the purposes of tea or coffee plantations are excluded from it; and though it does not represent a complete list of the industrial establishments of India, it can none the less be regarded as a safe guide to the extent and importance of the different classes of industries.

LIST OF INDUSTRIAL ESTABLISHMENTS IN INDIA AT THE END OF 1919[2]

Class of Industry	*No. of estbts.*	*No. of persons employed*
Cotton spinning and weaving mills	285	307,343
Jute mills	76	276,079
Cotton ginning and pressing factories	1940	140,786
Railway and tramway workshops ...	98	129,543
Engineering workshops	219	57,239
Rice mills	609	48,563
Jute presses	211	33,316
Printing presses	158	32,585
Tile and brick factories	256	28,229
Arms and ammunition factories ...	16	26,957
Dockyards and port trust workshops	16	26,482
Iron and steel producing works ...	1	20,806
Tanneries and leather works ...	107	17,178
Saw mills	144	14,555
Stone works	62	13,809
Petroleum refineries	8	13,608
Woollen mills	39	11,884
Sugar factories	55	11,590
Oil mills	172	9,552
Mica splitting works	20	8,705
Silk mills and filatures	69	7,988
Kerosine tinning and packing works	22	7,015
Tobacco factories	19	6,818
Lac factories	85	6,718
Paper mills	9	6,181
Rope works	32	6,085
Flour mills	55	5,601
Rubber works	13	5,442
Potteries	12	5,112
Others	513	81,367
Total ...	5,312	1,367,136

[1] The definition of factories under the Act of 1911 was exceedingly narrow, and covered only industrial undertakings using power and employing 50 persons or more. The law has now been amended; see Chapter on Labour, *infra*. [2] See note on p. 330.

Cotton spinning and weaving mills employ the largest number of operatives (over 307,000), closely followed by jute mills, with over 276,000 operatives. The largest number of establishments, namely, 1,940 or 37% of the total, belong to the cotton ginning and pressing industry.

Provincial details in respect of the principal industrial establishments owned by companies and individuals at the close of 1919 are as follows :—

Of the 282 cotton mills (including cotton spinning and weaving establishments not classed as mills) 182 are in the Bombay Presidency, with an aggregate number of 209,830 hands, or 68% of the total. Madras comes next, with 21 mills and 25,279 persons. The United Provinces possess 17 mills, with 15,994 persons, the Central Provinces and Berar 13 mills, with 14,621 persons, and Bengal 12 mills with 12,073 persons.

Almost all the jute mills (71 out of 75) lie in Bengal, with 272,313 operatives, or 99% of the total. Of the remaining four mills, three are in Madras, employing 2,833 persons, and one in the United Provinces with 497 operatives.

There are in Bombay 559 cotton ginning and pressing mills employing 36,500 persons. In the Central Provinces and Berar, there are 415 mills with 29,335 persons ; in the United Provinces, 132 mills with 12,074 persons ; in Madras, 149 mills with 13,663 persons ; in the Punjab, 189 mills with 12,961 persons ; in Central India, 194 mills with 10,693 persons ; in the state of Hyderabad, 151 mills with 8,458 persons ; and in Baroda, 80 mills with 4,509 persons.

The largest number of engineering workshops (including electrical engineering workshops, iron and brass foundries and ship-building works) is in Bengal (105 factories with 32,004 persons). Other important provinces stand thus in order of importance :— Bombay (24 factories with 6,271 persons), Bihar and Orissa (16 factories with 5,989 persons), Burma (21 factories with 2,465 persons), Madras (9 factories with 1,407 persons), and the United Provinces (7 factories with 1,179 persons). Besides these, there are 77 railway and tramway workshops employing 89,389 persons, and ten dockyards with 15,991 persons.

The majority of rice mills are in Burma (336 mills with 35,388 persons) and in Madras (133 mills with 7,694 persons). Bengal has 108 mills with 4,503 operatives.

Of the 211 jute presses, 179 are in Bengal, employing 30,743 persons. Of the remaining presses, 26 are in Bihar and Orissa, with 1,470 persons, and 4 in Madras with 285 persons.

Of the 120 printing presses with 18,833 persons employed, Bengal accounts for 21 with 4,776 persons, Bombay for 29 with 4,988; Madras for 29 with 4,087; and the United Provinces for 10 with 1,743.

Tile and brick factories are to be found mainly in Bengal (107 with 9,293 persons), Madras (31 factories with 4,455 persons), Bombay (21 factories with 2,255 persons), and the Punjab (23 factories with 1,380 persons).

There are 16 arms and ammunition factories (including arsenals, gun-carriage factories, sappers' and miners' workshops, and mechanical transport repairing works), all belonging to Government, employing 26,957 persons.

There is one iron and steel producing works in Bihar and Orissa employing 20,806 persons.

Tanneries and leather works exist mainly in Madras (55 factories with 5,579 persons), the United Provinces (10 factories with 5,823 persons), Bombay (15 factories with 1,128 persons), and Bengal (16 factories with 1,089 persons).

The centre of the saw-mill industry is in Burma, which possesses 108 mills employing 9,992 persons. Other provinces with saw-mills are Assam (15 mills with 2,108 persons), Bombay (4 mills with 798 persons), and Madras (4 mills with 707).

Stone works are to be found mainly in Bihar and Orissa (42 factories with 5,447 persons), Central India (2 factories with 2,861 persons), Rajputana (3 factories with 2,253 persons), and the United Provinces (8 factories with 1,570 persons).

Petroleum refineries are confined to the two petroleum producing provinces of Burma and Assam, the former having 7 refineries with 13,018 persons and the latter one with 590 persons.

Sugar factories are confined chiefly to the three provinces of Madras, Bihar and Orissa, and the United Provinces. Madras has 9 factories with 3,610 persons, Bihar and Orissa 21 factories with 3,141 persons, and the United Provinces 14 factories with 2,811 persons.

Of the woollen mills (including carpet and shawl-weaving

establishments not classed as mills), 5 employing 4,550 are in the United Provinces; 8 with 3,085 are in the Punjab; and 9 with 2,330 in the Kashmir State.

Oil mills exist mainly in Bengal (84 mills with 3,470 persons) and Burma (18 mills with 1,150 persons).

There are 19 mica-splitting works in Bihar and Orissa, employing 8,675 persons.

The centre of the silk industry is in Bengal, which possesses 64 filatures and mills employing, 3670 persons. The Kashmir State with 2 filatures and 2,999 employees and Bombay with 2 mills and 1,294 employees come next in order of importance.

Of the 22 kerosine tinning and packing factories with 7,015 employees, Bengal accounts for 8 with 3,420 persons, Bombay for 7 with 2;341 and Madras for 7 with 1,254 persons.

Of the 19 tobacco factories, 4 are in Bihar and Orissa with 2,693 persons, 1 in Bangalore with 1,501 persons, 3 in Madras with 1,185 persons, and 8 in Bengal with 1,150 persons.

Almost all the lac factories lie in Bihar and Orissa (55 factories with 3,461 persons) and in the United Provinces (24 factories with 2,260 persons).

Paper mills are to be found mainly in Bengal (3 mills with 4,479 persons) and Bombay (3 mills with 600 persons).

Of the 32 rope works, with 6,085 persons employed, the Travancore State accounts for 13 with 2,568 persons, Madras for 6 with 1,923 persons, and Bengal for 11 with 1,139 persons.

There are in Bombay 13 flour mills with 1,431 hands employed; in Bengal 9 mills with 1,254 hands; and in the Punjab, 10 mills with 902 hands.

Almost all the rubber works are in the Madras States (11 with 5,341 employees).

Of the 12 pottery works, Bihar and Orissa account for 3 with 1,944 persons, Bengal 4 with 1,714 and the Central Provinces and Berar 3 with 1,166 persons.

Industries employing less than 5,000 persons in the aggregate have been lumped together under the heading "Others" in the Table above; and of these the following are noteworthy:—7 lock and cutlery works with 1,068 persons, 46 metal works with 2,327 persons, 19 breweries with 2,307 persons, 15 coffee works with 4,066 persons, 15 distilleries with 1,445 persons, 17 ice, mineral and aerated water factories with 1,263 persons, 13 chemical works with 2,933 persons, 23 dye works with

3,842 persons, 3 paint works with 1,230 persons, 15 bone-crushing mills with 2,177 persons, 31 coach-building works with 4,267 persons, 11 carpentry workshops with 1,130 persons, and 10 glass factories with 1,422 persons.[1]

Organised industry in India has not, thus, much to boast of by way of achievement, but it has succeeded in winning for itself a definite, if limited, place in the economic life of the country. The textile and mining industries may fairly be described as great, though in neither case is the limit of expansion in sight, while a certain amount of progress has been made in the production of iron and steel, leather goods, paper, sugar, and a few other commodities. Of the main industries, the development of the cotton and the iron and steel industries has been described in separate chapters; and a few important facts regarding some of the others may now be summarised.

The comparatively recent origin of the famous jute industry of Bengal is evident from the fact that the first commercial mention of the word jute is in the customs returns for the exports of 1828, when 364 cwt. were sent to Europe.[2] The exports rapidly grew in quantity, especially during the days of the Crimean War, when supplies of Russian flax and hemp were cut off from the European markets. In 1908–09, they totalled 893,955 tons; but, thereafter, they have shown a tendency to decrease, on account of the increased consumption of the Indian jute mills.

Even during the first half of the 19th century, the jute hand-loom industry of Bengal had assumed considerable dimensions. The first machine-spinning mill in Bengal was started at Rishra, near Serampore, on the site of the present Wellington Mills, in 1855; and the first power-loom was introduced at Barnagore, outside Calcutta, in 1859. The Borneo Jute Company, to which is due the credit of introducing the power-loom, soon made excellent progress, and, in 1872, the mills were turned into a limited liability company, the present "Barnagore Jute Manufacturing Company, Ltd.", while four other mills followed in succession. "From 1868 to 1873," writes Mr D. R. Wallace[3] "the five mills,

[1] For greater details see *Large Industrial Establishments in India*, 5th issue, Dept. of Statistics, Govt. of India, 1922.

[2] *vide* Sir G. Watt: *Dictionary of the Economic Products of India.*

[3] *The Romance of Jute*, Calcutta, 1909.

excepting the Rishra Mill, simply coined money, and brought the total of their looms to 1,250." The unique prosperity of the industry induced the promotion of more ventures, and in 1872–75, 13 new companies commenced work, swelling the number of looms from 1,250 to 3,500. A period of depression followed, in the course of which four of the new companies ceased to work. Between 1875 and 1882, only one new mill was put up (1877), which, together with the additions in the older mills, brought the total loom power up to 5,150. Thenceforward there has been a steady progress, the main features of which may be summed up in the following Table :—

Year.	No. of mills	Authorised Capital (Lakhs of Rs.)	Looms (in units of thousands)	Spindles (in units of thousands)	Operatives (in units of thousands)
1879–83					
Average ...	21	270·7	5·5	88	38·8
1899–1903					
Average ...	36	680	16·2	334·6	114·2
1909–13					
Average ...	60	1,200	33·5	691·8	208·4
1919–20 ...	76	1,563·5	41·0	856·3	280·4

The total invested capital in 1919–20, including paid-up share capital and debentures, was 1,779 lakhs of rupees. It will be noticed that the number of looms and spindles in operation and of the persons employed have increased to a much greater extent than either the number of mills or the capital employed. The production of the mills has increased to a still greater extent. The original out-turn of the mills was about 8 tons a day ; in 1909, it had risen to 2,500 tons a day, and in 1919, it was nearer 3,000 tons. The leading statistics regarding the exports of jute manufacture are :—

Year	*Gunnybags in millions*	*Gunnycloth in million yards*	*Value in lakhs of Rupees*
1879–83 average ...	54·9	4·4	124·9
1899–1903 average...	206·5	427·2	826·5
1909–13 average ...	339·1	970·0	2,024·8
1919–20 ...	342·7	1,275·0	5,001·5

Jute exports stand second only to cotton in the export trade of India. The war-period gave a powerful stimulus

to the jute industry, on account of the large demands for sand-bags and cloth for military purposes. The over-running of Russia by Germany in 1915–16 cut off to a very large extent the supply of flax to the allies, and when the shortage in this fibre, so urgently required for the manufacture of tent-cloth, tarpaulins, wagon covers, ground-sheets, water buckets, etc., came to be felt, resort was had to Indian jute. The development of the manufacture of jute canvas is practically the result of the war, and, though inferior to flax canvas in durability, there is no doubt that jute canvas has come to stay. The Indian mills are now consuming more than five times as much jute as the Dundee industry, and its phenomenal prosperity during the war has so greatly strengthened its position that the reserve fund ot the mills in almost every case exceeds the capital.[1]

In point of efficient organisation, the jute industry is perhaps second to none in India. In 1886, finding that their working results were not favourable, the mills had to devise ways for avoiding over-production; short time had to be agreed on; and the need for co-operative action which this measure necessitated led to the foundation of the Indian Jute Mills Association. In the slump that followed the war, the Association brought over an American business expert, Mr H. J. Parks, to advise it on the possibility of forming a jute trust with a view to exercising some control over the production and price of jute; and in 1921–22, the mills worked only four days in the week by concerted arrange-

[1] The following figures indicate the profits of Indian jute mills in the last decade :—

Year	*Profits before paying Debenture Interest* Rs.
1913	24,597,553
1914	9,618,694
1915	42,148,960
1916	64,871,041
1917	42,392,573
1918	122,925,767
1919	116,453,696
1920	125,382,066
1921	49,586,331
1922	35,835,863
1923	49,533,808

It may, however, be noted that the growers of the raw material are at present receiving not very remunerative prices. *Vide Economist*, April 26th, 1924, p. 867.

ment. A Calcutta Jute Dealers' Association has also been formed recently to promote the common interests of its members as dealers in jute for local consumption.

The number of woollen mills at work in British India in 1902 was only three, with an authorised capital of Rs. 3,850,000 and employing 23,000 spindles and 624 looms. The number of persons employed was 2,559, and the quantity of woollen goods produced 2,148,000 lbs. There was also one mill in Mysore, with a capital of Rs. 6 lakhs, employing 1,430 spindles and 45 looms. By the end of 1919, there were seven woollen mills working in India, of which the Mysore mill (Bangalore Woollen, Cotton and Silk Mills) had a paid-up capital of Rs. 1,950,000 ; of the remaining six, four represented a paid-up capital of Rs. 14,150,000, while the capital of the other two mills, which are private concerns, is not obtainable. Of these four mills, the Cawnpore Woollen Mills, reputed to be the second largest in the world, and the New Egerton Woollen Mills (in Dhariwal, the Punjab) have between them a paid-up capital of Rs. 13,500,000, or 84% of the whole, and produce 64% of the total out-turn of all Indian woollen mills. On the 31st of December, 1919, the total number of looms was 1,385 ; of spindles, 47,020, and of persons employed in the mills, 7,293. The articles produced are cloths for the use of the army and the police, rugs, blankets, hosiery, broadcloth, etc.

The list of industrial establishments given above mentions 30 woollen establishments, employing 11,884 persons. These include many small factories for the weaving of carpets and rugs, of *pattu* and *pashmina*, where weaving is done by hand-looms. Blanket-weaving and carpet manufacture are carried on in various parts of the country, especially in the Punjab and the United Provinces,[1] but they cannot in any sense be said to represent large-scale production.

An industry that shows signs of considerable promise is that connected with hides and skins. The Agricultural Statistics show that there were 146 millions of oxen and buffaloes, and 46 millions of sheep and goats in British India in 1919–20. The Indian raw hide and skin products, placed in order of value, consist chiefly of cow-hides (" East India

[1] See A. Latifi's *The Industrial Punjab*, Chapter V, pp. 44 *et seq.*, and A. C. Chatterjee's *Notes on the Industries of the United Provinces*, pp. 54 *et seq.*

Kips"), goat-skins, buffalo-hides and sheep skins. Hides and skins may be regarded as a by-product of agriculture, the supply being but little affected by the demand, and, under present day conditions, an abundant supply of these can hardly be a matter for satisfaction, inasmuch as it is greatest when cattle mortality, caused by the dearth of fodder and the prevalence of famine conditions, rises highest. Except in the larger cantonments and in some parts of the Central and United Provinces, cattle are but rarely slaughtered for meat, and the bulk of the hides available are those taken off animals which have died of disease, old age or injury. The hard life of the bullocks and buffaloes is often recorded on their hides in sores, scratches and other disfigurements; and, in addition to this cause of deterioration, the widely prevalent practice of branding is ruining many thousands of hides, and seriously depreciating the value of others. The term "skins" is technically applied only to pelts of sheep and goats. Unlike hides, the majority of skins are derived from animals which have been slaughtered for food, and the pelts are, therefore, in a much better condition and will compare favourably with similar classes of skins from other parts of the world.

The share of hides and skins in the export trade of India in the pre-war period, 1909–10 to 1913–14, was 7% of the whole; in 1918–19, it was 8%; in 1919–20, 12%; but in 1920–21, it dropped to 4%. Taking 1919–20 as the last normal year (the fall in 1920–21 being due to a change in tariff which we shall have occasion to notice later on), we find that the total value of the exports of raw and tanned hides, skins and leather was no less than Rs. 36 crores, as against Rs. 19 crores in 1918–19, and Rs. 16 crores in 1913–14. Had the prices of the previous year prevailed, the value would have been Rs. 28 crores, showing an increase of Rs. 8 crores as due to higher prices. The main features of the trade were (1) a very large increase in raw hides and skins, owing to the removal of the war-time embargo, (2) an increase in tanned skins, and (3) a decrease in the quantity of tanned cow-hides.

The tanning of skins is practically confined to Bombay and Madras, and the bulk of the business is done in the latter Presidency, where the tanners supplement their local supplies by importing largely from other parts of India.

Not much information is available regarding the tanning of hides in India before they came under the influence of western methods. European methods of tanning hides were first introduced by the military authorities to manufacture superior leather suitable for harness and other military requirements. Military requirements, again, led to the founding of leather factories. Where arsenals were established, tanneries usually followed ; and at Cawnpore, a further step in production was taken when in 1860 the Government Harness and Saddlery Factory was set up. Shortly after, Messrs. Cooper and Allen started the Army Boot and Equipment Factory, with a considerable amount of financial assistance from the Government. The successful establishment of the business was due to a combination of happy circumstances. The place was well-chosen : Cawnpore is a convenient centre for the collection of hides from Northern India ; large supplies of cheap babul bark (*acacia arabica*) were available from the outset ; the energy and enterprise of the European were behind it ; and, finally, a large measure of Government support was readily forthcoming. Working on similar lines, but on a much smaller scale, Adamjee Peerbhoy established the Western India Army Boot and Equipment Factory at Sion in Bombay ; and there are now a few more factories scattered at various centres where the production of finished goods from leather is attempted. Until quite recently, however, the Indian factories, except the three above-named, and the Madras Tannery, were not using machinery, the wide employment of which has long been a characteristic feature of leather manufacture in Europe and America.

With the outbreak of the War, the Indian leather industry entered upon a fresh phase of life. Although possessing a very large quantity both of the raw material and of tanning substances, most of the hides and skins were exported in a raw state, chiefly to the Central European countries ; and the market vanished with the declaration of war. India's supplies, however, were not to run to waste. The desire to save freight, to leave the English factories free for munition work, and to utilise to the utmost the resources of the country itself, led the Indian Munitions Board to provide for the manufacture in India of certain classes of leather goods previously imported. The scrutiny of applications for priority drew attention to the possible market for locally-

manufactured roller-skins, picker bands, raw hide pickers, leather belting, etc., required by the textile mills. How essential these are to the running of our mills is apparent from the fact that the Bengal jute mills alone approximately require 45,000 raw hide pickers per month, and if that supply were not somehow forthcoming, machinery and buildings, worth several millions of pounds, would have to lie idle. Early in June, 1917, the Munitions Board informed Indian firms that, if these articles could be made locally, the permits for importation would be refused. A number of the more recently established tanneries of the new type took the matter up and, in many cases, with satisfactory results. Again, some time after the outbreak of the War, the value of East India Kips as " uppers " for army boots was recognised in England, and efforts were made to increase and regulate the supply. From August, 1916, the Indian Government, at the request of the War Office, assumed complete control over the trade, and took over from the tanners the whole of their output. In pre-war years, the exports of this class of leather were below 200,000 cwt., of a value of less than 2 crores of rupees. In the year 1917–18, they reached 360,000 cwt., of a value approaching 5 crores of rupees. Roughly, in four years, the output of Indian tanneries of this class of leather only has been doubled ; and the number of boots and shoes manufactured annually was at the close of the war twenty times the pre-war figure. The encouragement that the industry has received from war conditions has manifested itself in the fact that in 1919–21, a large number of new companies were registered to carry on tanning and the production of leather goods, with an aggregate capital of nearly three crores of rupees ; and if all these erect their tanneries and factories as contemplated, they would have capacity to deal with quite half the number of raw cowhides and some of the skins normally exported.[1]

The mineral production of India, which has been increasing

[1] For an account of the present position of the industry and the developments contemplated, see Sir Henry Ledgard's article, " The Hide, Skin and Leather Trades, and Boot and Shoe Manufacturing in India," *Journal of Indian Industries and Labour*, Vol. I, Part II, pp. 169 *et seq.* See also Appendix D to the *Report of the Indian Industrial Commission*; *Journal of the Society of Arts*, March 8th, 1918 ; article on " Hides, Tanning and Leather " by Mr. A. C. Mcwatters at pp. 160–170, the *Indian Munitions Board Handbook*, 1919.

from year to year, also affords an index to the growth of large-scale industry in India. The total value of the minerals for which returns are obtainable rose from £3,455,565 in 1898 to £4,988,527 in 1903, to £7,600,000 in 1909, to £9,611,353 in 1914, and to £14,981,338 in 1918. These values have the obvious defect of being the result of the addition of unlike denominations; for export values, being the only returns obtainable in some cases, are ranged with spot values, while the latter necessarily vary with the position of the mine, thus representing, not the values, but the prices available.[1] The rise of prices in the war-period and after adds another element of confusion; but, for all that, the general trend of the mineral industries is fairly clear, and the increase in the production of coal, manganese, salt, tin, chromite, tungsten and silver remarkable. In the quinquennium 1914–18, four mineral products averaged more than a million sterling per annum in value; and they were, coal (average value £4,419,174), gold (£2,258,653), petroleum (average value £1,073,604) and manganese (£1,052,403).

A few words may here be added about the coal industry, not only because it is the most important among the mining industries, both in point of the value of the output and in point of the numbers employed, but also because of the intimate bearings of coal on the industrial development of the country. Coal production has been steadily rising, from about 987,000 tons per annum in 1878–80 to 4,228,000 tons in 1896–1900, to 7,001,000 tons in 1901–05, to 10,896,000 tons in 1906–10, to 14,739,000 tons in 1911–15, and in 1919 to the record figure of 21,768,940 tons. In 1920, it fell to 17,082,711 tons, and in 1921 rose slightly to 18,358,934 tons.[2] In 1920, 190,342 persons were employed in the industry, as against 203,752 in 1919. The *per capita* output of coal in India in 1919 was 111·1 tons above and below ground, and 177·2 tons below ground only; in 1920, the figures had fallen to 94·4 and 157·7 tons respectively. The corresponding figures in the United Kingdom are:—1919, 193 tons above and below ground, and 243 tons below ground only; 1920, 184 and 232 tons. In making such a comparison, it is necessary to remember that not only do the conditions of work below

[1] *Vide Records of the Geological Survey of India*, Vol. LII, 1921, p. 8.

[2] Figures for British India alone: *vide Annual Reports on the Production and Consumption of Coal in India.*

ground vary greatly, but the proportion of persons employed above and below ground is different in the two countries; in the United Kingdom in 1919, the workers below ground were 79% of the total number employed, while, in the same year in India, where mining operations are much nearer the surface, they were 63%. The chief cause of the diminished output in 1920 and 1921 has been fewer working hours and the oft-recurring disputes over the demands for higher wages. Shortage of labour is frequently felt, and is leading to the introduction of labour-saving machinery. The strings of *coolie* women carrying the coal along the inclines, which formed the most prominent feature of the fields in olden days, are now being replaced by well-equipped installations for haulage through both inclines and shafts. The introduction of electric power in mines has lessened the cost of production, and it is expected that, within a few years, electricity will be the power in use in all the important mines. Coal-cutting by machinery has now passed beyond the experimental stage, and several kinds of machines are now successfully worked for increasing the output of the mines.

The average cost of coal to the consumer in India is low compared with that in most of the principal coal-producing countries of the world. The lowest pit's mouth value, *i.e.*, Rs. 2. 8. 0. per ton, was recorded in 1905, and the highest, Rs. 5. 3. 0., in 1920. The average of coal-prices at pit's mouth for the five years ending 1919 in the United Kingdom was Rs. 13. 15. 0. per ton; for the same period ending 1920, in Japan, it was Rs. 12. 3. 0. per ton; and in the United States for the same period ending 1918, it was Rs. 6. 4. 0. per ton. In India, for the five-year period ending 1920, it was only Rs. 4. 4. 0. per ton. In comparing the average value of the coal raised in the various countries, regard must be had to many factors, such as the quality of the coal,[1] its accessibility, the machinery in use, nearness to the surface, etc., besides differences in the cost of labour and transport. In India, the coal that is now worked is comparatively near the surface, and labour comparatively cheap. But the consequent benefit of lower

[1] Indian coal is of rather poor quality, and it has been said that fuel costs calory per calory about three times as much in Madras as it does in English industrial centres. *Vide Madras Census Report* of 1921, Part I, p. 183.

pit's mouth values is neutralised by the excessive transport charges; and in 1921–22, it was possible for Cardiff coal to cover about 6,000 miles and yet undersell Indian coal with a haul of only some 1,500 miles. The position was summed up at the annual meeting of the Bombay Mill-owners' Association, on March 27th, 1922, when one of the leading mill-owners remarked: "At present, Bengal coal, second class good quality, costs us c.i.f. Rs. 25. 8. 0. *via* Calcutta. If the same coal is railed, it costs us *ex* station now Rs. 27, and as there will be a 25% rise in railway freight from April 1st, after that it will cost us over Rs. 31. Now these are absurd and unnatural figures, to my mind, if you take into consideration the following facts: (1) Such coal before the War used to cost us between Rs. 12 and 15 per ton. (2) The quality of the coal was better before the War than now. (3) The steamer companies' charge is Rs. 10 to Rs. 11 per ton for freight from Calcutta, whereas before the War, such freight was only Rs. 4 to Rs. 5, while the freight from Cardiff is only 21 or 22 shillings per ton, which is about the same as the freight before the war. (4) In consequence of this absurd price, Bombay is now mainly supplied with either Natal or Cardiff coal." The inadequacy of railway facilities, which is one of the most keenly felt industrial drawbacks of India, is responsible for these differing price-levels, and the decision arrived at by the Government of India in accordance with the recommendations of the Acworth Committee to allot 150 crores of rupees as capital expenditure on railways to be spent in the course of five years, would, if carried out as contemplated, sensibly relieve the present tension.

Of the coal produced in India, 96·9% was consumed in the country in the quinquennium 1914–18, and, in addition, an average of 148,582 tons of foreign coal was imported annually. This compares with an average consumption in 1909–13 of 93·9% of home production and an average annual import of 466,162 tons. The total available supply of coal in India, including all imports and excluding all exports, has steadily risen from 3·5 million tons in 1891–95 to 9·3 million tons in 1901–05, and to 15·1 millions in 1911–15. In 1919, it was the highest recorded, *i.e.*, 22·2 millions. This great expansion is an indication of industrial developments in India. But the cry is heard from all industrial quarters that the coal supply is by no means adequate to their needs. Although

only one cwt. of coal is consumed yearly per head of the population, consumption at the collieries and wastage come to nearly 14% of the total production. Railways take up 37·5%, but even this large percentage is hardly sufficient, as there is a continued use of wood-fuel (215,000 tons in 1920–21), chiefly on the South Indian lines, and an increased use of oil-fuel (63,828 tons), chiefly in North-west India. Bunker coal takes up 11·7% of the total; while the principal industries which consume coal, are, in order of coal consumption, iron and brass foundries (including engineering workshops) (8·4% of total), jute mills (6·5%), and cotton mills (6·4%).

Although coalfields or beds of lignite occur in various parts of India—in Assam, in the Darjeeling Himalaya, in Jammu, in the Salt range, in Baluchistan, Bikaner, Travancore, Pondicherry, Hyderabad, in several places in the Central Provinces, in Burma and in the Damuda fields of Bengal and Bihar—nearly 90% of the output comes from the fields of Jherria, Raniganj and Giridh. The development of the lignite fields will depend upon the discovery of some cheap and inexpensive process of briquetting.

Joint stock companies for coal mining rose from 128, with a paid-up capital of Rs. 722 lakhs, in 1911–12, to 256, with a paid-up capital of Rs. 937 lakhs in 1920–21. Since January, 1920, several important mining enterprises have been registered in India. The more important concerns are:— (1) The Bengal Coke and Coal Products, with an authorised capital of 25 lakhs; (2) The Karanpura Development Co., with 40 lakhs of authorised capital; (3) The Trans-Adjai collieries, 20 lakhs authorised capital; (4) The Lodna Colliery Co., 20 lakhs of authorised capital; (5) Coalfields of Burma, Ltd., 30 lakhs authorised capital; and (6) Talchir Coal Field, 40 lakhs of authorised capital. In these days, when industrial development is starved, because of want of fuel for power purposes, the country's resources and demands for fuel are being carefully studied. The urgent need for better transportation is fully realised, but to meet the full requirements of the country, it is necessary to spend enormous sums of money. Enough, perhaps, has been said to indicate that large-scale production has already established itself on a firm footing in India; but a closer examination reveals that even those industries that have been longest in the field are

still largely dependent on imported articles for their very maintenance. The unevenness of India's industrial development 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. It was an attempt to rectify an evil of which we have had sufficiently early warnings; for, writing in 1907, Sir Thomas Holland had deprecated the policy of neglecting the metallurgical and chemical industries of the country, while the mineral deposits from which products suitable for export or for consumption by direct processes could be obtained were being ruthlessly exploited.[1] The development of the iron and steel industry in war-time and after has been made the subject of a separate chapter; and a few words are here added regarding the encouragement that chemical industries have received in recent times.

The mineral deposits of the country are generally considered to be sufficient to maintain most of the so-called key-industries except those that require vanadium, nickel and molybdenum; and, if the various ores are properly treated, they will release several kinds of industrial chemicals as by-products. Heavy chemicals, such as sulphuric and hydrochloric acid, lime, sodium carbonate, caustic soda, and ammonia and ammonium salts together with common salt (and, if a coal-tar industry is included, nitric acid)—these fundamental chemicals are essential in all schemes of large-scale production inasmuch as they enter into so many industrial processes. Sulphuric acid, in particular, is an indispensable item in most, if not all, chemical industries, and it has even been claimed that the wealth of a country can be gauged by its consumption of sulphuric acid. The working up of the Burmese zinc sulphide ores at Singhbhum for the production of spelter (zinc) will release a large quantity of sulphur di-oxide, which can be oxidised by means of nitrous fumes, air and moisture in leaden chambers for the production of this acid. Other raw materials for heavy chemicals are also available in fair quantities; the Indian output of saltpetre could be raised to 40,000 tons per annum, and supplementary supplies of nitrates could be produced, if necessary, from atmospheric

[1] *Imperial Gazetteer of India*, Vol. III, p. 128.

nitrogen. Salt occurs in abundance, and the establishment of caustic soda manufacture, preferably by an electric process that would also yield chlorine, may well be attempted. Alum salts, barytes, borax, gypsum, limestone, magnesite, phosphate of lime and ochres also occur in sufficiently large quantities. Among the chemicals produced in India under the pressure of war-conditions were caustic soda, magnesium chloride, red lead, thymol, sandal-wood oil, and zinc chloride; the manufactures of sulphuric acid, copperas, and a few other chemicals were actively encouraged; and valuable researches made into the manufacture, locally, of calcium carbide and various nitrogen products.

Apart from these deficiencies in the industrial system of India, which primarily relate to things produced or not produced, there is another deficiency of a much more fundamental character. A striking feature of large-scale enterprises is their exotic origin. The jute industry was started by two Englishmen, Acland and Henderson, and is now a practical monopoly of Scotchmen from Dundee. Indian capitalists have taken very little part, except as mere investors, in the starting, and none at all in the management, of jute mills. The Bengali never succeeded in passing from the stage of trading and financing to that of manufacture, probably owing to the steady flow of British capital and expert skill into the industry. The credit of having laid the foundations of modern mining in South India must go to one M. T. Lavelle, an Irish soldier of the Mutiny, who commenced work on what are now the Kolar Gold Fields in 1871; and the great mining industry of that part of India is completely in European hands. In coal-mining, the European's sway is not quite so complete, but it would be safe to say that in the domain of mining, metalliferous or non-metalliferous, the predominant share is that of the European. The engineering industry, likewise, is almost entirely in European hands; while the planting industries owe their successful initiation and working to the foreigner's pioneering efforts. The large agency firms which form a characteristic feature of organised industry and commerce in all the chief Indian centres are, except in Bombay, mainly European in personnel. Bombay's is a case apart, and the staple industry of that city is of indigenous origin, though largely aided by the technical skill of the English expert. But, speaking generally, it will be found

that the first factories in almost every branch of industry were started by Englishmen or Scotchmen. The contribution of the local people in the establishment of these industries was their physical labour; so that the direction and control of industries, as well as the filling up of the higher posts, have remained with the European in almost unbroken succession. Whatever may be the causes that made the Indian contented with this lowly and obscure position—" whether they may be found in a fertile soil providing a livelihood in return for little labour, or in a social system which exalts the less material side of life, in economic conditions that produce a class of middlemen living parasitically on the profits of the land, or in historical traditions which attract the most enterprising classes to administration,"[1] the fact remains that, owing to his non-participation in the earlier industrial development of his own country, now that he is called upon to assume the responsibilities of industrial management, he is often found deficient in the essential qualities of industrial leadership.

This is indeed the kernel of the situation. " The men with capital, business acumen, technical knowledge and administrative capacity, who form the backbone of industrial life in Europe and America," are still rare in the country, and no preparation has been made to create them. " Organisation, direction, co-ordination and knowledge are as essential to modern industry as they are to a modern army. The industrial army is always at war with Nature. If it is to maintain its place in the van with the industrial armies of other progressive countries, it will depend not only on the natural qualities of its rank and file, and on the good feeling between the rank and file and the directing staff, but also on its staff work, on its equipment being maintained at the highest possible pitch, on new developments being carried through, new ideas and inventions sought and welcomed, on the collection of detailed and world-wide information on trade and industry, and on the co-ordination of all the directing forces of the nation, political, industrial, scientific, financial, both to secure the utmost internal development, and to conduct the strategic penetration of foreign markets. In a word, it will depend on the brains, adaptability, and hard work of those who direct industry."[2] It is for captains of

[1] *Report of the Fiscal Commission*, Cmd. 1764 of 1922, p. 40.
[2] *Round Table*, December, 1916, p. 33.

industry possessed of all these attributes that modern India is waiting. The supreme need of the country is for managers and foremen, for pioneers and entrepreneurs. Various devices have been proposed to remedy this defect, but none of them go to the root of the matter. Elaborate rules for the training of apprentices in concerns that receive Government aid, provision for technical and commercial instruction —these will produce only skilled artisans or clerks acquainted with the jargon of the Bourse and the 'Change. There is an unconscious note of despair in the suggestion of the Fiscal Commission that, for a long time to come, we shall have to look to the foreigner for the introduction of the newest ideas and for instruction in the economies of mass production. Indian sentiment, however, is not willing to content itself with foreign leadership in industry, and, with the increasing spread of economic and general knowledge with which the various Colleges and Universities are now concerning themselves, there is room for the confident expectation that this defect in India's industrial equipment will be removed at a not very distant date, and that the country will produce the race of business men it needs to direct and control the course of its economic development. The present interest in industries will gradually attract to them the brains and the talent which are now seeking avenues of activity in politics and the learned professions, and the problem will solve itself along with the growth and multiplication of organisations for large scale production. *Solvitur ambulando.*

CHAPTER VII

THE INDIAN COTTON-MILL INDUSTRY*

Synopsis :—Beginnings; the Goosery mill at Calcutta, 1838; C. N. Davar's mill at Bombay, 1853.

The early conditions of the industry. Rise of cotton prices.

The industry spreads into the interior; Ahmedabad; Nagpur.

Increase of manufactured cotton exports alarms Lancashire. Agitation for the abolition of the cotton import duties. Free trade established in 1882.

Still the output of the Indian mills increases. So also the export of manufactured goods.

The crisis during the closing years of the 19th century: China, fluctuating exchanges, etc.

Progress from 1914 to 1920. Statistical analysis.

Relative position of the industry in India and England.

The war-period; increased production and attempts to produce higher counts. The range of competition examined. Yarn and cloths.

Rise in cotton prices in recent times; how it has affected the import trade, and given an opportunity for the expansion of the Indian industry. The Exchange difficulties, and the repudiation of contracts.

The rivalry of Japan.

Type of goods woven in India.

Financial position of the industry. Compared with conditions in Lancashire.

The efficiency of the cotton mill operatives; wages in the industry.

The home market.

Appendix :—Wages in the industry (the Bombay *Report on the Wages and Hours Enquiry in the Cotton Mills*).

THOUGH the first cotton-mill on Indian soil was established at Calcutta in 1838, it was not till 1853, when the enterprising Parsee merchant, Cowasji Nanabhoy Davar, erected a mill in Bombay with 5,000 throstle spindles, that the production of yarn and cloth by steam-power in India can be said to have had its foundations well and truly laid. About the same time, one Mr Landen, an Englishman, is said to have started a small mill at Broach, but nothing was heard of it till after

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some years, when it had developed into a fairly large concern. By the beginning of 1875, there were 48 cotton mills in India, with looms and spindles estimated at 10,000 and 1,000,000 respectively. The earliest of the Bombay mills were the Oriental, the Manekji Petit, the Alliance, the Great Eastern, the Coorla and the Morarji. Excepting the Alliance, all were both spinning and weaving mills. From the very inception of the cotton-mill industry, the proprietors appear to have realised the importance of manufacturing cloth consumable in the home market, but the great rise in the price of raw material had the blighting effect of causing a suspension of mill activity, since it was impossible to confine manufacture to the coarser varieties of cloth alone at the enhanced price, while the plant already installed, and the quality of home-grown cotton, precluded the possibility of attempting the finer varieties. After the termination of the American Civil War, when prices became more normal, there was once again an outburst of cotton-manufacturing activity in Bombay, while the more far-seeing industrialists found a field for their energies in the cotton-growing districts. The late Mr J. N. Tata, whose fame as a mill-owner has been eclipsed by his posthumous successes in the hydro-electric and iron and steel industries, was the first to seize the opportunity, by establishing a factory at Nagpur; and he was closely followed by Mr Morarji Goculdas at Sholapur. The Empress Mill, Tata's concern at Nagpur, it is interesting to note, started working on January 1st, 1887, and is so named because Queen Victoria was on that day proclaimed Empress of India. The significance of the action of these two leading industrialists in moving the industry outside Bombay, the Cottonopolis of India, lies in the fact that it led to the development of the industry in places like Ahmedabad, nearer the zones of the production of raw cotton, and thus tended in some measure to relieve the congestion of the capital city. The latter problem has assumed serious dimensions at the present time, and the Indian Industrial Commission of 1916–18 was compelled to recommend that no industrial concerns should be started in the future in certain areas without the sanction of the Municipality.[1] By the beginning of 1882, the number of mills had risen to 62, the authorised capital, so far as is known, to £80,000

[1] See the *Report*, Cmd. 51 of 1919, p. 159, para. 249.

(sterling capital) and Rs. 65,652,350 (rupee capital), and the number of looms and spindles to 15,116 and 1,654,103 respectively. The number of persons employed was 53,624. While the imports of twist and yarn remained almost stationary in the seventies, the Indian exports went up from 2·01 million lb. (annual average) in the quinquennium 1871–75 to 15·39 millions in the succeeding quinquennium; and though the imports of manufactured cotton goods were steadily on the increase, the Indian exports of cotton manufactures of all sorts rose from 12 million yards in the earlier half of the decade to 19 millions in the later half. Lancashire, which regarded the Indian market as its own close preserve, was frankly alarmed by this tendency, though yet it was hardly affected by the development of the Indian industry. In 1877–78, therefore, it began to exert itself in the matter. The deficiencies in Indian revenue, caused by the Mutiny and other military activities in India, had forced the Government to levy heavy import duties—amounting at one time to 20 per cent. *ad valorem*—and Lancashire attributed the prosperity of the mills to their protective influence. It accordingly got the House of Commons to pass a resolution to the effect that " in the opinion of this House, the duties now levied on cotton manufactures imported into India being protective in their nature, are contrary to sound commercial policy, and ought to be repealed without delay as soon as the financial condition of India will permit." As a matter of fact, as we shall see later on, the duties had no protective effect to speak of, as the Indian products did not compete with those of Lancashire; there can be no protection where there is no competition. But Lancashire was persistent, and the House of Commons re-affirmed their resolution of 1877, with the result that on March 13th, 1879, the first step in the ultimate repeal of the import duty on cotton goods was taken. It was then confined to the coarsest class of Lancashire grey goods, which came nearest the region of Indian competition. In 1882 all import duties were abolished, and India became fully a free-trade country.

The years immediately following the repeal of the import duties saw a rapid development in the Indian cotton industry. It was stated by Sir Henry James in the House of Commons debate of the 21st February, 1895, that, between 1882 and 1895, the number of spindles had increased from 1,550,000

to 3,500,000; and that, while in the six years ending in 1882 the United Kingdom held two-thirds of the trade with Hong-Kong, China, and Japan, in the four years ending in 1895, four-fifths of this trade had passed to India. The figures indicating the progress of the mill industry from 1883–84 to 1903–04 are shown below :—[1]

Year	*Mills*	*Authorised Capital*	*Persons Employed*	*Looms*	*Spindles*
1883–84	... 74	Rs. 81,677,250 (£80,000)	61,836	16,251	1,895,284
1893–94	... 138	Rs. 113,300,840 (£568,216)	130,570	29,392	3,539,681
1903–04	... 206	Rs. 154,870,050 (£1,067,245)	186,144	45,281	5,167,608

In the course of these twenty years, it will be seen that the industry nearly trebled itself in magnitude. The increase in spindles was roughly the same in each decennium, though looms increased a little faster during the second half of the period. Altogether, spindles increased by over 175 per cent., and looms by over 185 per cent. In 1903–04, 113 of the mills were exclusively devoted to spinning, and 5 exclusively to weaving, the rest combining both the processes. Of the operatives, 64 per cent. were men, 20 per cent. women, and 16 per cent. children; and, as compared with English mills, the percentage of men employed was very high. All but 33 of the mills were owned by joint stock companies, financed as the Table above shows, largely by rupee capital. Prominent among the mill-owners were the Bhatias, followed by Englishmen, Parsees, Jews, and Mahomedans. Up-country mills were largely Indian-owned.

During the closing years of the last century, the Bombay cotton industry suffered great vicissitudes. Apart from recurring difficulties due to financial shortcomings, and to faults in management and equipment, there was a succession of special troubles. The outbreak of plague drove the operatives from the city in thousands, and the high plague mortality made labour scarce. In 1900, drought curtailed enormously the supplies of raw cotton, while famine reduced the purchasing power of the home consumers. Political disturbances in China, and fluctuating exchanges injured

[1] *Vide Statistics of Br. India*, Vol. I, No. 1558 of 1922, p. 55.

business with that great consuming country. In consequence, many mills went into liquidation, reduced their capital, or underwent reconstruction. At the same time, the industry showed some expansion, since some of the newly-erected mills were equipped with up-to-date machinery, and, as a result, the quality of production showed some improvement. With the cheapening of the raw material, the extension of the foreign demand for yarn, and a steadily widening home market, the industry was once again enabled to pursue its course of steady progress. In 1913–14, the number of mills had risen to 264, with a rupee capital of 215,023,050 and a sterling capital of £636,274; while the looms and spindles numbered 96,688 and 6,620,576 respectively, giving employment to as many as 260,847 persons. With the outbreak of the War, India suffered a heavy falling off of the export trade in both yarn and woven goods, and in 1915, out of about 80 Indian mills quoted, 20 paid no dividends. The statistics for the War period and after may conveniently be summarised in the following Table :—

Year	*Mills*	*Capital* (*Authorised*)	*Operatives*	*Looms*	*Spindles*
1914–15	... 255	Rs. 214,297,234 (£516,078)	260,440	103,311	6,598,108
1915–16	... 267	Rs. 219,879,390 (£516,078)	275,871	108,417	6,675,688
1916–17	... 267	Rs. 222,805,058 (£518,400)	277,370	110,812	6,670,162
1917–18	... 269	Rs. 238,855,966 (£518,400)	284,054	114,805	6,614,269
1918–19	... 264	Rs. 276,982,217 (£318,400)	290,225	116,094	6,590,918
1919–20	... 263	Rs. 383,579,042 (£318,400)	305,511	117,558	6,714,265
1920–21	... 280	Rs. 559,362,255 (£318,400)	322,975	117,953	6,652,474

The paid-up capital of the mills in 1919–20 was estimated at Rs. 270,783,642 and £258,888. The debenture capital amounted to Rs. 34,229,472 and £99,000. Of the persons employed, 222,884 were men, 54,647 were women, and 27,980 children.

While this survey of the history of the industry for the last seventy years reveals on the whole a quiet and orderly

development, with the exception of two or three periods of crisis, yet the comparative backwardness of the industry is clearly revealed by a reference to the present position of the same industry in the United Kingdom. In 1916, according to Sir Dinshaw Wacha's calculations, the United Kingdom had 318·2 spindles and 17·8 looms to every 1,000 of her population, while India's corresponding figures were only 21·7 spindles and 0·35 looms.[1] The relative position in India and Great Britain by the end of August, 1921, was as follows :—

		India	*United Kingdom*
Looms	...	123,783	790,399
Spindles	...	6,870,804	60,053,246

With these figures in mind, and with only a very slow development in the cultivation of long-stapled cotton in India, it may reasonably be enquired what prospect India has of displacing the enormous imports of piece-goods from Lancashire.

We may now turn our attention to the output of the Indian mills. If the variations in the imports of yarn may be taken as an index to the quantity of home production, the Indian position in yarn certainly seems satisfactory. During the last three decades of the nineteenth century, imports of cotton yarn have fluctuated greatly in quantity, while in the 'nineties they fell away in value. British twists of lower counts have declined, partly because similar yarn is increasingly manufactured in India, and partly because the hand-loom weavers, who consume a large quantity of foreign yarn, have declined in activity on account of the keen competition of the machine-made goods. The bulk of the yarn imports in 1900 consisted of coloured yarns of medium counts, from 26 to 40, spun from long-stapled cotton. On the whole, yarn imports cannot be called progressive, for quantities have remained almost stationary during 1890–1900, despite a considerable fall in prices. As regards production at home, the official statistics show that it amounted to 432,352,120 lb. in 1895–96, and, though there was a serious diminution the next year, thenceforward it steadily advanced, till in 1899–1900 it came to 513,923,248 lb. The next year saw a serious drop to 352,973,087 lb., from which it recovered rapidly, and gradually advanced to 682,776,851 lb. in 1913–14,

[1] *Vide Journal of the Society of Arts*, July 19th, 1918, p. 551.

the year previous to the outbreak of war. The following Table compares the imports in yarn with home production:—

Year	*Import in lb.*	*Indian mills production in lb.*
Annual average for the 5 years ending with 1908	38,573,000	641,776,000
Ditto, ditto, ending with 1913 ...	41,794,000	646,754,000
1913–14	44,171,000	682,777,000
1914–15	42,864,000	651,985,000
1915–16	40,427,000	722,425,000
1916–17	29,530,000	681,107,000
1917–18	19,400,000	660,576,000
1918–19	38,095,000	615,040,000
1919–20	15,097,000	635,760,000
1920–21	47,333,000	660,003,000
1921–22	57,124,000	692,313,000
1922–23	59,274,000	705,894,000
1923–24	44,580,000	608,628,000

An interesting fact which emerges from these figures is that, while the Indian mill production showed a tendency to expand in the early years of the War, rising to the high-water mark of over 722 million lb. in 1915, there was a reduction in the output since, though after 1918 there has been a gradual increase, checked by a sharp decline in 1923–24, caused by the depressed trade conditions of the year. On the whole, the increase over the pre-war period has been well maintained. Part of the diminution in 1916–20 was due to the spinning of higher counts; there was an increase in the production of higher counts to the extent of 2·29 crores lb. (a crore = 10 millions) between 1914–15 and 1916–17; whereas in the lower counts, *viz.*, below 20, there has been no increase to speak of.

YARN PRODUCTION IN INDIA, ACCORDING TO COUNTS (In million lb.)

Counts	1914–15	15–16	16–17	17–18	18–19	19–20	20–21	21–22	22–23	23–24
1–10 ...	131·0	145·3	110·6	446·4	87·3	84·2	84·0	98·1	103·0	84·6
11–20 ...	343·3	386·2	369·5		314·5	347·0	360·0	371·3	375·6	318·9
21–30 ...	156·2	169·7	171·4	183·7	189·2	183·7	199·1	203·2	208·9	181·7
31–40 ...	18·7	18·6	24·0	24·4	19·2	17·1	15·0	16·9	15·9	19·7
Above 40	2·2	1·9	4·6	6·6	4·6	3·6	2·1	2·4	2·4	3·7

The tendency of the post-war years has been in the same direction; and it will be noted that the increase in production has been highest in counts 21 to 30. The present total imports of yarn are well above the pre-war average, and their relative expansion has been greater than that of the Indian mills.

Home production suffered severely through depreciation of plant during the War, when there was no possibility of importing new machinery; and it is only during the past two or three years that Indian mills have been able to secure their renewals. It may, therefore, be confidently expected that the next few years will witness not only an increase in the total output but also an increased output in the finer counts.[1]

It has been necessary to go in such detail into the question of counts not only because of the prospects which the manufacture of finer counts opens up for the manufacture of the better varieties of cloth; but also because such an examination is essential in order to ascertain the range of competition between home-made and imported cotton manufacture. Confining ourselves to yarn, the following Table indicates the present position (in units of 1,000 lb.) :—

	Cotton : Imports in 1921–22			*Indian mill production*
Twist and yarn	*U.K.*	*Japan*	*Total*	1921–22
Nos. 1–20 ...	1,766	4,863	6,961	469,370
Nos. 21–25 ...	1,122	——	1,219	150,579
Nos. 26–30 ...	2,891	1,311	4,238	52,583
Nos. 31–40 ...	18,366	6,888	26,741	16,900
Above 40 ...	8,568	253	8,882	2,389
Greys and coloured two-folds ...	4,546	1,125	5,746	——
Unspecified descriptions and waste	2,815	475	3,338	492
Total ...	40,074	14,915	57,125	692,313

These figures make it clear that in counts below 30s. the Indian mills are supreme. From 31s. to 40s. Indian production has declined from 24 million lb. in 1916–17 to 16·9 millions in 1921–22. Above 40s., too, Indian spinning has declined during the past few years, and imports have been well maintained. The range of effective competition, therefore, is confined principally to the higher counts. Mr Austen Chamberlain emphasised this point in his reply to the Cotton Trade Deputation from Lancashire, which waited on him in

[1] In 1923–24, the greatest weight was spun in the following counts, in order of importance: 20s., 24s., 21s., 22s., 11s., 12s., and 30s.

March, 1917, when the Indian import duties were slightly raised. He said: "The information given to me leads me to believe that probably the real area of serious competition is in counts from 24 to 28." From the Indian manufacturers' point of view, then, an import duty on the higher counts of yarn would foster indigenous production in that class of goods; but its effects on the hand-loom industry of the country would be disastrous. That is why, when a 5 per cent. duty on all cotton yarns imported into the country was imposed in March, 1921, there was a loud outcry against it. In the debate in the Legislative Assembly, Mr T. V. Seshagiri Ayyar said that there were about six million people engaged in the hand-loom industry, who need the finer kinds of imported yarn, to whom such a duty would spell absolute unemployment. There can be no doubt that the Indian Government would not have insisted on its retention but for its urgent necessity for a higher revenue.

Before passing from the question of yarn production, it may be interesting to note the number of lb. of yarn produced in India per spindle in position, which is a fairly good index of the steadiness with which the spindles have been worked, and of the prosperity or depression of the industry. It was rather low in 1919, when it was only 91·93 lb. per spindle, gradually improving to 94 lb. in 1920, 96·05 lb. in 1921, and 104·2 lb. in 1923. Probably the highest figure reached in recent years was in 1906, when it was 128·97 lb., while the average during the War-period was about 100 lb.

Turning to the production of cloth, we notice that the opening years of the century witnessed an expansion in the production of woven goods. Mill-owners had discovered that cloth production for the neglected home market was less risky and more profitable than yarn production for foreign markets like China, while at the same time it carried the process of cotton manufacture one stage ahead, and enabled the country to compete better with the coarser varieties of imported cloths. The War gave a great impetus to cloth manufacture, and it is a matter in which the Indian mills take a legitimate pride that all the military requirements in cotton goods in the Eastern theatres of war were supplied by them. The diminution in the export trade in yarn increased the quantities available for production of cloth, while the shrinkage in imports, due to the Lancashire mills

having undertaken war-work and to the shortage in shipping, widened the market for the indigenous cloths. According to Sir Dinshaw Wacha's calculations,[1] the net total yardage of imported goods in the pre-war year was 313·51 crores. This steadily declined to 240·98 crores in 1914–15, and to 100·77 crores only in 1918–19. Further analysis reveals that the diminution was heavier in bleached and dyed goods than in grey goods. The shortage in imports was accompanied by a rapid rise in prices. The opportunity was not lost by the Indian mills, which increased their output to the full extent of their loom-power, the inability to import machinery preventing as speedy a development as would otherwise have taken place. Confining ourselves to the net production (*i.e.*, minus exports) of grey and coloured piece-goods (the production of bleached goods, being still in its infancy, may be left out), the figures in 1913–14 were 82·87 crores of yards of grey goods, and 24·68 crores of yards of coloured goods, making a total of 107·55 crores of yards. These figures steadily increased, till in 1916–17, grey goods came up to 106·55 crores, and dyed goods to 36·25 crores, of yards. In 1918–19, there was a setback, owing to the return to peace conditions, the grey declining to 102·02 and dyed to 27·84 crores of yards. The total figures showing the developments during war-time and after are as follows :—

Figures showing imports and home production in piece-goods, etc.

Year	*Imports* (*yards*)	*Home production* (*yards*)
1913–14	3,199,410,219	1,164,291,588
1914–15	2,448,137,123	1,135,707,952
1915–16	2,152,447,549	1,441,514,550
1916–17	1,942,422,766	1,578,132,789
1917–18	1,560,810,386	1,614,126,458
1918–19	1,124,292,060	1,450,726,160
1919–20	1,087,989,022	1,639,779,227
1920–21	1,491,200,000*	1,580,849,746
1921–22	1,080,100,000*	1,731,573,296
1922–23	1,577,300,000*	1,725,300,000
1923–24	1,466,700,000*	1,700,400,000

Figures marked * include only the three main classes, *viz.*, grey, white and coloured, printed or dyed goods.

The diminution in imports, as the foregoing figures indicate, is certainly not due to a sudden expansion in Indian production,

[1] Quoted at pp. 29–32, *Review of the Prospects of British Trade in India at the Close of the War, Department of Overseas Trade*, Cmd. 442 of 1919.

but must be explained by a reference to prices and to general conditions of trade. It would be tedious to give the figures, but the results may be rapidly summed up. From 1913–14 to 1920–21, there has been a reduction in yardage in the three main classes, the rates being 32% in grey, 47% in white, and 41% in coloured, printed, or dyed goods, while the prices of the three classes rose from (in millions) £17 to £26·5; £9·5 to £22; and £12 to £34·6 respectively. Had prices remained at the 1913–14 level, the quantities of piece-goods which would have been imported in 1920–21 for the sum actually spent that year would have shown an increase in yardage of at least 33·3% over the pre-war level. The declared value per yard of the three classes above enumerated showed a steady rise, which curtailed the extent of their market.

Declared value per yard of the imported piece-goods.

Class	1913–14	18–19	19–20	20–21	21–22	22–23
	Rs. a. p.	*Rs. a. p.*	*Rs. a. p.*	*Rs. a. p.*	*Rs. a. p.*	*Rs. a. p.*
Grey ...	0 2 8	0 6 6	0 6 9	0 7 4	0 5 8	0 5 3
White ...	0 2 11	0 7 4	0 7 11	0 8 4	0 6 7	0 6 6
Coloured, etc.	0 3 5	0 8 4	0 9 10	0 11 4	0 8 9	0 8 3

The effect of the rise in prices has been summarised by a correspondent in the *Manchester Guardian Commercial* of the 11th May, 1922. "The vast populations of India and the East, who are the greatest consumers of cotton goods in the world, are very poor, and have their tastes dictated to them by the price of cloth. The cheapness of bleached and coloured goods before the war had placed the lowest qualities of these within reach of great numbers of people, and the trade in them was a steadily expanding one, which appeared to remain principally in the hands of Lancashire. Even in 1920, when prices were at their highest, printed and bleached goods remained relatively cheap compared with grey cloth, and at that time, the general view was that this would pass more and more into the hands of local mill-owners and the Japanese. Since that date, however, the high finishing charges have driven the consumer off the coloured and, to a smaller extent, off the bleached goods back on the grey cloths. So great has been the decline in the cost of cloth that India has bought Lancashire grey cloth in large quantities at prices that have been able to compete with the Japanese and Indian-made goods." The rise in the price of finished

goods is only an aspect of the situation, the cardinal feature of which was a rise in prices all round. American raw cotton prices are, naturally enough, the dominating factor in determining the price of piece-goods all over the world. The year 1919–20 saw a rise of cotton prices in America, culminating in quotations of over 43 cents for middling in April, 1920, followed by a decline to 11 cents in March, 1921; and in the principal cotton manufacturing countries the price rose and fell in like manner. In India falling exchange more than neutralised falling values, and the local prices of piece-goods were in consequence longer maintained, no real break occurring till the middle of February, 1921. Even in 1921–22, when prices fell and there was a revival in trade, the high finishing costs noted already kept down the bleached and coloured varieties. Meanwhile, Indian piece-goods also were rising in price, though at a slightly lower rate. Indian greys had risen from 2·44 annas per yard in 1913–14 to 5·95 annas in 1918–19, and the dyed goods from 3·04 annas to 7·1 annas. This difference in the rate of rise, slight as it was, was clearly in favour of greater home production to meet the rising market.

Exchange difficulties also brought about a deadlock in the import business, and, as a consequence, an opportunity for the further stimulation of home production. Orders for piece-goods had been freely placed in the United Kingdom when exchange was high. British mills were then working at full pressure, and some months necessarily elapsed before deliveries were made. Meanwhile (June to December, 1920) exchange had fallen, and Indian importers were faced with serious losses. They had pinned their faith to the recommendation of the Currency Committee of 1919 to stabilise the rupee at 2 shillings gold, and had even hoped for higher levels. But the rush for remittance overwhelmed exchange, which fell remorselessly. The rupee fell from 2s. 4d. (T.T.) on April 1st, 1920, to 1s. 2⅞d. (T.T.) on March 7th 1921. Faced with losses ranging from 50 to 70 per cent. of the cost price of goods ordered, which they were in many instances unable to meet, the importers sought refuge in resolutions pledging themselves to refrain from settling any contracts at a lower rate than 2s. to the rupee in the case of English contracts, while in the case of Japanese imports settlement was to be deferred till exchange reached

Rs. 150 per 100 yen. Importing houses and banks as well as English manufacturers were affected by these decisions. The tension has since passed away, but a feeling of soreness has remained against the English exporters, who had insisted on the due fulfilment of contracts in spite of the crisis that had overtaken the importers. The situation was one of which, to the casual observer, the Indian mills might have been expected to take full advantage by capturing orders withheld for the time from Manchester and Japan. That they did not do so, says the *Official Review of the Trade of India*,[1] is evidence, not of any weakness of organisation—for the mill-owners' associations are fully competent to deal with such situations—but of the comparatively small range of goods in the production of which Lancashire and the Indian mills are in active competition.

It is now necessary to examine the last point above referred to in somewhat greater detail. It is much more difficult to estimate the area of competition in cloths than in yarn, as expert examination is required as to the counts used in the various Indian makes. Generally speaking, Indian cloths are woven from coarser counts than the corresponding Lancashire qualities. The Government of India some few years ago endeavoured to estimate the approximate area of competition, and deputed an officer of considerable customs experience to undertake the work. According to his investigations, the percentage of imports of unbleached goods from Lancashire of those descriptions falling within the sphere of practical competition are as follows:—

	Quantity %	*Value* %
Shirtings and longcloth ...	90	90
Drills and jeans	100	100
Chadars	80	75
Dhooties, sarees, and scarves	30	22

It should be mentioned, however, that dhooties are very difficult to estimate, and that the competitive limit is probably greater than 30%. The percentages for value in the above statement are duly weighted in consideration of the lower average value of the grades included. As regards bleached cotton piece-goods, it is estimated that about 5% represents

[1] Forty-seventh issue, p. 4.

the range of practical competition. With regard to coloured goods of coarser counts, the percentages would probably be :—

	Quantity %	*Value* %
Checks, spots and stripes ...	70	60
Dhooties	40	30
Drills and jeans	100	100
Sarees and scarves	20	16

Accepting these percentages, the proportion of imports falling within the sphere of competition during the five years immediately preceding the War would be as shown in the Table given at p. 202, *infra*. According to this calculation, the area of competition covers roughly a little over 26% of the total piece-goods imports from Lancashire. H.M. Senior Trade Commissioner in India, from whose Report these figures are taken,[1] is inclined to think this an over-estimate, and would place the competition in bleached goods, for example, at much below 5%. The total export of cotton goods from England in 1913 amounted to 127 millions sterling, forming nearly a third of the total exports of all manufactured goods. In the same year the trade in cotton goods to India amounted to £37,240,000 or 29·3% of the total cotton exports from Great Britain. Mr Austen Chamberlain, in his reply to the Lancashire Cotton Trade Deputation in 1917, said that " the proportion of your Lancashire trade with which Indian mills are in effective competition does not amount to more than 2% of your whole trade." If the range of competition is as estimated above, it affects a little over 7% of the total cotton exports of England ; and considering the wide divergence in the classes of goods produced in the two countries, it is difficult to believe that it covers such a wide area. It is necessary in this connection to notice the competition offered by Japanese imports to Indian mill production. The relative proportions of Japanese imports to those from Lancashire do not seem very impressive ; yet the figures leave no room to doubt that the former is increasing at a sufficiently rapid pace to cause anxiety to Indian industrialists. The war period gave the Japanese a splendid opportunity, of which they were not slow to take advantage ; and their imports, particularly in the grey goods, have been greatly expanding.

[1] Cmd. 442 of 1919, pp. 36–7.

Table showing the proportion of imports falling within the area of competition

Description.	Annual average of imports (1909–10 to 13–14)	Estimated proportion of imports affected by Indian competition.	Estimated value of imports affected by Indian competition.
	£	*per cent.*	£
Grey (unbleached)			
chadars	48,345	75	36,259
Dhooties, sarees and			
scarves	6,905,037	22	1,519,108
Drills and jeans ...	301,645	100	301,645
Longcloth and shirtings	5,455,145	90	4,909,631
All other kinds ...	1,346,881	—	———
White (bleached) ...	7,468,859	5	373,443
Coloured, printed or dyed :—			
checks, spots and			
stripes	90,266	60	54,160
Dhooties, including			
lungis	610,263	30	183,079
Drills and jeans ...	340,530	100	340,530
Sarees and scarves ...	1,009,852	16	161,576
All other kinds ...	6,581,066	—	———
	———	—	———
Total ...	30,157,892	—	7,879,431

The average imports in this line for the five years ended 1913–14 came to 2·6 million yards; in 1916–17, it had run up to 75·6 millions; the next year saw a decline by about 2·3 millions, which was more than made good in the succeeding year, when the grey goods imports rose to the phenomenal quantity of nearly 207 million yards. In 1919–20, Japan experienced a severe industrial crisis, the effects of which she has not yet completely got over. The imports of the other classes of cotton goods also show a like rise and fall. But the Japanese cotton industry is expanding, and as an exporter to India, Japan possesses some exceptional advantages. Being a large importer of Indian short-stapled cotton, she has in her buying agencies in the up-country districts an efficient organisation to push her manufactured goods. Japanese yarn and piece-good travellers are active throughout the country, especially on the Bombay side, trying to capture the direct trade with Indian wholesale importers; and the present writer recollects the surprise he felt on seeing one of this fraternity in an out-of-the-way village in the Madura

District, sounding the cotton possibilities of the place with his broken Tamil. It is also believed that subsidised steamers carry the cotton to Japan, and transport the manufactured goods back to India, at rates fixed by the Rengokai (the Japan Cotton Spinners' Association). Japanese labour, too, is cheaper, not because there are any wide differences in the rates of wages in the two countries, but because the Japanese employ three women workers to every male worker, while in India, female operatives number less than one-fifth of the total number of workers, and the wage of a woman in Japan is about three-fourths that of a man. The Indian export of yarn to China is now less than half of what it was a decade ago, because of its displacement by Japanese yarn; and in the manufacture of cloths, she is specialising in most of those lines which more directly compete with Indian production than with the Lancashire varieties.

Of the plain goods made by the Indian mills, shirtings and longcloth, dhooties, T cloths, domestics and sheetings, drills and jeans, and chadars are the most important types. In 1921–22, shirting and longcloth advanced from 292 million yards in 1913–16, and 456 million yards in 1920–21, to 487 million yards. Dhooties rose from 285 million yards in the pre-war year, to 340 millions in 1920–21, and to 456 millions in 1921–22. Part of these goods falls within the area of the Lancashire trade; but drills and jeans which rose from 28 million yards in 1913–14 to 74 millions in 1920–21, and declined to 60 millions in 1921–22, compete more particularly with Japanese and American goods. The production of coloured piece-goods, which rose by 54% during the War, has since steadily fallen, the output in 1921–22 being 6 million yards short of the previous year. A great number of the mills now possesses dyeing and finishing plants, and all the tendencies point to a development in the bleaching, dyeing, and even printing industries. It will be of interest in this connection to note that the quantity of calendered goods rose from 61·72% of the total production in 1920–21 to 64·4% in 1921–22. The increasing imports of long-staple cotton, which in 1921 was nearly thrice the quantity of the previous year, furnish an index to the improvement in the quality of the goods made, and this tendency will be greatly strengthened by the keen attention that is now being devoted to long-staple cultivation in the country itself. The indigenous

short-staple varieties yield a relatively prolific crop, and command a fair price, both at home and in foreign markets; and the cultivators have been unwilling to abandon them for the longer staples unless assured of new markets, at remunerative prices, for their new crops. Latterly, however, there has been a keen demand for the better varieties, the production of which has fallen short of the demand; the price of "Fine Broach," the standard on which the price of Indian cotton is based, ruled before the War at about Rs. 250 per candy of 784 lb. In 1918–19 it was Rs. 770 per candy. The Liverpool price of "middling American," which before the war ruled ordinarily at 6½d. to 7d. per lb., was in 1918–19 as high as 25d. per lb. Under the stimulating influence of these high prices, it is reasonable to assume that greater areas will be put under long staples in India, and thereby give an additional encouragement to the production of finer cloths.

The Indian cotton-mill industry was faced with extraordinary troubles during the first decade of the present century, some causes of which have already been alluded to. According to Mr C. N. Wadia, of Messrs C. N. Wadia and Company, the net profits of the Bombay cotton mills steadily declined during this period, and while in 1905 they had a net profit of 2·35 crores of rupees, it had diminished in 1909 to 0·16 crores, while in 1910 and 1911 they had to meet losses of 0·41 and 0·51 crores respectively. In 1914, the loss was 0·19 crores; but since the outbreak of the War the industry has enjoyed an unparalleled spell of prosperity. Further following the fortunes of the industry in the city and island of Bombay, we find that the net profits there for the three years 1919, 1920 and 1921 were 10·89, 13·3, and 12·22 crores of rupees respectively.[1] An analysis of the dividends paid by 58 leading Bombay mills in 1919 shows an average rate of distribution of 44%. The gross profits of the Bombay mills in 1920–21 were estimated by the Chairman of the Mill-Owners' Association at 16 crores, which amounted, at the exchange then ruling, to 16 millions sterling. The dividends of 35 leading mills that year showed an average of 59%; and the high levels at which shares are quoted show

[1] See Appendix F, p. 108, *Report on an Enquiry into the Wages and Hours of Labour in the Cotton-Mill Industry*, published by the Labour Office, Government of Bombay, 1923.

that a prolonged period of prosperity is anticipated.[1] The present position is best summed up in the words of the Chairman of the Bombay Mill-Owners' Association at the annual meeting on March 27th, 1922 : " From a manufacturing point of view, the period has been one of continued prosperity, both spinning and weaving having been fully engaged, though bleaching and dyeing, following the popular clamour for plain goods consequent on Swadeshi and other causes, had had but a poor trading time. I estimate the profits of the Bombay cotton mills to be about 30% to 35% less than they were for the previous year, when margins reached their zenith. On these results, we think we can congratulate ourselves, especially as the textile industry in almost every other country in the world has been passing through a period of acute depression. We are, of course, sure to have our cycles of bad times, but I am fully confident that we are now in a position to cope with them, and though indications are, at the present moment, not wanting that margins of profit may not be so large as before, I consider that the industry will more than hold its own for years to come, and still show a reasonable return to those who have faith to invest and work in it. Little or no expansion of factories has taken place, due to the continued high cost of machinery and the difficulty of housing labour, and as you will see from our report, only some 60,000 spindles and 2,000 looms have been added in Bombay Island." In further explanation of the high cost of machinery may be mentioned Sir Charles Macara's calculation, quoted in the *Manchester Guardian*, that the cost of erecting a ring-spindle is now double what it was before the war, both in India and in England, and that, while it is now about £7 per spindle here in England, in India it is nearer £14. It is, however, satisfactory to note that whereas the number of looms in Indian mills increased only by 15 per cent. between 1914 and 1920, the increase in the production of woven goods was by 45 per cent. In the matter of extensions, therefore, the Indian mill-owners are now " going slow," recapitalisation, which was so largely resorted to in Lancashire, has been largely avoided, and substantial reserves have been built up, which may be drawn upon for extensions when prices of machinery become more reasonable.

[1] See *Capital*, 26th May, 1921.

Here, in parenthesis, we may cast a glance at the conditions in Lancashire in 1921. It has already been pointed out that the business with India suffered a serious decline in the year under review. That this was not due to the Gandhi agitation or to the Indian import duty of 11 per cent. is clear from the statistics of the Lancashire export trade to other countries. Comparing the position in 1921 with that in 1913, it has been estimated that, whereas the total decrease in the Indian trade was 58·1 per cent. in 1921 (in quantities), the twelve leading Continental customers of Lancashire reduced their imports by 56·4 per cent., China by 65·7 per cent., Japan by 73 per cent., Central and South America by 66·2 per cent., and the various British Colonies by 54·7 per cent. The principal reason for the decline in business has, of course, been the enormous rise in prices,[1] and the fact that the world has not yet recovered from the effects of the Great War. The state of the trade has had its reaction on the financial position of the industry. In 1920, the year of an extraordinary boom in the sale of cotton goods, there was a distribution of profits, a selling of mills, and a re-flotation of companies, at figures unknown in the career of the industry. The average dividend of 100 companies that issue balance sheets worked out at 29·47 per cent., the dividends ranging from 13 per cent. to 180 per cent. The year 1921 has a different tale to unfold: according to one report, dealing with 230 companies, the average dividend distributed is given as 9·97 per cent. out of a paid-up capital of £25,330,393. Of the companies, 23 paid no dividends at all, 36 paid less than 2·5 per cent., and 38 between 2·5 per cent. and 5 per cent. per annum. The range of payments was from *nil* to 50 per cent., while 97 out of 230 paid between *nil* and 5 per cent., and more than one-half of the 230 companies were not above the 7·5 per cent. mark. Another report dealing with the financial results of the year reviews the affairs of 317 companies, of which 163 paid no dividends during some portion of the year. The average annual dividend of these companies is placed at 6 per cent.[2]

This, it must be remembered, is but a transient phase of the industry, from which it may be expected speedily to

[1] See the article, "What is the Matter with the Cotton Industry?" at p. 253, *Textile Mercury*, March, 14th 1923.

[2] *Vide* Section I, *Cotton Year Book*, 1922.

recover; but however short in duration this period of transition may be, it is one which must afford some opportunities for a competitor to better stabilise his footing. The recent fiscal changes in India tend still further to strengthen the position of her cotton industry. It is an open question whether the cotton industry needs any protection at all against foreign competitors. But the imposition of the excise duty of 3·5 per cent. to countervail the import duty has all along been felt as a grievous national insult and a standing monument to Lancashire's domination over India's industrial life,[1] and when, under pressure of financial necessity, the duty on imported woven goods was raised to 11 per cent. in March, 1921, the "countervailing" excise duty was still kept at its old level, the Indian manufacturing industry thus obtaining a protection of 7·5 per cent. This will undoubtedly accelerate the displacement of the coarser kinds of greys now imported from Lancashire, and competition will now move upwards towards the better qualities. Again, whatever might be its effect upon the hand-loom industry, the 5 per cent. duty on yarn imposed in March, 1922, will stimulate the production, among others, of higher counts. This tariff protection, it is well to keep in mind, is especially high when the "natural protection" which India enjoys by reason of the difference of the heavy freight charges which Lancashire has to bear is taken into consideration.

An important item in determining the comparative cost of production is the relative cost and efficiency of labour. It is an objection frequently taken that the inefficiency of Indian labour is a serious handicap to speedy industrial development. In a paper read at the Indian Industrial Conference of 1905 (held at Benares), Mr S. M. Johnson, of the Muir Mills, Cawnpore, said: "A power-loom weaver in Lancashire works single-handed four to six looms, and will turn out from each an average of 78 lb. of coarse cloth in a week of 55 working hours, or 468 lb. in all for a six-loom worker. A power-loom weaver in (Northern) India looks after, as a rule, only one loom, and all he can turn out of a similar cloth in a week is at the best 70 lb. . . . The difference is due entirely to the quality of the labourer." In Cawnpore, nine men are required to work a pair of mules

[1] For a short résumé of the history of the Indian cotton duties, see Chapter X, *Report of the Indian Fiscal Commission*, Cmd. 1764 of 1922.

of 800 spindles, while, it is said, only three would be necessary in a Lancashire mill.[1] A reference has been elsewhere made to Sir Clement Simpson's estimate at Madras that 2·67 hands in an Indian cotton spinning and weaving mill are equal to one hand in a Lancashire mill.[2] In his evidence before the Indian Industrial Commission, the late Sir Alexander McRobert, the industrial king of Cawnpore, declared that the English worker was 3·5 or even 4 times as efficient as the Indian.[3] It is indeed true that, in the United Kingdom, the great majority of men tend four looms single-handed, or six with the assistance of a boy or girl, whereas in India, the majority of weavers attend only to two looms. Women in the United Kingdom tend three looms and four looms, more than half the total number having four, while in the Bombay Presidency men only are weavers. In regard to the earlier calculations, Dr Gilbert Slater points out that, while Sir Clement's statement is arithmetically correct, it is yet somewhat misleading as a test of efficiency. "The difference of output is mainly due not to inferiority in the Indian worker—though a certain degree of inferiority does exist—but to the greater cheapness of the Indian worker. The Buckingham and Carnatic Mills were recently working considerably longer hours than Lancashire mills, though not as long hours as permitted by the Factory Act, and the looms were working at a greater speed than is customary in Lancashire. In those circumstances, the managers find it economical to put four men to four looms, whereas in Lancashire you put one woman to four looms. Now, four looms will turn out more work with four weavers attending them than they will with one weaver. . . . In Lancashire it is worth while to put only one worker to four looms because you save three workers' wages. But in India the wages are so small that it is not worth while to save that amount at the expense of running the looms at a lower speed, and so the real difference between the efficiency of a

[1] For particulars showing the number of workers employed on different machines in mills in India and Great Britain, see Appendix B to the Freer-Smith Committee's *Report on Textile Factory Workers*, Cmd. 3617 of 1907; especially the comparative tables showing the number of hands, relative output, and wages in spinning and weaving in India and England given at p. 71.

[2] *Vide* chapter on *The Labour Problem*, p. 239.

[3] See *Evidence*, Vol. I, Cmd. 234 of 1919, pp. 278 *et seq.*

Lancashire and of a Madras operative is very much overstated by the ratio of two and two-thirds."[1] Wages have, therefore, been the dominating factor in determining the number of operatives put on; but a comparison of the actual earnings of the operatives in the two countries is rather difficult, as the system of wage-payment in the Lancashire industry is somewhat unique. All wages for spinning yarn and manufacturing cloth are paid according to the amount of production; and the elaborate and highly technical Piece Price Lists, such as those of Oldham and Bolton, which govern payment in the spinning section, and the "Uniform List of Prices for Weaving," which governs payment in the weaving section, are not easily understandable, and afford but little clue as to what the operative actually earns. Increases or decreases are made on the basis of the standard price lists, and in 1914, wages were 185 per cent. above the standard price lists; and by the end of 1921, wages were 70 per cent. lower on list prices than they were at the beginning of the year, leaving them still 145 per cent. above the standard. In India, too, wages started on a rapid rise after 1913, but in view of the fall in the cost of living subsequently, the tendency to-day is towards a slight fall. The fact that the number of weavers attending to more than one loom has been on the increase may, among other reasons, be partially attributed to the enhanced cost of labour. In a recent "Report on an Enquiry into the Wages and Hours of Labour in the Cotton Mill Industry," conducted in the Bombay Presidency, we find it stated that, out of an average daily number of weavers of 43,005 in the mills that submitted returns, 287 attended to 4 looms, 399 to 3 looms, 41,121 to 2 looms and only 1,198 to one loom.[2] Details regarding wages are given as an Appendix to this chapter.

One great advantage of the cotton industry of India is that if it can produce goods of a like quality and price as its foreign competitors, it need not travel outside the country in search of markets. But, producing as she does only the coarser varieties, she cannot at this stage afford to lose her foreign markets where her special types of goods are in active demand. In twist and yarn, her principal markets in order of importance are China, Egypt, the Straits Settlements,

[1] *Vide Asiatic Review*, January, 1923, p. 83.
[2] *Vide* Table at p. 12, of the *Report*.

Persia, Siam, the United Kingdom, and Arabia. In piece goods, they are Asiatic Turkey, East Africa, the Straits Settlements, Persia, Aden and its dependencies, and Ceylon. The export trade is not perhaps much; but to India it is considerable.

EXPORTS OF COTTON MANUFACTURES FROM INDIA.

Annual average in the quinquennium

Items	1909–10 to 13–14	13–14 to 18–19	19–20	20–21
Twist and yarn				
Quantity (lbs.)	192,844,000	129,685,000	151,870,000	82,535,000
Value (rupees)	91,345,000	71,893,000	182,592,300	101,715,000
Cloths				
Quantity (yds.)	90,220,000	156,609,000	196,555,000	146,365,000
Value (rupees)	20,895,000	43,043,000	87,362,000	75,063,000

But the aim of the Indian producer is more and more to capture the home market. The demand of the country for cotton manufactures, both yarn and cloth, is evident from the proportion which such imports bear to the total import trade of the country. In the decennium 1860–70, it was as high as 48 per cent., declining to 38 per cent. in the quinquennium 1895–1900. The pre-war annual average for the quinquennium 1909–10 to 1913–14 was 36 per cent., in 1916–17 it was 35·5 per cent., varying to 38, 36, and 28 per cent. in the succeeding years, and ending with 30 per cent. in 1920–21. Mr A. C. Coubrough, the manager in India of Messrs Mather and Platt, Ltd., puts the average pre-war consumption of cotton cloth at 480 crores of yards.[1] This includes both home-made and imported mill-manufactures, and also the hand-loom production of India, the latter of which, except for a depression in 1916–20, has been keeping uniform pace with local mill production. Mr Coubrough's enquiries lead him to the conclusion that the importing merchants of India are able to dispose of imported piece goods of an annual value of about 44 crores of rupees, and that, when the price of imported goods rises, the consumption falls off practically in proportion. These figures give us an idea of the extent of the home market, but it should be remembered

[1] *Vide* his *Notes on the Indian Piece-goods Trade*, Bulletin No. 16 of Indian Industries and Labour, published by the Department of Industries, Government of India.

that, 75 per cent. of the imports being of non-competitive varieties, it would take a very long time before the Indian mills are fully able to meet the home demand. The manufacture in sufficient quantities of the finer kinds of yarn and cloth, however rapidly it may be pushed on, will be a matter of only gradual development; but whenever the Indian mills rise equal to the task, they shall have no need to wander forth in search of purchasers.

APPENDIX

The annual volumes on *Prices and Wages in India*, published by the Government of India, give Tables showing the wages paid over a series of years in some of the principal mill-centres of India. Mr. Findlay Shirras, in his Report on the Wages and Hours Enquiry in the Bombay cotton mills, already referred to, has collected a mass of valuable material on the subject; and his summary of the average earnings per day of men, women, big lads and children who worked full time in May, 1921, is as follows:—

Centre	*Men*	*Women*	*Big lads and children**	*All work-people*
	Rs. p. a.	*Rs. p. a.*	*Rs. p. a.*	*Rs. p. a.*
Bombay ...	1 5 6	0 10 9	0 11 1	1 2 10
Ahmedabad ...	1 5 0	0 12 1	0 11 4	1 2 7
Sholapur ...	0 15 11	0 6 9	0 9 1	0 12 8
Other centres	1 1 8	0 10 1	0 8 11	0 15 6

* Counting two half-timers as one full-timer.

A comparison of the wages bill in May, 1914, and 1921 is given at p. 17, which shows that it had advanced in the latter year to 147 per cent. above the former. This does not take into account the managerial, clerical and higher-paid engineering staff in the mills. Taking 100 as the pre-war index number for both real and nominal wages, we find (p. 21) that in the Bombay Presidency nominal wages rose in 1921 to 196, while real wages rose only to 117. The rise in India compares favourably, however, with that in the United Kingdom, where nominal wages in the cotton industry rose to 211, but real wages only to 110.

CHAPTER VIII

IRON AND STEEL PRODUCTION[1]

Synopsis :—The iron industry of Ancient India ; its decline in modern times.

Pioneering efforts at iron and steel production ; Heath's venture and its ultimate failure.

The history of the Bengal iron industry ; the Bengal Iron Company's early origins. Its present position.

Tata and the new industry ; the genesis of the Tata Iron and Steel Company.

Its present position.

Some new iron and steel flotations.

How the war has helped the new industry ; its future prospects.

Estimated stores of raw material ; the recent discoveries in the Singhbhum region.

Comparative costs of production in India, U.S.A., Wales, and the North of England.

The extent of the home market. Imports analysed.

Post-war developments in the industry.

Subsidiary industries in the iron region. The railway industries.

The political and economic significance of the iron and steel industry.

WRITING some years ago on the Mineral Wealth of India, Captain Townsend, of the Ordnance Department, observed that nothing struck the student of Indian economic conditions so much as the contrast between the bounty of Nature and the poverty of Man in the iron industry of the country ; for, endowed more richly in iron ore than almost any other country in the world, the India of his days had in a commercial sense no iron industry at all. But going further back into the beginnings of history, we see that India possessed in her earlier days a flourishing iron industry. Megasthenes, the Greek Ambassador at Chandragupta's Court, refers to the existence in the country of large quantities of metalliferous ores including iron, and their conversion into articles of use

[1] First published in *Economica*, January, 1923.

and ornament as well as the implements and accoutrements of war.[1] The smelting and forging of iron appear to have been among the oldest of Indian arts, and were probably acquired from the Chinese. The industry, so it has been asserted by a careful student of Indian economic conditions, not only supplied all local wants, but also enabled India to export her finished products to foreign countries.[2] The quality of the material turned out had also a world-wide fame. The famous iron pillar near Delhi, which is at least fifteen hundred years old, indicates an amount of skill in the manufacture of wrought iron which has been the marvel of all who have endeavoured to account for it. The methods employed in its construction remain yet unsolved, and it is not many decades since the production of such a pillar would have been an impossibility in the largest factories of the world. Cannon of the largest calibre were manufactured in Assam; and the production of the ancient *wootz*, which furnished the material out of which the world-renowned Damascus blades were made, anticipated by many centuries the cementation process developed in Europe for making the finer qualities of steel. With the development of the import trade and the extension of railways, the native iron-smelting industry has been stamped out except in the wilder and more out-of-the-way regions, where it still struggles against the competition of the imported goods. The village blacksmith had, until recently, his own definite place in the rural economy of India; and in some parts of the country, he even now continues to produce small blooms of soft iron for making axe-heads and ploughshares. In 1916, it has been estimated, there were 300 native blast furnaces in the Central Provinces, where nearly 4,500 tons of iron ore were smelted.

While the imported goods produced abroad by modern methods were snuffing out the indigenous industry, the attempts to introduce European processes were themselves faced with extraordinary difficulties.[3] The outstanding name connected with these pioneering efforts is that of

[1] J. W. McCrindle's *Ancient India*, p. 31.

[2] *Vide* Ranade's *Essays on Indian Economics*, Chapter VI, where he gives a history of the pioneer attempts to establish the iron industry in India in modern times.

[3] For an account of these, see Ranade, *op. cit.*, also *Records of the Geological Survey of India*, Vol. XXXIX, p. 101.

Josiah Marshall Heath, a retired Madras civilian and a friend of Charles Dickens, who established an iron works at Porto Novo (South Arcot) in 1830 under a grant from the East India Company. His aim was to manufacture bar-iron and offer it for sale in England in competition with Swedish iron. Experiments soon crippled his scanty capital, and a loan from the East India Company of 5·75 lakhs of rupees was also swallowed up in the same endeavour. He installed furnaces capable of producing 40 tons of pig-iron a week; but his boiler burst, his blowing engines had to be driven by bullocks, his operators lacked practical experience, and his processes were extravagantly wasteful, involving an expenditure of 3·75 tons of charcoal for one ton of pig-iron. In 1837, the Company's aid had once again to be resorted to, but it was not forthcoming; and, broken in health and reduced to poverty, Heath died a martyr to his own enthusiastic, if imprudent, experiments. In 1853, the East India Iron Company, with a capital of £400,000, took up Heath's unfinished work, and established two blast furnaces in South Arcot, and started similar work on the Malabar Coast; but on account of the indifferent nature of the results obtained, the works were abandoned in 1874.

It was, however, in Bengal that the enterprise was ultimately to prove successful; though even here, the initial difficulties were great.[1] The Barakar Iron Works Company was established in 1875 on the Jherriah coalfields, 143 miles off Calcutta, but had to close down in 1879. The Government took up the venture in 1881, and eight and a half years later, made it over to the Bengal Iron and Steel Company, Ltd., which has since been producing pig-iron, the annual out-turn of which was about 35,000 tons at the beginning of the present century. In 1905, it opened a steel department, but conditions were then unfavourable for steel production. The low price of imported steel, the absence of a bold and consistent policy of State aid, the fact that the orders received were for small quantities of steel of numerous sections, instead of being confined to large orders for a few sections,[2] the inferior quality of pig-iron, and the necessity for importing fire-brick

[1] For an account of the beginnings of the Bengal iron industry, see Dr. Watson's monograph on the subject.

[2] Government placed one hundred and eighty orders in six months, but they totalled less than a thousand tons, and included seventy different sections.

and ferro-manganese, all these contributed to make the attempt a failure. The steel department was therefore closed after one year's trial, and attention concentrated on pig-iron. In 1910, the company commenced to draw its supplies of iron ore from a new source—*viz.*, Pansira Buru and Buda Buru, some twelve miles from Manoharpur in Singhbhum, and from this date commenced a new era in its history. The works were extended and remodelled, and the four blast furnaces now in operation are each capable of producing 80 tons of pig a day. About half the coke required is made by the company, and the balance is purchased locally. The steam is generated in boilers fired by the waste gases from the furnaces. The output of pig-iron under normal conditions is about 10,000 tons a month; but since November, 1917, one furnace has been diverted to the manufacture of ferro-manganese for export to Europe and America. The pig is in part consumed in the company's foundries, etc., in part marketed in India, and in part exported, principally to Japan, Australia, and South Africa. The coke-ovens are fitted with plant for the recovery of by-products, tar and ammonia, the latter being converted into the fertiliser ammonium sulphate. Sulphuric acid is made at the works in a modern plant producing about five tons daily, and the monthly production of ammonium sulphate is about 95 tons. The works also contain a large foundry making pipes up to 12 inches in diameter, bends, columns, fencing-sockets, pot-sleepers and chains; and are capable of producing castings up to 20 tons in weight.

Towards the close of 1919, a new company, called the Bengal Iron Company, Ltd., was incorporated with a share capital of £2·5 millions, which acquired as a going concern the business and undertaking of the Bengal Iron and Steel Company; and the total net additions to the plant since the new company was started are estimated to exceed in value £650,000. The new and larger blast furnace, stoves, and blowing plant at Kulti have now been put into operation, and alterations have been made in the equipment that will make it feasible to blow all the five furnaces at once, instead of only three as formerly. Extensions of the colliery and the ore-mining plant and of rolling stock are contemplated, and Debentures for £600,000 were issued in February, 1922, to raise money for the purpose. It is expected that the

various additions already made will practically double the company's output capacity as compared with the position in 1921. The financial position of the Company is shown in the statement below, as also the figures for the output of pig-iron, iron-castings, and ferro-manganese. War demands, naturally, have played a conspicuous part in the development of the company's production.

As against an issued and paid-up capital of £2,074,033, and net assets of value of £2,300,000, according to the balance sheet for the year ended 31st March, 1921, the Company's profits for the last few years were :—

Year ended 30th Sept. 1916 ...	£148,380	5s. 6d.	(at 16d. per rupee)
,, ,, 30th ,, 1917 ...	£136,874	10s. 8d.	,, ,,
,, ,, 30th ,, 1918 . .	£280,823	4s. 6d.	,, ,,
,, ,, 2nd ,, 1919 ...	£276,309	10s. 11d.	,, ,,
Half-year ended 31st March, 1920	£241,209	6s. 5d.	(at 24d. per rupee)
Year ended 31st March, 1921	£282,288	7s. 2d.	(at 17·87d. per rupee)

The output in tons from 1914 to 1919 was as follows :—

Year	*Pig-iron*	*Iron castings*	*Ferro-manganese*
1914	72,444	18,084	*nil*
1915	87,285	25,634	*nil*
1916	92,250	30,605	*nil*
1917	80,252	20,678	2,257
1918	49,348	21,776	112,114
1919	84,965	29,635	4,732

In marked contrast to the history of this undertaking, which has clambered up to its present position of security and eminence only after years of arduous toil, stands the Tata Iron and Steel Company, the rapidity of the growth of which has been one of the marvels of modern Indian industrial history. "The cotton mills of Bombay, the jute mills of Calcutta, the gold-fields of Mysore, each contribute their own remarkable chapter to the history of industrial enterprise in India, but none can compare in point of romance with the story of the iron and steel industry of Jamshedpur."[1] It is the story of the fulfilment of the dreams and desires of one of the most remarkable Indians of modern times. Of the late J. N. Tata, the founder of the house of Tata, Sons and Company, and the

[1] Sir Valentine Chirol, *India Old and New*, chapter on "Economic Factors."

originator of this bold and daring scheme, it may be said that there has hardly been any other man among India's millions who has thus united within himself just those qualities of which the Indian peoples stand so greatly in need. Combining within himself a broad imagination, penetrative insight, calculating and laborious study and high organising capacity, as a pioneer of industry he stands entirely alone, and so far has had no conspicuous successor. Born in Navsari (Baroda) of parents belonging to the Parsee priestly class, he spent six years in the Elphinstone College at Bombay, and subsequently went into his father's business there, and later into an office at Hong-Kong. Industries of all kinds had for him a singular attraction; and even from his early days, the idea of combining the untold but undeveloped natural resources of the country with its cheap and easily available labour in order to produce "big business" haunted him like a passion. But he was no idle visionary; for, while gifted with a broad and comprehensive vision, he also possessed at the same time an infinite capacity for mastering the most meticulous detail. He studied textiles at Manchester before erecting the famous Empress Mills of Nagpur, and emerged from his studies an expert of the first order. It was this close and painstaking study of detail which gave him that calm courage and confidence of ultimate success without which none of his greater projects would have been pushed through to a satisfactory termination.[1] The three main schemes with which Tata's name will stand associated are the Bangalore Research Institute, the Bombay hydro-electric works and the Bihar iron and steel industry; and the latter was perhaps the most important item, from a business point of view, in his triple scheme of development. With the unerring instinct of the born industrialist, he perceived that, in the absence of such an industry in India, she can never become economically independent and self-contained. He realised, as no other Indian before him, that iron-smelting was the first link in the chain of production; without it, there are no tools, and without tools, even the raw materials cannot be wrested from Nature, or undergo the most rudimentary treatment. But in his efforts to start such an important industry, he met with little encouragement and no support. Railway experts declared that steel rails

[1] See Sir D. E. Wacha's *Life of Tata*.

could never be manufactured in India on any very large scale: the earlier attempts, said they, had proved it only too conclusively. But there were some notable exceptions, and prominent among them was Sir Thomas Holland, then at the head of the Geological Survey of India. It was in the Central Provinces that Tata first started active work; he obtained a concession to work the Lokara ore with Warora coal, but the attempt proved unavailing, and the scheme had to be relinquished. In 1902, he went to the United States, where he saw Mr C. Page Perin, the expert, and was able to induce him to send out a party of prospectors headed by Mr C. M. Weld. After protracted preliminary investigations, which cost Tata about £35,000, and in the course of which many hardships and difficulties had to be encountered, Mr Weld succeeded in locating one of the richest iron-ore deposits in the world, with a metal content of 66%, in the Rajara hills in the Central Provinces and the Dhullee hill near by. But the Gurumaishini deposits offered more favourable conditions for immediate operations on account of the proximity of the Jherriah coal-fields. A favourable spot for operations, combining both ore and coal conveniences, having been secured, Tata's successors tried to find in London the financial support needed for such a huge undertaking, but with little success. The bulk of the money was subsequently raised in India, and in August, 1907, the Tata Iron and Steel Company, Ltd., was registered at Bombay, with an authorised share capital of £1,545,000, which was speedily taken up and which was increased in 1916 to £2,347,500, and again in 1918 to £7,014,166 (paid-up). Early in 1908, the company decided to erect their works at Sakchi (renamed Jamshedpur at the close of the war), then an obscure Santali village, in preference to Sini, a junction of the Bengal-Nagpur railway, which was the first place chosen, inasmuch as the former, bounded on the north by the Subarna-rekha, and on the west by the Khorkai, afforded a perpetual water-supply, an indispensable necessity for the manufacture of steel. Jungle-clearing was begun in February, 1908, machinery began to arrive in 1910, and the coke-ovens were fired for the first time on the 12th October, 1911. By the beginning of November the same year the first or "A" blast furnace was blown in. Pig-iron was an immediate success, but steel presented greater difficulties; and though the steel works began

operation early in 1912,[1] it was not till the commencement of the next year that regulated steel production was ensured.

Tata's is the only steel-producing concern in India at the present day; and, while its initiation and efficient management are due solely to the firm's own enterprise and business capacity, external conditions have also largely contributed to its phenomenal development. The Maharajah of Mourbhanj, from whom it has leased out extensive acres, is not only its landlord, but also one of its active well-wishers and supporters, taking £20,000 worth of shares in it at its very inception. The Government has acquired land for it under the Land Acquisition Act, and given it several valuable mining concessions. The Bengal-Nagpur railway has built for it a new railway station at Kalimati on the main line, and extended it to Jamshedpur, three miles off. The firm has also had the advantage of freight at concession rates for construction-material, plant, the assembly of raw material, and for finished products sent out for shipment to Calcutta. Another line, forty miles long, has been built from Kalimati to the iron hills of Gurumaishini. The company was also greatly helped in its earlier days by the Indian Railway Board's offer to take annually for ten years 20,000 tons of steel rails of standard specifications at the same price as imported rails of like quality delivered c.i.f. Indian ports. Before the company started operations, India's contribution of the world production of steel and iron was practically negligible, and in 1906 was estimated to amount only to 1/2000 of the annual world production of pig-iron, while for steel, she had to depend entirely on foreign countries. The subsequent development of the Bengal and Tata companies for the period 1914–1919 is shown in tabular form below (in tons) :—

Year	*Pig-iron*	*Steel, including rails*	*Steel rails*	*Ore used*
1914 ...	162,282	66,603	45,639	284,603
1915 ...	154,509	76,355	16,817	240,513
1916 ...	152,460	92,902	36,595	249,601
1917 ...	167,870	114,027	72,670	273,440
1918 ...	198,064	130,043	71,096	338,736
1919 ...	232,368	134,061	70,969	354,512 (10 months only)

[1] The first piece of ingot steel was rolled on the blooming mill on the 16th February, 1912, and the first rails were produced next March.

The present steel capacity of Tata's is about 200,000 tons annually, and the rolling mills produce about 120,000 tons of rails and smaller sections. The production of finished goods available for sale for 1920 was only 88,990 tons of pig and 120,570 tons of finished steel. But the extensions now in hand, calculated to cost over £12,500,000, are expected to increase the production available for sale to 174,000 tons of pig and 425,000 tons of finished steel. The works have all along been extended in response to the increased demands on them, beginning with Mr Perin's generously planned scheme of 1916, framed to meet the necessities of the War. In their Report for the year ended 31st March, 1921, the directors state that "the original scheme for the greater extensions provided for two blast furnaces, one duplex (steel) furnace, a plate mill, a continuous sheet bar and billet mill, sheet mills, and a merchant mill, with all their requisite miscellaneous equipment; in 1917–18, the scheme was enlarged considerably. In 1917, one additional blast furnace (the Batelle furnace) was purchased, and it has been in operation since August, 1919 · a blooming mill, a rail and structural mill and a second duplex furnace were added; the capacity of the plate mill was increased; and substantial additions were made to the continuous sheet bar and billet mill, the sheet mills and the merchant mill, as a result of improvements in design and with the object of increasing their capacity. In order to produce the raw materials required for the increased production contemplated, the company has made large additions to its reserves of coal, ore and fluxes; and has now in sight and under its control, fully adequate supplies for the near future. The development of the town has naturally kept pace with this expansion, and in 1918 the company obtained an additional twenty square miles of land to provide for the suitable housing of its workmen, and for the subsidiary industries which will eventually be grouped round the steel works. This is the scheme for the greater extensions as it stands at present."

The financial position of the company continues to be as satisfactory as ever, and the profits for the six years and nine months ended 31st March, 1921 (before providing for debenture interest, depreciation and taxation) were :—

Year ended 30th June, 1915	£186,900
,, ,, 30th ,, 1916	£486,513
,, ,, 30th ,, 1917	£755,379
,, ,, 30th ,, 1918	£745,723
Nine months ended March 31st, 1919, after deducting expenses of 2nd issue of preference shares	£301,353
Year ended 31st March, 1920	£638,099
,, ,, 31st ,, 1921	£840,146

In order to provide the additional funds required to carry out the full programme of extensions, as well as for redeeming the debentures (of two crores of rupees) already issued and outstanding, debenture stock for £2,000,000 was offered and taken up in July, 1922.

Among the new companies coming into existence, attracted by the success of the Tata venture, are some which are likely to prove formidable competitors to the old concerns. The Indian Iron and Steel Company, Ltd., floated in 1918 with a nominal capital of fifty lakhs of rupees by Messrs. Burn and Co., of Calcutta, are erecting works at Hirapur, on the railway between Asansol and Adra in Bengal. They will be supplied with iron ore from Gua in Kolhan, along the new railway extension which leaves the main line of the Bengal-Nagpur railway at Amda and passes through Chaibassa to Jamda. The flux is obtained from Gangpur State, and the coke is to be made from the coal of the local fields. At first the company will restrict itself to the production of pig-iron, the present plant being designed for a daily output of 600 tons. The United Steel Corporation of Asia, Ltd., was registered in India in December, 1921, with a capital of ten millions sterling's equivalent in Indian money, by Messrs. Bird and Co., of Calcutta, and Messrs Cammel, Laird and Co., of Sheffield and London. The works are to be erected at Manoharpur., A new railway line is to connect the works northwards, through Hesla, with Hutar and the Karanpura coalfields. The iron ore will come from the Keonjar-Bonai area, and the limestone probably from the Gangpur region. The immediate erection of plant capable of producing 300,000 tons of pig-ron, and 200,000 tons of finished steel annually is contemplated. The output will later be increased to 700,000 tons of pig-iron and 450,000 tons of finished steel. The Eastern Iron Company is to be erected in the vicinity of the Jherriah coalfields, and will obtain its supplies of ore and

flux from much the same localities as the Indian Iron and Steel Company. The Kirtyanand Iron and Steel Works, near Sitarampur in Bengal, is to be established for the production of iron and steel castings in a smaller way. When these several companies are in working order, they would have a total estimated output of 1,500,000 tons of pig and 1,000,000 tons of steel annually.

The success that has attended the Indian iron and steel ventures during the last half a dozen years was largely attributable to the industrial cataclysm caused by the War; and it is a point worth consideration whether, deprived of the artificial stimulus the industry has thus received, it will be able to hold its own in normal times against the great iron and steel firms of the United Kingdom and America, not to mention Germany, which has not yet emerged from her throes. The principal factors of success in such an undertaking are adequate supplies of raw material, and other favourable conditions of production. The experience of past years has already shown that Indian pig-iron is as good as the best imported, and that the Tata steel is eminently suitable for rails, fish-plates, and other railway requirements, and also for the usual engineering purposes. The question is whether India can afford to produce on a commercial scale material of the same high quality for any length of time, and withstand the competition of firms that have had the momentum of an earlier start. The Tata Company estimates its reserves of raw material as follows:—

High-grade iron ore (60% metal content)	...	...	...	...	...	...	200	million	tons
Dolomite	...	...	...	...	...	...	80	,,	,,
Magnesite	...	...	...	...	...	...	3	,,	,,
Limestone	...	...	...	...	...	...	4	,,	,,
Coal	...	...	...	...	...	...	889	,,	,,

The Bengal Iron Company, again, owns extensive collieries and has leases of practically inexhaustible supplies of rich iron ore. The discovery of the Pansira Buru and Buda Buru deposits of iron ore in the Saranda forests of Singhbhum is destined, according to Dr Fermor of the Geological Survey of India,[1] to rank as an epoch-making event in the history of the iron and steel industry; for, following on it, subsequent prospectors have discovered a range of iron ore forming a

[1] See *Records of the Geological Survey of India*, Vol. LII.

definite geological stratum in the Dharwars of Singhbhum. Rising to heights of 2,000 to 3,000 feet above sea-level, this range runs almost continuously for forty miles from Pansira Buru through Saranda into the Keonjhar and Bonai States of Orissa; and Dr Fermor describes how he saw in the Pansira Buru area a body of high-grade hematite, consisting of 64% pure metal, about 400 feet thick and 1,300 feet long, with a steep dip down which the deposits have been exposed by quarrying operations for some 500 feet. Tata's prospectors investigating the range declare that a ravine cutting across the range shows a continuous thickness of some 700 feet of hematite of over 60% metal content. From all this, there is reason to believe that India's reserves of high grade iron ore are commensurate with as large an expansion of her iron and steel industries as may be justified by the requirements, not only of herself, but of the surrounding eastern markets. The life of the coal-mines which the Tata Company possesses within a hundred miles of their works is estimated at 200 years, and they form only a very small portion of the great carboniferous area known as the Gondwana measures. Jherriah coal, analysed by experts, contained a high percentage of ash, but yielded sufficiently hard coke for blast furnaces, nor was the high ash an objectionable feature in reducing such rich ores as of the Gurumaishini and other mines. There are also vast deposits of excellent limestone and dolomite in the Gangpur State to the west of the Singhbhum district, while fireclay suitable for the manufacture of firebricks is obtainable from the shales of the Gondwana formation, and good firebricks are now being manufactured on the Bengal Company's coal-fields by Messrs. Burn and Co.; by the Kamardhubi Fireclay and Silica Works; and by the Reliance Fireclay and Pottery Company, Ltd.

In describing the iron and steel position in India, a recent writer[1] makes an interesting comparison between India, the Lake Superior Region in the United States of America, the Cleveland District in the north of England, and South Wales. The U.S.A. ore has a metal content of 50%, but the distance to the coalfields is about 800 miles, and to the seaboard 250 to 300 miles. In the north of England, the ore is only 30% rich, and South Wales uses ore 50% rich, but has to bring it all the way from Spain. In India, whose supply of

[1] Mr. Glen George in the *Asiatic Review*, October, 1921.

ore is estimated at about 3,000 million tons, ore, coal, fluxes and fireclay all occur in large quantities in the same favoured region; and the capital of the steel industry, Jamshedpur, is only 152 miles from Calcutta, 40 miles from the Gurumaishini district, and 115 miles from the Jherriah coalfields. The cost of mining and transporting to the coalfields (where, to save freight charges, iron works are usually situated) the ore necessary to make one ton of pig-iron is 7 shillings in India, 40 shillings in the Lake Superior region, 26 shillings in Cleveland, and 40 shillings in Wales. The cost of delivering at the works the flux required comes to about 3 shillings per ton of pig in all the four places. But the price and quality of coal vary in these centres. In India it has risen from 5s. 6d. per ton at pit mouth in pre-war days to 13s.; and 24s.-worth of coal is required to manufacture one ton of pig. America wants only 27s.-worth, South Wales 30s., and Cleveland 35s.-worth of coal for one ton of pig. Summing up, the cost of delivering at an ironworks all the raw materials required for one ton of pig works at 34 shillings in India, 70 shillings in America, 73 shillings in South Wales, and 74 shillings in Cleveland. Wages in India have risen considerably in the last half a dozen years, and the present rates are from Rs. 3 or 4s. *per diem* for skilled, and 12 annas or a shilling for unskilled labour. And though, even at these rates, labour is much cheaper than elsewhere, its quality, according to competent authorities, is not much inferior. "Anyone who has visited the Tata Iron and Steel Works," said Sir Thomas Holland, "will come away thoroughly convinced with the conclusion that with Indian labour you can tackle any industry for which the country is suitable. I have seen labourers at Sakchi who only a few years ago were in the jungles of the Santals without any education. They are handling now red-hot steel bars, turning out rails, wheels, angles of iron as efficiently as you can get it done by any English labourer. You cannot have a better test of the quality of labour, and you cannot be prepared for more satisfactory results." And Mr T. W. Tutwiler, Tata's General Manager at Jamshedpur, told the Industrial Commission that the hands trained in the works were fully competent to replace the English workers, if needed.[1] The result was that, towards the latter part of 1921, it was possible for

[1] See *Evidence*, Vol. II, Cmd. 235 of 1919, pp. 354 *et seq.*

India to produce pig-iron at 40s. per ton, or 45s. f.o.b. Calcutta. The price of English pig took a sudden downward turn in 1921; and touched £6 per ton in July; and even at that price, it was about thrice as costly as Indian pig.

The conditions for production being thus favourable, it remains to consider whether there will be anything like a steady demand for the Indian output of steel and iron. The requirements of the country in iron and steel are indicated by the import returns as follows:—

	1914	1915	1916	1917	1918
	£	£	£	£	£
Cutlery and hardware ...	2,560,716	1,855,856	2,602,901	2,361,399	2,425,817
Millwork and machinery ...	4,877,254	3,293,544	3,773,962	3,171,738	2,887,557
Railway plant and rolling stock	9,939,482	5,047,250	1,594,210	535,504	960,138
Iron bars and pig-iron ...	274,204	238,406	403,105	438,465	233,851
Iron or steel: beams, sheets, pillars, rivets, etc.	7,276,789	5,196,734	5,003,957	4,888,314	5,289,928
Steel bars, angle and channel ingots, blooms, billets, etc....	1,361,937	775,552	656,646	437,519	1,679,264
Total	£26,290,382	16,407,342	14,034,781	11,832,939	13,476,355

or, an average of £16,408,360 per annum.

The proportion of iron and steel and their products to the total imports are as under:—

	1910–14	16–17	17–18	18–19	19–20	20–21	21–22	22–23
Iron and steel	7%	5·9%	5%	7%	8%	9%	8%	8%
Machinery	4%	4%	3%	3%	5%	7%	13%	10%
Railway plant	4%	—	—	2%	2%	4%	7%	5%
Hardware	2%	2·1%	2%	2%	2%	3%	2%	2%

The decline in the War years was due to the difficulty of freights; and the post-war tendency has been, naturally enough, towards greater expansion in imports. The Indian

Railway System has felt the effects of the war very keenly, and a noticeable feature in after-war imports has been the large increase in railway plant and rolling stock. The carriages and wagons imported in 1920 on private and Government account show an increase of £5·5 millions over the previous year's figures of £1·2 millions. Locomotive engines and tenders are also being imported in increasing numbers, the imports for 1920 being worth £0·9 million, as against £0·5 million in 1919. The imports of sheets and plates, of beams, pillars, girders, bridge-work, and hardware of all sorts have shown a like expansion. The Indian mill and mining industries are steadily developing, and have been large purchasers of western mill-work and machinery, and the demand for machinery of all kinds is bound to expand greatly for some years to come, as a result of the industrial boom. The demand for steel in 1921 was so great that exporters hardly felt the competition of Indian production. The price of imported machinery and mill-work was 2,237 lakhs of rupees in 1920–21, and 3,425 lakhs in 1921–22; and the total imports of iron and steel and manufactures thereof in the two years were 31 and 21 crores of rupees respectively. Railway plant and rolling stock increased from 1,648 lakhs in 1920–21 to 2,133 lakhs in 1921–22. The Indian iron and steel producers have thus a vast and ever-increasing market at their very doors, and in the markets of the Far East enjoy unquestionable natural advantages over distant competitors. In addition to this must be mentioned the imposition in 1922 of a customs duty of 10% on imported iron and steel, which is calculated to still further strengthen the position of the Indian industry. The tariff on power-machinery still remains at 2·5%, while that on machines to be worked by manual or animal labour has been raised from 2·5% to 15%. Railway plant and rolling stock are also charged a 10% duty.

It would be instructive to cast a glance at the post-war developments in the Indian iron and steel industry. The history of that industry, elsewhere, has shown that its extension has always been accompanied by combinations of firms dealing with the material in all its successive stages, from the crude ore to the most perfect machinery. Thus, coal and iron mines, iron and steel works, rolling mills, and sometimes engineering and ship-building works, are all found

combined together if not always under the same ownership, at least into unions where the various interests are all dovetailed together into some sort of harmonious oneness. The operations of the English firm of Vickers range from steel to ordnance, motors and battleships; and the American Steel Corporation and the German Stahlwerksverband are other examples of the integration of the iron industry. With the completion of the proposed extensions in the Bengal and Tata Companies, India will also take a step towards such an integration. The new alterations will revolutionise the engineering industry of the country, and the production of steel in plates and sheets and other required forms will give a great fillip to the ship-building, engine-building and constructional steel industries. The new electric furnace for the manufacture of high-speed steel will render possible the local production of machine tools and high-grade steel goods. For the purpose of working up their iron, steel and by-products, the Tata Company is arranging for the establishment of a number of manufacturing companies in and around Jamshedpur. Mr Tutwiler, their General Manager, gives a list of the various manufactures it is intended to set up, which includes such widely differing articles as steel products of various kinds, hardware, millwork and machinery, structural steel, heavy chemicals, sulphuric and nitric acids, fertilisers, explosives, drugs and perfumes.[1] In their Report for 1921, the directors regret that "not much progress has been made by the subsidiary companies with whom they had been negotiating for the development of the subordinate industries on account of the unusual circumstances of the past year." The Calcutta Monifieth Company, Ltd., under the auspices of James F. Low and Company, Ltd., of the Monifieth Foundry in Scotland, has started the manufacture of jute machinery, and drawing frames were already being turned out in 1921 quite equal to those produced in the United Kingdom. The Hume Pipe and Construction Co. has one of its several factories in Jamshedpur, and is producing pipes in large numbers. Factories are also being erected by the Tinplate Co. of India, the Indian Steelwire Products, Ltd., the Enamelled Ironware, Ltd., and the Enfield Cable Co., Ltd. The Tinplate Company of India, Ltd., is a large organisation with a capital of three and a half crores of rupees,

[1] See pp. 401–10, *Indian Munitions Board Handbook*, 1919.

which will take steel bars from Tata's, and after rolling them, convert them into tinplates. Most of the output of the company will be taken over by the Burma Oil Company, which holds a large interest in the concern. Copperas will also be produced as a by-product from the pickling operations. The Indian Steelwire Products, Ltd., proposes to make iron wire, galvanised wire and, later on, woven wire and similar products. The company is at present erecting a factory for the manufacture of steel shelves for record rooms. Other companies which have erected works are the Agricultural Implements Co., and the Peninsula Locomotive Co., while Portland Cement Works are already under construction. Reference has already been made to the manufacture of firebricks on the Bengal Iron Company's coalfields. That Company has also taken a large interest in two new concerns—the Eastern Light Castings Company, Ltd. (of which it owns half the capital) and the Bengal Firebrick Syndicate. It is thus clear that, consequent on the rise of the iron and steel industry, the Singhbhum region promises to become the centre, not only of various metallurgical industries, but of industries of several other kinds as well.

It may be convenient here to notice some of the measures taken by the Government to encourage an important branch of the iron and steel industry, *viz.*, those industries which relate to railways. Recent events have caused some attention to be bestowed on the erection of workshops for the making of wagons and of auxiliary requisites for the railway system of India; and, in view of the announcement recently made by the Government that a sum of 150 crores is to be spent on the rehabilitation of Indian railways, a plea has been made in the Legislative Assembly that Government should encourage and, if necessary, start the necessary industries in India so that as large a part of this amount as possible may be spent in the country itself.[1] The Hon. Mr C. A. Innes pointed out on behalf of the Government that the difficulties in the matter of making the complete wagon or the complete locomotive in India were the lack of open-hearth acid steel, of high-grade iron, and of rivet steel. There are three firms making railway wagons in India, but what exactly they do is to import such things as axles, wheels,

[1] *Vide* Sir Vithaldas Damodar Thackersay's Resolution of the 2nd March, 1922, in the Legislative Assembly and the debate thereon.

springs, and the like, and make other parts in India, and then assemble them together. But the recent developments in the industry have shown that the deficiencies pointed out above are being removed, and the Tata Company complains that the reason why they are not able to show greater progress is because foreign producers are dumping steel and iron manufactures into the country at less than the cost of production.[1] As a result of the discussion on Sir Vithaldas's Resolution, a committee was appointed which reported in 1923, pointing out the necessity of a much larger measure of State assistance than has hitherto been vouchsafed to the firms engaged in the railway industries in India, if they were to compete with the older and more powerful and better-organised and equipped firms of other countries. The committee, therefore, advocated protection for the industries,[2] leaving the details to be settled by the Tariff Board, the formation of which was recommended by the Fiscal Commission. In the matter of purchases for Government purposes, they recommend that the Stores Purchase Rules should be made more elastic, and that greater discretion should be granted to the purchasing officers. In view of the favourable attitude of the Government, as evidenced by the report, it may be confidently expected that serious efforts will soon be made to manufacture railway plant and rolling stock in India itself to meet the great demand for them in the near future. A leading British manufacturer of locomotives has already floated an Indian company with Indian directors, and is erecting a plant in the neighbourhood of Jamshedpur; and a prominent Canadian car and wagon company has been negotiating with the Government for the establishment of a rolling stock works.

The establishment of the iron and steel industry, which, as we have seen, is very comprehensive in character, is bound to have far-reaching effects on the development of the country. In its analysis of the deficiencies in India's industrial equipment, the Industrial Commission called special attention to the effects produced by the absence of such an industry upon the general economic situation in the country.

[1] See their evidence before the Fiscal Commission; see also para. 8, *Report of the Railway Industries Committee*, Govt. Press, Delhi, 1923.

[2] The Indian Steel Industries (Protection) Act became law in June, 1924.

" The basis of modern organised industries in those countries where they made their first appearance was the manufacture of cast and wrought iron. The invention of the steam-engine created the necessity for machine tools, to produce parts which would fit with sufficient accuracy to give smooth and efficient working. The existence of machine tools greatly facilitated the manufacture of standardised parts in large quantities, which were in demand for the mechanical processes required in textile and similar industries. These large-scale manufactures increased the demand for chemical industries."[1] The economic history of India has been cast on different lines. Being a tropical country, with an abundant vegetation, it was at first only thought of as a storehouse of raw material. The export of raw material was thus encouraged ; a railway system and such other mechanical facilities as were necessary for the preparation and transport of raw material have been brought into existence ; but in the absence of an iron and steel industry, recourse was had in every case to imported appliances. Even the few industries that, despite all adverse circumstances, somehow sprang into being, had to depend on imported plant and spares. Conditions like these are not likely to encourage manufactures, or to render the country economically self-sufficient. One principal result of the establishment of the steel industry will be, it is expected, a removal of this serious handicap to industrial expansion. As opening up a new avenue of employment, and as affording encouragement for the investment of capital in industrial undertakings, the new venture has done some valuable services ; but these are services which successful manufacturing concerns of every description are able to render. There is, however, another aspect in which the services of such a firm as Tata's may be regarded as of unique national value. Professor Pigou points out that the iron and steel industry, the engineering industry, certain chemical industries and the industries of iron-mining and coal-mining are of the greatest value to a country for defensive purposes.[2] And in the last War, the usefulness of these industries was strikingly manifested. " I can hardly imagine,"

[1] Cmd. 51 of 1919, p. 45.

[2] *Political Economy of War*, Macmillan, 1921 p. 12 ; see also para. 337 of the Montagu-Chelmsford *Report*, Cmd. 9109 of 1918, for the military value of economic development.

handsomely acknowledged Lord Chelmsford, "what we should have done if the Tata Co. had not been able to give us steel rails, which have provided, not only for Mesopotamia, but for Egypt, Palestine, and East Africa," and even, he might have added, for the Salonica front. The company has shown that the production of armour plates, steel shells, and explosives is not beyond the capacity of its works. It can also undertake, if need be, the manufacture of most kinds of arms and munitions. If in some future war, the Suez Canal be blocked, and India cut off from the Mother Country, it may well be that works like Tata's may serve as arsenals for the outlying parts of the Empire, and enable them to defend themselves till communications are restored. The political and military significance of such an enterprise is by no means to be cast into the shade by its direct industrial results.

NOTES.

1. Since the above was written, the Indian Tariff Board has made an exhaustive enquiry into the iron and steel industry, and has recorded the opinion that "unless protection is given, there is no hope that it will develop for many years, and there is a serious danger that it may cease altogether." In the light of the detailed information which the Board has now published, the remarks in the foregoing pages on the future of the industry seem rather optimistic. Labour appears to be the crux of the difficulty.

2. A few details may here be given of the recommendations made by the Tariff Board in order to protect the steel industry. On structural steel, specific duties are proposed equivalent at present prices to an increase of duty from 10% to 20%. On bars and rods, the present 10 per cent. duty is to be enhanced to the equivalent of 27 or 30 per cent. On black sheets, the duty is to be about 15 per cent. In the case of rails and fish-plates, in the place of the 10 per cent. *ad valorem* duty, there is proposed a specific duty of Rs. 14 per ton, and bounties for the next three years at the rate of Rs. 32 for the first year, of Rs. 26 next year, and Rs. 20 for the third year. At the end of three years the position is to be reviewed. For details, reference may be made to the Steel Industry (Protection) Act, 1924.

CHAPTER IX

THE LABOUR PROBLEM[1]

Synopsis :—The numerical strength of Indian labourers ; comparison with other countries.

Sources of labour.

Habits and methods of work ; independence, reluctance to submit to discipline, slackness, general inefficiency. Intermittent supply.

Shortage of labour, what it means. Is Indian labour cheap ?

Wages, rise in. Wage-tables. Real and nominal wages. Government as employer of labour compared to private industrialist.

Are wages sufficient ? The minimum wage. Is it applicable to India ?

How to improve the quality of labour ? Standard of comfort, and its relation to the availability of labour. How higher wages diminish the supply of labour.

Education and welfare work. Housing conditions in the industrial centres. The Bombay Improvement Trust. Social Service Associations.

Factory legislation, history of. Limitation of hours, the views of the Factory Labour Commission of 1908. The Act of 1922.

India and the International Labour Organisation.

Combinations of labour ; strikes. The political origin of labour troubles.

Trade-Unionism.

Methods of industrial peace.

Appendix : Summary of the Report on Working Class Budgets in Bombay.

THERE is only too good reason to believe that the productive and manufacturing capacities of India have not yet received adequate recognition at the hands of Western countries. In recent times, however, interest in such matters has been greatly quickened and stimulated by India's magnificent efforts during the war, and also by the timely publication

[1] First published in the *Asiatic Review*, January, 1923.

of the Report of the Indian Industrial Commission. A natural result of this has been that a great many problems connected with Indian industries are now being studied and investigated, not the least interesting of which relates to the conditions of Indian labour.

To the ordinary Westerner who looks upon India as the mystic land where brown humanity lives a drowsy life under a tropic sun, it will come as a surprise to be told that the workers in Indian industries, mining, and transport outnumber the whole population of Spain; that, though possessing in her population of 319 millions a monopoly market for many important branches of home production, India exported (in 1920) manufactured goods worth £86,911,000; and in the foreign trade alone 13,000,000 tons of shipping entered and cleared from her ports; that the mileage of her railways exceeds that of the United Kingdom or France; that the Indian jute industry is unrivalled in magnitude, and her cotton industry fifth in importance in the world; and that she possesses flourishing iron and steel works, foundries, railway workshops, dockyards, paper mills, petroleum refineries, and rice mills.[1] It follows that, in order to keep going, these industries should be affording employment to a vast army of workers, a conclusion which is thoroughly borne out by the following figures.[2] The number of actual workers engaged in the production of raw materials is 106,035,722, of whom 72,334,610 are males. Those employed in pasture and agriculture are said to be 104,943,712, but this figure includes small-holders, who, though working on their lands themselves, can hardly be called agricultural labourers pure and simple. The number of farm servants, field labourers, and coolies in the plantation industries, such as tea, coffee, indigo, rubber, comes to as many as 23,125,629, of whom 12,589,817 are males; and the figures for those engaged in stock-breeding and forestry come to 3,146,623, of whom 2,526,283 are males; so that the total number of those engaged in actual agricultural labour, stock-breeding, and forestry, comes to 26,272,252, of whom 15,116,100 are males. Compare with

[1] See Memorandum urging India's claim to be one of the eight States of "chief industrial importance" sent from the India Office to the Secretary-General, League of Nations, in October, 1921.

[2] Census figures for 1921.

this the number of males engaged in the same pursuits in other countries:

Country	*Year*	*No. of Males*
U.S.A.	1910 ...	10,783,903
European Russia	1897 ...	11,554,287
Japan (estimated)	1908 ...	5,408,363
France	1911 ...	5,279,475
German Empire	1907 ...	5,076,862
United Kingdom	1911 ...	2,142,635

The figures for other industries are no less striking. Mining affords employment for 265,272, industries for 15,725,373, and transport for 1,970,400, making a total in all of about 18 millions, which is nearly equal to the figures for U.S.A. and France combined. The statistics for maritime employment point in the same direction. The great importance of Indian interests in this respect is not generally realised, but, with the exception of the United Kingdom, Indian maritime workers outnumber those of any other member of the International Labour organisation.

Thus, judged by the test of the number of workers, India, with about 100 millions of occupied males, is easily the first among all the countries of the world. It may, perhaps, be argued that a comparison like this leads to false and unreliable results, having regard to the extent and population of India and seeing that many of her industries are still undeveloped. But, whatever force such an objection may have in determining India's place among the great industrial countries of the world, the test based on the number of workers is the only relevant one to apply in determining the weight and magnitude of the interests of the workers themselves.

Ordinarily, the Indian labourer is drawn from the lowest stratum of society. The ancient village organisation of India does not appear to have provided any place for the independent labourer. Attached to every village was a class of predial serfs belonging to the lowest class or caste which performed certain lowly, if necessary, services to the small village community, and was in return maintained by it. But, with the advent of better communications, the village, with its quaint sense of isolation from the rest of the world, began to show signs of disintegration, one of the earliest of

which was the attempt of the village drudges to better their position and prospects by seeking employment in the larger world beyond. Their numbers must have been considerably augmented by the small-holders deprived of their strips of land, either through the operations of the moneylender or of the tax-gatherer, so that we have now a large and rapidly growing population of unskilled labour, commonly called the "agricultural proletariat." There are also at the same time numbers of small-holders who in slack season or in times of distress seek employment as casual labourers.

The labour force in India is recruited almost entirely from these three sources, and this circumstance in a large measure determines the ordinary labourer's habits and methods of work. The factory operative is primarily an agriculturist. In almost all cases his hereditary occupation is agriculture; his home is in the village, not in the city.[1] His wife and family ordinarily live in that village; he regularly remits a portion of his wages there, and he returns there periodically to look after his affairs and to obtain a rest after the strain of factory life. It follows that the Indian operative does not rely exclusively upon factory employment in order to obtain a livelihood. At most seasons he can command a wage sufficient to keep him, probably on a somewhat lower scale of comfort, by accepting work on the land; and there are also numerous other avenues of employment more remunerative than agricultural labour which are open to every worker in any large industrial centre.[2]

This independence of the Indian labourer has had a baneful effect upon the nature and quality of his work. He is

[1] Mr L. J. Sedgwick, the Bombay Superintendent of Census, discusses the source of the city of Bombay's labour at p. 15 of the *Labour Gazette* for March, 1922. His figures, showing the percentage of persons born in Bombay to the total population at each census, are instructive as showing how largely the population of the city is immigrant:—

Year	*Per cent.*
1872	31·1
1881	27·8
1891	25·0
1901	23·4
1911	19·6
1921	16·0

Similar conditions prevail in the jute districts of Bengal, where at the present time about 90 per cent. of the labour is imported.

[2] See *Report of the Indian Factory Labour Commission*, Cmd. 4292 of 1908, p. 18.

irregular and unsteady, likes to take things easy, and chafes at the rigorous discipline of the factory as compared with the easier methods of the field. "One cause for the unpopularity of mill labour," so wrote Mr S. H. Fremantle, I.C.S., who reported on the supply of labour in the United Provinces and Bengal in 1906, "is undoubtedly the distaste for discipline, coupled with confinement for long hours in the mill." The Indian Factory Labour Commission of 1908 reported that "the Indian factory worker is in general incapable of prolonged and intense effort. He may work hard for a comparatively short period, but even in such cases the standard obtained is much below what would be expected in similar circumstances in any European country. His natural inclination is to spread the work he has to do over a long period of time, working in a leisurely manner throughout and taking intervals of rest whenever he feels disinclined for further exertion." They estimated that in the cotton and textile mills of India the average operative probably spent from 1½ to 2 hours each day, in addition to the statutory midday interval, away from his work. The reasons for this "loitering"—a phenomenon which is by no means confined to the Indian labourer—are different from those which prompt the "ca' canny" classes of British workmen of the present day. The late Dr T. M. Nair, in his powerful Minute of Dissent attached to the *Report of the Labour Commission* of 1908 above referred to, explains it as due to overlong hours of work. He calls it "a manifestation of the adaptive capacity which all human beings possess more or less," "a device to reduce the intensity of labour as a safeguard to his own physical well-being"; and adds: "The experience of other countries that short hours have also reduced the interruptions in the course of the day has been realised at least in one mill in India, and in the face of this fact to charge the Indian labourer with ingrained habits of idleness is the refuge of the sweater." The Labour Commissioners themselves considered that where the hours are short and the supervision good, the operatives can be trained to adopt fairly regular and steady habits of working. Climatic conditions,[1] too, and a feebler physique are largely accountable for this characteristic of Indian labour, and it may be hoped that there will be a change for the better

[1] See *Climate and Civilisation*, E. Huntington.

when working hours are reasonably shortened, and adequate steps taken to protect the health of the operative.

Another circumstance which certainly is peculiar to Indian labour is its intermittent character. Generally speaking, about 10 per cent. of the labour force in any industry are always absent on "French leave," and not less than 30 per cent. are off at harvest time. Each operative generally takes two or three days' holiday each month and a yearly holiday which may extend from one to three months.[1] The general results of enquiry in two mills in Bombay were as follows:

AVERAGE ABSENCE PER OPERATIVE PER YEAR OVER THE THREE-YEAR PERIOD, 1905–06–07.

Department	*Mill A*	*Mill B*
Carding ...	55 days ...	45 days
Throstle ...	62 „ ...	51 „
Weaving ...	72 „ ...	50 „

That is, the average operative may be said to take two days off work 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.[2] This practice, which enables the operative to spend some time every year in his own village amid congenial rural surroundings, certainly affords a much-needed change from the conditions of his city life. But he seldom notifies his employer of his intention to stay away from work, thus making it difficult for the latter to make the necessary arrangements, and the hindrance to production thus caused is necessarily great when the numbers involved are, as in many cases, large.

Another consequence of his agricultural bias is his relative inefficiency in the more skilled industries. In occupations where steady and sustained attention is required, and where hand and eye have always to be on the alert, he has been pronounced distinctly the inferior of his European confrère.[3]

[1] See the note on Absenteeism in the Bombay Mills, at p. 22, *Bombay Labour Gazette*, March, 1923.

[2] *Indian Factory Labour Commission Report*, 1908, p. 27.

[3] See the evidence of Sir Alexander McRobert, of the Cawnpore mills, before the Industrial Commission, Cmd. 234 of 1919, p. 278 *et seq.* He says that the English labourer is 3½ or even 4 times as efficient as the Indian. Dr Slater offers a different explanation for the larger numbers employed in Indian mills. See p. 208, *Supra*.

According to Sir Clement Simpson, of Messrs. Binny & Co., Madras, whose figures have not been seriously challenged, 2·67 hands in an Indian cotton-spinning and weaving mill are equal to one hand in a Lancashire mill.[1] As against this Dr Nair quotes the opinion of outside experts like Mr Platt and Mr Henry Lee that in no country on earth, except in Lancashire, do the operatives possess such a natural leaning to the textile industry as in India, and refers to the remark of Dr G. von Schultze Gævernitz in 1895 that the Indian labourer does not stand far behind the German. The operatives themselves offer a different explanation of their alleged inefficiency. In a Memorial submitted to the Viceroy in 1883, the mill-workers of Bombay said: "The real cause of this . . . is the bad machinery and the bad material used in the mills. The breakage in the thread is so continuous, on account of the bad quality of the cotton, that mill-owners are compelled to employ more men. As the effect of the long hours has to be considered before judging of the slack habits of the Indian operatives, so the quality of the raw material they have to handle has to be taken into consideration before the extent of their skilfulness or otherwise is determined." The Labour Commission noted this defect, but reported that "the Indian operative possesses considerable adaptability," and when it is remembered that organised industries of the modern type have not been in existence in India long enough to enable a class of industrial operatives to grow up possessing the inherited skill and dexterity of English workmen, and that the Indian workers are, as a rule, unfamiliar with power-driven machinery, this comparative lack of skill can easily be understood.[2] The skill and intelligence of the Bombay and Bengal operatives to which the authors of the *Indian Industrial Commission Report* refer (at p. 18), are obviously due to the fact that these

[1] For particulars showing the number of workers employed on different machines in mills in India and Great Britain, see Appendix B to the *Freer-Smith Report*, Cmd. 3617 of 1907; especially the comparative Tables relating to the number of hands, relative output and wages in spinning and weaving in India and England given at p. 71.

[2] See the evidence of Mr. T. W. Tutwiler, manager of the Jamshedpur Iron and Steel Works, before the Industrial Commission, Cmd. 235 of 1919, p.p 354 *et seq.* He is emphatically of opinion that Indian labour can be trained to replace almost every kind of foreign imported labour.

Provinces were the first homes of modern industries in India.

The love of easy-going independence, the migratory habits, and the reluctance to submit to discipline and to learn new processes of production, which characterise the Indian workman, explain the paradox that, in spite of her 319 millions, one of the greatest obstacles to India's industrial expansion is the scarcity of labour. References to the shortage of labour are abundant in the reports of most mills and factories, and in 1905 a conference of the Indian Chamber of Commerce adopted the following resolution: "Whereas the supply for rank and file labour is inadequate in many districts, and whereas the deficiency is seriously restricting the productive power of a large section of the manufacturing concerns of the country, it seems imperatively necessary to this Conference that, in order to devise a remedy, measures should be taken by a Government Commission, or otherwise, to investigate the causes which have led to a state of affairs inconsistent with the relative conditions of life of the factory operative on the one hand, and the agricultural classes generally on the other." But what exactly is meant by "scarcity of labour"? It is true that famine, plague, and the influenza epidemic of 1919 have taken heavy toll from the available sources of labour. "Yet," says Sir Theodore Morison, "there are in the villages and on the outskirts of towns thousands who are eager to sell their labour at very scanty wages." But, as already explained, this labour is unskilled and intermittent, and Sir Theodore therefore takes it that the term "shortage of labour" means a shortage of trained labour.[1] Conditions have since greatly altered, and to-day India experiences a shortage in unskilled labour as well. Since 1903–04, according to a Government Report,[2] "the cry has been for workers rather than for work. Agriculture itself has steadily increased its demands, but has felt itself obliged to compete with the still more rapidly increasing requirements of commerce, and it is no exaggeration to say that the labourer has been in a position to dictate his own terms." Men there are still in plenty, but they are content with their own standard of living, and, since

[1] *Industrial Organisation in an Indian Province*, p. 181.

[2] Quoted at p. 173 of Datta's *Report on the Enquiry into the Rise of Prices in India*, 1914. See also Cmd. 4292 of 1908, Section 7.

that has remained unchanged in spite of the recent rise in wages, they are now able to work less and take longer rests. Another feature of the Indian labour situation is the scarcity of men of the *maistry* or foreman class possessing the requisite technical and business experience, which is largely the result of the average educated Indian's aversion to all forms of manual work. The dearth of both trained and untrained labour and its slackness, which necessitates a costly system of supervision, are factors to be reckoned before concluding that Indian labour is the cheap commodity it is generally believed to be.

Judged by Western standards, the wage paid to labour of all kinds is exceedingly low. Twenty years ago the wages of a field labourer hardly exceeded twopence a day, though, translated into terms of commodities (" real wages ") the figure is not so utterly inadequate as it looks. Wages were paid by village custom partly in cash and partly in kind. As a rule, the labourer took in cash only the amount required for his actual expenses such as clothes, etc., the rest being taken in food-grains. Since then, of course, wages have risen considerably. Enquiries into the rates of agricultural wages in the United Provinces and in the Punjab, made in 1906 and 1909 respectively, showed that, while there was the greatest disparity in rates from district to district, they averaged from 2½d. in the former to 4d. in the latter. There is obviously no comparison between this rate and that for the same kind of labour in England in 1907, which averaged 17s. 6d. a week.[1] The rise in the Indian rate is still going on ; the war, with its call for increased production, and the recent rise in world prices have had their usual effect on the rate of wages, and now we find the labourers putting forward claims for a higher rate throughout the country. Thus, in rural areas the real wages of both agricultural labourers and village artisans rose in 1912 to 38 per cent. above the general level in 1890–4 ; and in 1921 it was by no means uncommon to find the wages for ordinary unskilled labour ranging from one shilling to eighteenpence *per diem*

[1] See the *Board of Trade's Earnings and Hours Enquiry*, Vol. V., Cmd. 5460 of 1910.

[1] See *Bombay Labour Gazette*, January, 1922, p. 14. Also the *Bombay Agricultural Wages Report*, 1924.

There is, however, one class of agricultural labour which does not appear to have fared so well. The plantation coolie, working on the uplands far away from home, formerly commanded a higher rate of wages than his fellow-worker in the plains. The original scale, unfortunately, appears to have been petrified into immobility, for, writing in 1913, Mr K. L. Datta[1] declares that their real wages have fallen 5 per cent. below the level in 1890–4. The average rate for a coolie in the South Indian plantations is only sixpence a day, but to this must be added the pecuniary advantages he receives by the ofier of rice at concession rates and the provision of free housing and medical assistance.[2] The general tendency of wages has, however, been to lag behind prices, and this has been responsible for much of the recent distress among the labouring classes.

Factory labour also has had the benefit of the rising wages, though prior to 1917 the rate of increase was not so rapid as in rural areas. The Labour Commission of 1908 did not go into the question of wages, but they had sufficient evidence to conclude that "the wages of textile factory operatives were considerably higher than those earned by the same class of men in other employments." At the time of their enquiry wages per month in cotton textile mills varied within the following limits:

	Rs.		Rs.
Half-timers	2½ to 4½	Full-time boys between fourteen and seventeen	5 to 13
Hands in the card and frame departments ...	7 to 18	Head spinners (male) ...	25 to 35
Male piecers	10 to 16	One-loom weavers ...	10 to 15
Women (reeling and winding)	5 to 12	Two-loom weavers ...	18 to 35

The wages in the jute mills were slightly higher.

The specimen wages *per mensem* in cotton mills in Bombay

[1] See *Report on the Enquiry into the Rise of Prices in India*, 1914, paras. 406–9.

[2] That conditions in the North Indian plantations do not greatly differ is evident from the *Report on Immigrant Labour in Assam*, 1920–21, which see. See also the recent *Report on Labour Conditions in Assam*.

in 1918, including war bonus (where wages are higher than elsewhere in India), were:

	Rs. a. p.	£ s. d.
Drawer (card room)	23 6 0	1 11 2
Reeler	17 4 0	1 3 0
Warper	40 8 0	2 14 0
Rover	24 1 0	1 12 1
Doffer (card room)	12 10 0	0 16 10
Weaver	46 15 0	3 2 7

(Wages paid monthly two or three weeks in advance.)

The specimen wages in jute mills for June, 1918, were:

	Rs. a. p.	£ s. d.
Carders	9 0 0	0 12 0
Rovers	12 0 0	0 16 0
Spinners	14 12 0	0 19 8
Shifters	11 0 0	0 14 8
Winders	18 0 0	1 4 0
Beamers	22 0 0	1 9 4
Weavers	27 0 0	1 16 0
Mistries	30 0 0	2 0 0
Coolies	13 0 0	0 17 4

(Wages paid weekly, one week in advance.)

And in coal-mining the average daily wage per head was 7·6 annas in the same year.[1]

The greatest sufferers from low wages are such non-factory workers as shop-hands, clerks, postmen, etc. The Indian Government is one of the largest employers of this kind of labour, and the following figures[2] will show how one class of their employees (*viz.*, the Agra postman) has fared at their hands. They will also show the rate of rise in the wages of a woollen mill operative in North India, whose wage in 1895 was slightly lower than that of the Agra postman.

	1895	1900	1905	1910	1915	1917	1918	1919	1920	1921
Agra Postman	8·57	8·65	9·44	10·95	12·45	12·6	13·21	13·5	21·2	—
Boiler Mistry in North Indian woollen mill	8·4	—	11·4	13·8	17·9	—	24·8	25·2	35·8	40·6

[1] For rates of wages, see the Tables in *Prices and Wages in India*, published by the Govt. of India annually.

[2] These figures, showing monthly wages, are in rupees and decimals of rupees, and are taken from p. 215, *Statistical Abstract for British India*, Cmd. 1425 of 1921, and Cmd. 1778 of 1922.

The disparity in the rate of increase is striking, and shows clearly that the wages offered by the Government are not always higher than those offered by private employers of labour, as is generally supposed, though it is only fair to say that the same glaring difference does not appear in the wages of numerous other classes of Government servants. This will also illustrate how wages lag behind prices, since the index number of the cost of living in India went up from 100 in July, 1914, to 185 in July, 1919, and the wages show no corresponding increase.

The prevailing rate of factory wages has called forth interesting criticisms from various quarters and from different view-points. The capitalist employers appear to think that, because of the Indian labourer's relative inefficiency and of the comparatively low cost of living in India, the present rate is as high as the various industries can afford to pay. The contrary view has been held by the late Dr Nair and Mr B. P. Wadia. Dr Nair, in 1908, contended that, if one Lancashire operative is equal to 2·67 Madras operatives, then, since the average monthly wage of a Lancashire operative is about Rs. 60 (£4), while that of a Madras operative is only Rs. 15 (£1), it is clear that for the same money the Indian mill-owner gets nearly double the work that an English mill-owner does. Mr Wadia approaches the question from a different point of view.[1] "It may be contended," he says, "that living in India is cheap, but when the rise in the price of food-stuffs and clothing material is taken into account, when a personal enquiry into the lives of the workmen is made, and when we see the hovels they live in, the food they eat, the clothes they wear, and remember that they are always in debt, which is ever increasing, we cannot but come to the inevitable conclusion that the scale of wages is scandalously low and is absolutely inadequate to meet the demands of sheer existence at the present time." He continues: "The wage now allowed to the Indian labourer leads to malnutrition. . . . Though he may be addicted to living cheaply, the most frugal temperament would not choose malnutrition and its consequences for the sake of cheap living," and concludes with the quotation that "Labour may be cheap, but life is not."

[1] Memorandum to the Glasgow Trades Union Congress of 1919.

The best method of ascertaining the adequacy of wages is to compare them with the amount required to keep an average working-class family, consisting of the worker, his wife, and two children, in physical efficiency for a given period. From careful investigations in Madras in the two years 1917 and 1920, made by Dr Gilbert Slater and the Rev. D. G. M. Leith respectively, the following figures of necessary expenditure per mensem were obtained:

Items	1917 Rs. a.	1920 Rs. a.	*Percentage of Rise.*
Food	14 0	17 10	26
Rent	1 0	1 8	50
Clothing	0 8	1 4	150
Fuel	1 0	1 6	37
Miscellaneous	0 8	0 12	50
Total	17 0	22 8	32

Accepting these figures as substantially accurate, it must be admitted that quite a large percentage of Indian workmen is living on less than the minimum income required to prevent physical deterioration. There are some who believe that the fixing of a minimum wage by law would effectively meet the situation, and Mr K. C. R. Chaudhuri brought forward a resolution in the Bengal Legislative Council in 1921 "that early steps be taken to establish Industrial Boards for the determination of a minimum wage for each industry in Bengal." But the fallacies underlying the minimum wage theory are apparent, as are the industrial and administrative implications following on its adoption. At its foundation it has the idea that the opinion of one or two individuals may properly establish a standard of living for the members of some particular group at the market prices of some particular day, which society as a whole is obliged to provide to the individuals of that group in return for a certain number of hours of work, without reference to any practical or scientific co-ordination of real wages between different sections of workers, or in relation to the service or work performed by those to whom that wage is paid.[1] The Government very properly declined to accept the resolution, for the wages in industries in India are

[1] See *Report of the American Commission on Foreign Enquiry of the National Civic Federation*, 1919.

regulated by agricultural wages, and industrial concerns, in order to attract the labourer, must offer higher wages than he gets in his own village. How are agricultural wages to be regulated? "Apart from the fact that we have not got sufficient knowledge for the purpose, and from the fact that we should have to make allowances for differences in land tenures and other matters, even if we could fix a minimum wage that would be accepted by all as fair and reasonable, we have not got the staff to go round and see that these minimum wages are paid."[1]

It is thus clear that higher wages are an absolute *sine qua non* if the efficiency of Indian labour is to be improved; and judging by the high profits made by many of the industrial concerns of India and the value of their shares on the Stock Exchange,[2] the employers can certainly afford to pay a much higher rate. Many employers who are anxious, in their own interests, to improve the quality of labour are agreed as to the necessity for higher wages; but their complaint is that the labourer does not respond to the stimulus thereby afforded. His wants being few and inexpansive, these satisfied, he takes advantage of the increased wages, not to increase his output and earn more money, but to work less, for fewer days in the year. This brings us to another paradox in Indian economics, that a rise in the rate of wages diminishes the supply of labour. In Bombay, since the 10 per cent. rise in the wages of mill operatives given during the rains of 1917, there has been an actual falling off in output; and at an annual meeting of the Indian Mining Federation, the chairman, Mr N. C. Sircar, complained: "We have known the bitter effect of an increase in wages; how it has failed to stimulate a desire for higher earnings, and how it has acted as a direct incentive to increased idleness."[3]

Higher wages by themselves, then, cannot do much good. Along with that, the Indian labourer has to be taught, in the words of Mr William Archer, "to want more wants." The spirit of divine discontent must take possession of his mind. These will bring about a longing for a higher

[1] The Hon. Mr Kerr's remarks in the discussion on the Resolution in Council.

[2] See Quotations in the various issues of *Capital*.

[3] Reported in the *Statesman*, Calcutta, April 27, 1922.

standard of comfort, and, to quote Mr Sircar again, " it is in quickening this sense of better comfort and better standard of life that the salvation of the Indian working-classes lies." It is in this connection, apart from all humanitarian considerations, that the questions of education, better housing, and general welfare work come to the fore. The great economic loss India has suffered by the unskilfulness of her labour—a defect largely remediable by education—is now recognised, and special attention is now being bestowed upon the provision of sufficient educational facilities for the newer generation of workers.

The Labour Commission of 1908 felt that the existing provisions were inadequate, but, seeing that even the few schools maintained by some of the mills were shamefully inefficient, and that they were in many cases being kept only as a means for overworking children, were compelled to recommend that such schools should not be located within the factory premises. In the absence of anything more fruitful than this negative suggestion, the late Mr G. K. Gokhale proposed that all factories employing not less than twenty children should be compelled to provide for their free education. The motion was lost, the employers protesting that it was unfair to saddle them with a burden which it was the duty of the State to bear. In the following year the Government of Bombay appointed a committee to consider the question, but nothing came of it, since the members were evenly divided, four recommending compulsory education for factory children, and the remaining four—all employers —opposing it. There the matter rested till December, 1917, when Bombay led with an Act empowering Municipalities (other than that of the city of Bombay) to declare the education of children between six and eleven compulsory, subject to certain safeguards, and to raise funds to meet the necessary expenditure ; and most of the other Provincial Governments followed suit. It is only in the Bombay Presidency, however—and there again, only in a few Municipalities—that the Act is in operation, financial and other difficulties standing in the way of the other Provinces. It may here be pointed out that the object of raising the minimum age of factory children to twelve in the Factories Amendment Act of 1922 will be largely defeated if effective provision is not made for their education during the

free hours. Capitalist enterprise in this direction still leaves much to be desired, though it is encouraging to find that many of the more enlightened mill-owners have copied the action of the Madras Perambore Mills and set up well-conducted schools for children who are connected with the mills either directly or through their parents.[1]

In the matter of housing, the idea is to make the conditions of the urban labourer's quarters approximate to those prevailing in his own village. The latter are by no means salubrious, as persons familiar with the ways of living of the "lower" castes in India (such as the Panchamas of the Southern Presidency), can testify. But clamant as are the evils even of this sort of village life, those of the towns with their greater congestion are easily worse. The plantation labourers and the workmen attached to factories situated at a distance from towns naturally live under conditions which approach nearest to village life. The dwellings here take the form of single-story lines consisting of single-room units with a veranda and an open courtyard in front. The congestion and insanitation become more pronounced in the larger industrial centres, where, also, the workers instinctively try to reproduce their home surroundings, but are prevented by the lack of available space from having the veranda and the courtyard. Hence have arisen the *bustis* and *chawls*, which are notoriously overcrowded and insanitary. The *Report of the Indian Industrial Commission*[2] gives us a faithful picture of the filth and squalor of *chawl* life in Bombay, of the ill-ventilated rooms, the damp ground-floors, the narrow courtyards dumped with rubbish, the insufficient water arrangements, and the bad sanitary accommodation. Some of the larger factories in India have built commodious settlements near their premises for large numbers of their operatives, and many more are doing so, seeing that suitable housing accommodation renders the labour supply steadier and forms an attraction to new recruits. But what has already been done forms but a tiny speck compared to what has yet to be done, and, to hasten matters, the suggestion has definitely been put forward in Bombay and Bihar (coal

[1] For a résumé of the whole question, see A. G. Clow's article on "Factory Children and Education," *Journal of Indian Industry and Labour*, Vol. I, Part II.

[2] Paras. 241 and 242.

mines) that employers should be compelled individually to house their own labour. The interests of national efficiency require the protection of the labourer's health ; bad housing leads to deterioration, and it seems only reasonable that a part of the capital employed in production should be deflected to improving the principal instrument of production by the provision of healthier conditions of living for labour. Compulsion, however, is inexpedient, since its incidence on employers will be unequal, and the financial resources of Indian industrialists are not yet strong enough to bear the burden. Labour, also, has its own objections to the creation of a class of landlord employers who, it is feared, would keep it too much in subjection. And even without legal compulsion, the present tendency, growing stronger every day among the leading employers, to pay greater attention to the material comforts of their employees will itself find a solution for this vexed problem. In the housing schemes of these employers expert opinion is often taken and the most recent ideas in regard to lay-out and design considered. The Bombay Improvement Trust has in hand some very costly schemes under expert supervision, and the growing industrial town of Jamshedpur, the population of which will exceed 100,000 when the present extensions are completed, will compare favourably with any industrial centre in the world in the matter of the comforts and conveniences provided for the working classes.

In general welfare work, the efforts to improve the health of the worker must occupy the front position. Major Norman White, the Sanitary Commissioner with the Government of India, declares that the weaker physique and lower vitality of the Indian worker which have caused him to be labelled " inefficient " are due to removable pathological causes,[1] such as malaria and hookworm infection (ankylostomiasis). Both are almost universally prevalent in India and both are preventable. Recent experiments have shown that the output of labour which has been treated for ankylostomiasis has increased by as much as 25 per cent., and this surprising increase in efficiency has been accompanied by a reduction of disease of all kinds. The campaign of public health and sanitation should not be confined to urban areas, where the labourers " most do congregate." The

[1] See Appendix L, *Industrial Commission Report.*

recruiting centres of labour are in the rural regions, where also one finds the same appalling ignorance of the laws of personal and domestic hygiene.[1] There is thus a great necessity for a widespread organisation to preach the gospel of health all over India, and the All-India Health and Welfare Association which has been started recently is doing something in this direction. The aim of industrial welfare work is the development of the human factor in industry. In its present form it is a movement of fairly recent origin, and its possibilities were, perhaps, not generally realised till a Welfare Department was organised by the Ministry of Munitions during the war. Foremost among the unofficial bodies undertaking service of this kind in India are the Servants of India Society and the Social Service League of Bombay. Among the employers, the great firm of Tata's has, as usual, taken a lead in the new humanitarian movement, and welfare work on an extensive scale is being conducted at their headquarters at Jamshedpur.

The following remarks of Mr J. A. Kay, the Chairman of the Bombay Mill-Owners' Association, at an annual meeting, are of interest, as showing the new angle of vision among the employers. "I am pleased," said he, "to see that so many of our members are now taking an active interest in the conditions and surroundings in which our workpeople live. Most of our troubles economically and industrially can, I think, to a great degree be put down to illiteracy and the migratory habits of our workpeople, and education would help to solve our problem; but, though much has been said about compulsory primary education, I am afraid the Government is a long way off even making a commencement in this direction, so the social condition of our employees must be improved by welfare work. Much has already been done, but I appeal to our members to do more. I know at times results are disappointing, but if we can raise up their standard by giving them brighter surroundings and attractions to keep them out of the liquor and bucket-shops, we shall have achieved something; for better environment must, as time goes on, tell its own tale, and I should suggest to those who are not

[1] Lieut.-Colonel MacTaggart thinks that the health of the agricultural worker is inferior to that of the factory worker. See Appendix B, Cmd. 4292 of 1908.

already doing so that a certain amount be put aside out of profits each year for this purpose." But at the heart of every economic problem lies a moral problem, and the most effective help is that which enables the labouring classes to work out their own regeneration. The operatives are therefore being induced to organise themselves into working-men's institutes like those formed recently in the Tata and Currimbhoy-Ebrahim Mills of Bombay. The formation of stores and credit societies on a co-operative basis, night-schools, reading-rooms and libraries, ambulance classes, arrangements for athletics and open-air excursions, and provision for various other amenities of existence which go to alleviate the bitterness of continual toil, are some of the directions in which this new spirit of social service is manifesting itself. The various Provincial Governments and Municipalities are also beginning to interest themselves in the question, and in Madras at least there is now a full-time officer called the Labour Commissioner, one of whose main functions is to improve the conditions of the "depressed classes," from whose ranks is drawn a large part of the labour force of that Presidency. Work of this nature is yet in its infancy, but it is a healthy sign that the Government, the capitalist, and the general public have combined themselves so early to meet in anticipation the inevitable demands of a developed labour movement. Would it be too much to hope that, if the present rate of progress is kept up, industrial development in India will, in at least one respect, proceed on happier and healthier lines than in the West? The tendency of the age that succeeded the industrial revolution has been to perfect machinery at the expense of man and to regard increased production, not as a means to national prosperity, but as an end in itself. The result was that poverty increased, slums multiplied, and a rancorous and implacable enmity sprang up between labour and capital. The modern schemes of social welfare are intended to restore the disturbed balance and to bridge the yawning gulf between the two great factors of production. In entering the field of industrial activity as a late-comer, India has secured one great advantage. She has had the time and the opportunity to watch the course of events in other countries and profit by their example; and, if only the captains of Indian industry have learnt their lesson well,

it may confidently be expected that the pitfalls and dangers of the excessive industrialism of the West will be avoided, and that with suitable housing accommodation, reasonable wages and hours of work, and provisions for healthy relaxation and amusement, the Indian labourer will come to regard factory work, not as mere drudgery, but as a means through which he may express his personality, and his employer, not as a vampire living upon his life-blood, but as a brother and a colleague performing equally valuable services to the community.

Effective factory legislation in India came into force with Act XII of 1911, though the first Factories Act came into operation on the 1st of July, 1881. The question of controlling the hours and conditions of factory work by legislation appears to have been raised so early as 1872, and in 1875, at the suggestion of the Secretary of State, the first Commission to consider and determine whether legislation was necessary was appointed in Bombay. Two of the more progressive members of the Commission recommended legislation on the following lines: Adequate protection of machinery; prohibition of the employment of children under eight; an eight-hour day for children between eight and fourteen; a twelve-hour day for adults with one hour's rest; a weekly holiday, and the provision of drinking water. These proposals were ultra-radical for those days, and failed to win the approval of the majority. But the Hon. Mr S. S. Bengali, the first champion of Indian labour, took the matter up in the Bombay Legislative Council, while the Government of India, in their anxiety to protect children and young persons employed in factories, conceived the idea of all-India legislation. After a great deal of heated discussion, in the course of which the draft Bill underwent considerable alteration, and in the face of the opposition of the Bengal and Madras Governments and the mill-owners of Bombay, the Imperial Legislature passed Act XV of 1881, by which children between seven and twelve were to work only nine hours a day and to have four holidays in the month. The definition of "factory" was restricted to works using power and employing 100 persons, and tea, coffee and indigo factories were completely exempted. The Act did not evoke much enthusiasm, and the Bengal Chamber of Commerce was probably correct in stating that "the

universal judgment" of the public was that it was unnecessary. The sponsors of the Act were themselves dissatisfied with its extremely limited scope, and doubted its adequacy; and Lord Ripon in particular felt that he had been wrong in giving way to the strong phalanx of conservative opinion opposed to his measure. The history of Indian factory legislation has already been set forth in detail by a competent hand,[1] so that we can skip over the intervening period and come to the next Act (XI) of 1891, by which the number of persons necessary to constitute a "factory" was reduced to fifty, daily rests and weekly holidays were provided, the work of women limited to eleven hours, and that of children (nine to fourteen years) reduced to seven; and both classes protected against night work. It was expected that "the Bill will be accepted both here and at home, not as a mere prelude to still further restrictions, but as a settlement as final as any settlement of such a question can be."[2] But the conditions of industry underwent rapid alterations after 1891; the number of factories and of the operatives attending daily had risen from 656 and 316,816 in 1892 to 2,359 and 792,511 respectively in 1910, and the introduction of electric light and the dearth of labour caused by the plague introduced new problems which had to be considered. The provisions of the Act of 1891 were often neglected, and evasions of the law in regard to women and children were also only too frequent.[3] The Government were therefore compelled in 1906 to appoint the Textile Factories Labour Committee ("The Freer-Smith Committee") to go into the question and consider, *inter alia*, the case for the limitation of the working hours of adult males and the minimum age and certification of children. After the publication of their *Report* in 1907,[4] the Factory Labour Commission was appointed to investigate in respect of *all* factories the questions referred to the Freer-Smith Committee. They brought out their exceedingly interesting *Report* in 1908 and, while admitting that unduly long hours were being worked in the mills, and that "if generally adopted and persisted in for any length of time, they would

[1] J. C. Kydd, *A History of Factory Legislation in India.*
[2] Lord Lansdowne's words in the Legislative Council.
[3] See Section 2 of the *Factory Commission Report* of 1908.
[4] Cmd. 3617 of 1907.

almost certainly result in physical deterioration of the operatives,"[1] the majority of the Commissioners held to the view that a direct limitation of the working hours of adult males was inexpedient.[2] This called forth from Dr T. M. Nair of Madras a dissenting minute of remarkable power and ability, in the course of which he exposed the weakness of the plan suggested in the *Report*, and earnestly pressed the necessity for such a direct limitation. The Government, agreeing with Dr Nair, limited adult labour to twelve hours. The proposals for a compulsory interval after six hours' continuous work, and for reducing children's working hours from seven to six in textile factories, also, were accepted, and Act XII of 1911 was passed on these lines. From 1910 to 1919 the number of factories had increased from 2,359 to 3,640, and the average daily number of operatives from 792,511 to 1,171,513. An immediate effect of the war was a tremendous increase in industrial activity, and the number of factories and of persons employed rose by about 25 per cent. in 1914–19. At the same time the urgent necessity for increased production led to wide-spread exemptions of factories from many provisions of the Act, and the consequent disorganisation once again pressed the problem on the attention of the Government. The present Act (*The Indian Factories Amendment Act*, 1922,) which came into force on the 1st July, 1922, marks a substantial advance on its predecessor in that (1) the number of persons necessary to constitute a factory is reduced from fifty to twenty, local Governments retaining the power by administrative order to extend the Act even to non-power establishments employing ten or more persons; and the exceptions made in favour of electric generating and transforming stations and plantation factories are repealed; (2) the ages of children are raised to twelve minimum and fifteen maximum; and (3) in place of the old Section 27 are substituted two new Sections: "No person shall be employed in a factory for more than sixty hours in any one week," and "No person shall be employed in any one factory for more than eleven hours in any one day." There are also various minor changes, such as the abolition of the distinction between textile and non-textile factories,

[1] Section 7, para. 39.
[2] See p 46.

provisions relating to health and safety, and enhancement of maximum fines ; and Dr Nair wins a posthumous victory in the new Act where the exceptions in favour of cotton-ginning and pressing factories, against which he so ably argued, are abolished.

The present Act has gone as far as it is desirable that India should go to-day, and it affords one more proof of the readiness of the Indian Government to uphold the legitimate interests of the labouring classes. In this connection, it may be mentioned that there has all along been in India a school of thought which views with apprehension the efforts made to limit the hours of work and approximate to the labour ideals of the more highly organised Western nations. Their position is that of the Labour Commissioners of 1908, who declared that in judging labour problems " the welfare of India . . . must be regarded as absolutely paramount. . . . We are profoundly impressed with the necessity for taking all practicable measures to foster the development of Indian industries, and convinced of the dangers likely to result from any attempt to apply to India laws or regulations framed with reference to other and different conditions." And the argument is also advanced that if regulations tending in any wise to enhance the cost of labour are enforced in India, the influx of fresh capital into industries will be checked, that a reduction in working hours will spell a curtailment of the national dividend, and that industrial progress will be seriously retarded. It has also been suggested that the movement for the reduction of hours has been started by the Lancashire mill-owners, who are taking advantage of India's political subordination to stifle Indian competition. " The voice is the voice of Exeter Hall, but the hand is the hand of Manchester." The fact that the first move in the matter came from the Secretary of State, and that there has always been considerable flutter in the Lancashire dovecotes when Indian labour problems were being discussed, have lent colour to this view. In answer, it may be said that experience has not always confirmed the view that shorter hours mean diminished output.[1] On this point

[1] Indeed, recent experiments have shown conclusively that there is an optimal length of working period per day which will yield the most efficient work and the greatest output, and that output and efficiency

Mr C. A. Walsh, the special inspector who had to administer the Act of 1891, says that, in workshops where shorter hours were worked than in textile mills, labour was more plentiful and less costly, and that the Gauripore Jute Mills in Bengal paid higher dividends than any other mill in a year in which its hours were shorter than anywhere else; and we have also the evidence of the manager of an Agra mill about the same time that he had increased his out-turn by a substantial reduction of hours. Nor need this occasion any surprise when it is remembered that reasonable hours mean less loitering and more intense and concentrated effort. Even were it otherwise, even if shorter hours may for a time diminish output, the higher interests of industrial efficiency require that the labourer should not be sweated and his physique suffered to deteriorate. To conserve his strength, to keep his vigour unimpaired, and to provide him with opportunities for improvement, ought to be the aim of all who wish to lay the foundations deep and firm of the industrial India of the future. Lancashire certainly was not disinterested when it offered its counsel to the Indian Government; but India may have reason to be grateful even for Lancashire's suggestion when, as a consequence of it, she sees a new generation of sturdy workers springing up in the place of the anæmic and nerveless operatives of the present day.

There is, however, another influence which is likely to prove more potent than Lancashire in shaping the destiny of Indian labour. India, as one of the signatories to the Peace Treaty, is also one of the original members of the International Labour Organisation, established by that Treaty. Her delegates have attended the conferences already held at Washington, Genoa, and Geneva, and she obtains a prominent place in the official *Report*,[1] where M. Thomas refers to "the remarkable efforts which she has made to secure the realisation of the great ends" for which the Organisation was formed. But if India deserves praise

are both diminished either by working less or by working more. Much, however, depends on the proper distribution of work and rest periods. For a rapid summary of these experiments and conclusions see *The Psychology of Industry*, James Drever, pp. 73–80, Methuen, 1921.

[1] See pp. 171–176, Report of the Director of the International Labour Office, 1921.

for her ratification[1] of the Washington decisions, that Conference deserves no less praise for the eminently reasonable spirit in which it has approached many of the questions it had to discuss. One wishes that the same could be said of all the later Conferences. The great weakness of the Conference, it has been pointed out, is its humanitarianism; and some of its later Resolutions make one suspect that the Conference hopes to turn the world into a paradise by a Draft Convention and to hasten the Millennium by a Recommendation.

Now that labour has been "internationalised," the tendency in India will be to fall in line with world conditions; and herein lies a serious danger. It is true that under Article 405 of the Peace Treaty, the Conference, in framing its recommendations of general application, "should have due regard to those conditions in which climatic conditions, the imperfect development of industrial organisations or other circumstances, make the industrial conditions substantially different, and should suggest the modifications which it considers may be required to meet such cases." But where the dominant idea is to approximate to a type, and the object is to bring about uniformity of legislation in order to avoid competition on what appear to be unequal terms, it seems only too likely that special circumstances calling for special treatment will receive only inadequate stress and insufficient consideration. So far as the welfare of the operative is concerned, India has gone as far as she could go without detriment to herself, and recommendations for further curtailment of working hours, or in other ways calculated to affect Indian industries adversely, should be subjected to careful scrutiny before ratification. The attitude of the Government of India in regard to the Resolutions on maritime employment and agriculture adopted by the later Conference shows that it is alive to the danger of proceeding too fast and of being hustled along the lines laid down by the Conference.

That the spirit of combination is lacking in the Indian workman has been noticed by the employers at a very early

[1] As to how far she has ratified the Washington decisions, see Government of India's despatch to Secretary of State, No. 16, Industries, Delhi, November 25, 1920.

date. In a letter to the Bombay Government dated November 25th, 1905, the Collector of Bombay remarks: "If the mill-owners desire to increase the hours, the operatives have no real power to prevent them. Their power of combination is as yet exceedingly limited; a large proportion will always continue to prefer to get as high wages as they can, regardless of their own welfare in the long run." The early history of organised labour in India is full of instances to show that, while the operatives fully understood the machinery of local strikes and have repeatedly forced employers to comply with their demands in isolated cases, they have been unable to combine over any large area with the object of securing a common end by concerted action. Mr and Mrs Sidney Webb point out that, whilst industrial oppression belongs to all ages, it is not till the changing conditions of industry have reduced to an infinitesimal chance the journeyman's prospect of becoming himself a master that we find the passage of ephemeral combinations into permanent trade societies.[1] The essential preliminary condition of trade unionism, then, is the existence of a class of wage-earners divorced from the ownership of the means of production. In India, as we have seen, the predominant type is that of the agricultural labourer who retains his interest in land and is his own entrepreneur. Yet, latterly, there has been growing up a small but definite class of workers detached from all interest in land and looking solely to some particular form of industrial employment for the means of subsistence. The late emergence of this class explains the absence of trade unionism in the early history of Indian labour. Economic causes were no doubt at the bottom of the movement, though it may not be far wrong to say that political causes helped in some degree to precipitate it. An interesting glimpse into the psychology that was behind the formation of some labour unions is afforded by a little book entitled *Labour in Madras*,[2] containing the speeches delivered by Mr B. P. Wadia during the incubating period of the Madras Labour Union. Most of the speeches are political in import and bear some internal evidence that they were considered part of the Indian Home Rule Campaign started by Mrs Besant during the war.

[1] *History of Trade Unionism*, 1920, p. 6.
[2] S Ganesh and Co., Madras, 1921.

That the Labour Programme was tacked on to the political movement to secure for the latter the support of the English Labour Party appears to be clear from the following quotation: "Above all, it should be remembered that the Labour Party of England will be able effectively to help us when we have the good vehicle of a sister movement here to work through. The fruition of the present labour movement will be in the Home Rule Administration, let us hope, of the near future";[1] and in the face of this, the statement of Colonel Wedgwood that "labour has not been 'used' by Indian politicians" provokes a smile.[2] But the activity of the politician gave no more than a fillip to the labour movement. There were other and more powerful causes tending in the same direction. The later war period and the years that succeeded the Peace were years of great economic stress and strain. It was a period of high prices and general scarcity, and the feeling of unrest thereby engendered supplied a great stimulus to the formation of Trade Unions. The organisation and management of these Unions leave much to be desired; they possess no clear-cut features or well-defined duties; most of them have no permanent offices or staffs; and the men themselves are lukewarm in their loyalty to their Union, demurring to Union discipline and to Union contributions. A few of the older Unions, however, such as the Seamen's Unions, the Indian Telegraph Association, and the Railway Workers' Association, "are well on the way to that completeness of organisation which marks the Trade Union system of the West." In the number of Unions and the total strength on their rolls, the seventy or eighty Labour Unions of India appear insignificant when compared to the Trades Unions of the United Kingdom; and it is only through the magnitude and frequency of strikes in recent times that they have leapt into the light. The following figures (supplied by the Labour Bureau of the Government of India) give us an idea of the interruption thus caused to industry in 1921

[1] Speech quoted in *New India*, July 3rd, 1918.

[2] See also Sir Valentine Chirol's *India Old and New*, p. 273: "There is unhappily very abundant evidence to show that strikes would not have been so frequent, so precipitate, and so tumultuous had not political agitation at least contributed to foment them as part of a scheme for promoting a general upheaval."

1921	Industrial Disputes.	Number of Labourers Involved.	Days Lost.	Successful.	Partially Successful.
First quarter	116	185,251	2,590,325	13	42
Second quarter	64	122,432	2,114,657	11	12
Third quarter	88	97,825	1,133,684	15	12
Fourth quarter	132	117,647	799,196	49*	16
Total in 1921	400	523,155	6,637,862	88	82

* Bonus question.

The spread of the strike epidemic is causing grave anxiety to the Government and to industrialists, and has drawn prominent notice to the necessity for finding out the ways of securing industrial peace. Trade Unionism once again comes into importance, since employers are desirous of calling into being organisations authoritatively representing labour interests with which they can negotiate. The inherent defects of the present Labour Unions—their lack of coherence, their numerical weakness, and their failure to obtain for themselves an undoubtedly representative character—place great limitations on their power of collective bargaining and ventilation of grievances. All parties are now agreed that, in the changing conditions of industry, Labour Unions have a definite function to perform, and while the labourers are trying to strengthen their movement by banding themselves into Central Labour Federations and Trades Union Congresses,[1] the Government is now busy drafting a Bill giving the Unions legal recognition and protection. But the history of older countries has taught us the bitter lesson that well-established Trade Unions will not by themselves ensure industrial peace, and so the various Provincial Governments in India have recently been making detailed enquiries into the various ways of preventing and settling industrial disputes. Thus the question of popularising works committees on the lines of the Whitley Report engaged the attention of the Second Conference of the Directors of Industry held at Cawnpore in November, 1920, and on the 30th of July, 1921, Mr J. B. Petit, the mill-owner, carried a Resolution in the Bombay Legislative

[1] The All-India Trades Union Congress was formed in 1920, and has already held four annual conferences.

Council, asking for the appointment of a Committee to " consider and report upon the practicability or otherwise of creating suitable machinery for the prevention and early settlement of labour disputes." The Report of the Committee was published some time back; it has recommended the setting up of Courts of Enquiry and Conciliation constituted by three members from each side, with a neutral chairman selected from a panel maintained in the Labour Office. It is expected that in the first place, after the enquiry, public opinion, which always plays a prominent part in the settlement of industrial disputes, would have some effect; but in case it did not, the Conciliation Board is to be brought into use. It is proposed to give the Courts statutory recognition, but not to make their decrees mandatory. The Government of Bombay has not taken any action on these recommendations, as an all-India Bill on these lines is under contemplation.

It is difficult to define the duty of the Government when capital and labour disagree. It is indisputable that Government should secure the welfare of the worker by legislation, and this has been done by the new Factories and Mines Amendment Acts, and Workmen's Compensation Act,[1] and is being done by the proposed legislation regarding Trades Unions and Settlement of Trade Disputes. But it is equally undoubted that Government should prevent the serious public inconvenience and dislocation of industry caused by strikes, and also that they should not, under existing conditions, dictate to the employer what wages he shall pay his workmen. We can thus understand the reluctance of all Governments to intrude into the delicate and intricate relations between capital and labour, and their anxiety to strengthen the principle of voluntarism as an instrument of industrial peace. These feelings find an eloquent echo in Lord Chelmsford's speech at the opening of the Imperial Legislative Council on the 20th of August, 1920. After making an earnest appeal to the employers to regard their operatives from the human and not the commercial point of view, and expressing his belief that " employers who are willing to meet labour in this spirit and to treat their business as being as much the concern of their workers as of them-

[1] Act IV of 1923 (Mines) and Act VIII of 1923 (Workmen's Compensation) came into force on July 1st, 1924.

selves will find their reward not merely in the increased profit, for that will not be lacking, but in the gratitude and loyalty of their men, and in the knowledge that they are furthering the contentment and happiness of their country," he turns to the labour leaders of the country :

" To those who are endeavouring to influence and focus the aspirations of labour, I would counsel a similar sympathy and forbearance ; their responsibility is even greater than that of the employers. Labour in India is as yet scarcely articulate. But large numbers of working men are being enfranchised, and they will look to the leaders of Indian opinion for guidance and help. It will be a tragic and irreparable disaster if India is forced to repeat the long history of industrial strife in England. . . . The great majority of disputes admit of easy settlement, and there is no direction in which sane and sagacious political leaders can exercise a greater influence for good. In any strike it is the workers that suffer first and longest. And if we have to go through a long period of strife, industry will be crippled and the good start that we are making will be lost. To Honourable Members I would say, if you can bring capital and labour closer together, if you make it your duty to persuade them that their interest lies in co-operation and not in conflict, you will do more in a few years to better the condition of the workers in India than can be achieved by a lifetime of agitation. The future of industrial India is in your hands."

Wise and noble words !

APPENDIX

Working Class Budgets, Bombay

In 1921–22, the Labour Office of the Government of Bombay made an enquiry into working class budgets in Bombay City and Island. A rapid summary of the conclusions arrived at is given below.

(i) The results have been based on 3,076 working class budgets of which 2,473 are family budgets, and 603 single men's budgets. The information was collected between May, 1921 and April, 1922.

(ii) Of the budgets collected, 90·3 per cent. referred to Hindus, 6·2 per cent. to Mahommedans, and 1·8 per cent. to Christians.

(iii) Of the budgets 49·5 per cent. referred to cotton mill workers, 14·8 per cent. to municipal workers, 12·2 per cent. to dock labourers, 8·9 per cent. to railway workers, and 7·9 per cent. to engineering workers.

(iv) The extensive method of collecting the data was the method usually followed. Numerous observations were made, and the results were reduced to statistical form as far as possible.

(v) The intensive method, which necessitates a minute study of a working-class family by some person or persons intimately acquainted with it, was also to a limited extent followed in this Enquiry.

(vi) Representative budgets have been constructed to show what families normally spend on different items.

(vii) The average working-class family in the City of Bombay consists of 4·2 persons, namely, 1·1 men, 1·1 women, and 2·0 children, exclusive of ·6 dependents living outside Bombay.

(viii) The so-called normal family of 5 persons (1 man, 1 woman, and 3 children) cannot be taken as the representative family in the City of Bombay.

(ix) The monthly income of the family, based on the family budgets tabulated—2,473 in number—is Rs. 52. 4. 6. (17s. 5d. per week). The average earnings per month for earning men in these budgets are Rs. 42. 5. 7. (14s. 1d. per week) and, if the single men's budgets (603) be included, the earnings are Rs. 42. 9. 6. (14s. 3d. per week), for earning women Rs. 16. 11. 6. (5s. 7d. per week), and for earning children Rs. 13. 13. 5. (4s. 7d. per week).

(x) These average earnings should not be regarded as representing the average of all working-class incomes, but only of the budgets collected.

(xi) The income of 75 per cent. of the families for which budgets have been tabulated ranges from Rs. 40 to Rs. 70 *per mensem*.

(xii) The annual *per capita* income is Rs. 149. 6. 0.

(xiii) In every 100 families there were 154 wage-earners, of whom 104 were men, 42 women and 8 children.

(xiv) The expenditure of the family is best studied from an analysis of the expenditure on necessaries, decencies, and luxuries.

(xv) The standard of comfort is not high. The necessaries for efficiency are not as great as they ought to be.

(xvi) The standard of living may not necessarily improve in proportion to an increase in wages as the increase in wages may mean actually less time spent at work.

(xvii) The percentage expenditure on the main groups when the budgets were collected was as follows :—

Food	56·8	per cent.
Fuel and lighting	7·4	,,
Clothing	9·6	,,
House-rent	7·7	,,
Miscellaneous expenditure ...	18·5	,,
Total ...	100·0	

(xviii) More than half of the expenditure of the family is spent on food.

(xix) The greater the earnings the smaller the percentage of those earnings spent on food.

(xx) The percentage expenditure on cereals tends to decrease and that on other food to increase with the income.

(xxi) The proportionate percentage expenditure on food is nearly the same as in Italy and Argentina, but less than that in the more industrially advanced countries, such as the United States and the United Kingdom. The proportionate percentage expenditure is, however, below that of the East Indies (for East Indians only in Trinidad), Egypt and China.

(xxii) In the diet of the Bombay working classes the expenditure on food-grains (cereals and pulses) predominates and forms 60·2 per cent. of the total food expenditure, while animal food forms an insignificant portion, being only 5·5 per cent. of the total monthly earnings as against 17·4 per cent. of the United Kingdom Enquiry of 1904.

(xxiii) The quantity of cereals consumed by the industrial workers in Bombay compares favourably with the maximum prescribed by the Bombay Famine Code. It falls, however, below the scale prescribed for jails.

(xxiv) The family budgets, however, include other articles of comparatively high nutritive value, such as sugar, sweetmeats, and refreshments and other articles which do not enter into either the Famine or Jail diets.

(xxv) Rice is the staple food of the working classes, and enters into the diet of 99 per cent. of the family budgets. Bajri is consumed by 55·6 per cent. of the families, mutton by 65·8 per cent. and beef only by 5·5 per cent.

(xxvi) The diet, it will be seen, is predominantly vegetarian. About 30 per cent. are strictly vegetarian and do not eat meat.

(xxvii) The expenditure on fuel and lighting is chiefly on wood and kerosene. There is no expenditure on gas and electricity.

(xxviii) The expenditure on clothing is low as compared with other countries, being on the 1921–22 expenditure 9·6 per cent. of the total expenditure. This corresponds in the pre-war period to an expenditure of a little over 7 per cent.

(xxix) The predominant range of monthly rent for working-class tenements is from Rs. 3—8 to Rs. 5—8 for single rooms and for double rooms Rs. 7 to Rs. 10.

(xxx) About 97 per cent. of the working-class families live in single rooms. Seventy per cent. of the total tenements in Bombay consist of one room only, and 14 per cent. of two rooms; 66 per cent. of the population live in one room; and 14 per cent. in two-roomed tenements. The average number of persons per one-roomed tenement is 4·03, and in two-roomed tenements 2·11.

(xxxi) The number of rooms per family is one as against two rooms in France and Belgium, three in Germany, and even four or five in England and Wales and the United States.

(xxxii) The question of housing leaves much to be desired, but is receiving the closest attention of Government and local authorities.

(xxxiii) It is estimated that, if four occupants per tenement, including children, are taken, the Development Directorate alone by 1929 will have completed 50,000 tenements, or accommodation for nearly 17 per cent. of the present total population of Bombay City.

(xxxiv) The expenditure on education is only Rs. 0. 2. 11. *per mensem.* Out of 2,473 families, 21 per cent. incurred some expenditure on this account; and the average expenditure of those who spent on education is Rs. 0. 13. 10. The percentage of illiteracy is high—76.

(xxxv) In order to improve the worker, more and better education is required. The adult, however, especially the woman cannot be neglected until there is a sufficiency of schools.

(xxxvi) It has been extremely difficult to collect accurate data of expenditure on liquor. Investigators estimate that at least 8 to 10 per cent. of the income of those families whose members drink is spent on this account. Women workers, with certain exceptions, do not drink.

(xxxvii) Approximately 47 per cent. of the families are shown to be in debt to money-lenders. The average indebtedness extends to an equivalent of two and a half months' earnings, and the usual charge is one anna in the rupee per month, or 75 per cent. per annum, a rate which is not infrequently exceeded.

(xxxviii) The average expenditure on each marriage is Rs. 214, on each funeral Rs. 35, and on festivals and anniversaries together Rs. 18 per annum. This occasional expenditure, especially among an illiterate population, results in considerable indebtedness.

(xxxix) Single men in Bombay are able to remit a larger sum of money to their villages each month than family men. The average figure for all incomes amounts to 26·2 per cent. of the monthly income as against 3·2 per cent. in the case of the family in Bombay.

(xl) The single man spends more on liquor, tobacco and betelnut than does the man living with his family. Although he is able to remit more up-country, his credit is not so good as the family man's.

(xli) Of the total families 37·2 per cent. purchase on credit, 33·8 per cent. on a cash basis and 29 per cent. on both a cash and a credit basis.

(xlii) The prices given in the budgets agree in the long run with those published monthly in the cost of living index.

(xliii) The cost of living index weighted on the aggregate expenditure method[1] does not differ appreciably from the index calculated on the weights arrived at from the family budgets. This is in accordance with statistical theory.

[1] *Bombay Labour Gazette*, September, 1921, p. 8.

CHAPTER X

THE FINANCING OF INDUSTRY[1]

Synopsis :—Quantity and availability of industrial capital.

Hoarding; its political and social origins.

Estimated hoarded wealth of the country.

Indian absorption of gold and silver not grossly disproportionate to the industrial and social needs of the country. Sir Stanley Reed's comment. Hoard exaggerated; the view of the Bengal National Chamber of Commerce.

Inadequate banking facilities. Organised banking systems of India : their functions.

The deposits they have attracted.

The limitations to the inferences to be drawn from banking statistics.

Shyness of Indian capital. Due to inability to perceive the potentialities of the various schemes placed before them. Not venturesome enough, but eager to follow a successful lead.

Hence foreign capital dominates the industrial situation. Estimates of foreign investments in India. The advantages and disadvantages of foreign capital. Capital borrowed by Indians preferable to capital directly invested by the foreigner.

Indian capital and industries. Joint stock concerns. Distribution of the aggregate capital among the principal classes of joint stock enterprise.

The overflow of capital in the post-war industrial boom not indicative of a changed attitude on the part of Indian capital; it was only an effort made by those who had profited in the war-period to invest their savings. The collapse of the boom. Its deterrent effect.

Industrial banks; their functions. The German example. Beginnings in India. Some cautions to be observed.

Provisions for the current financing of industry. Government help. The Madras Act.

IN any attempt to sketch the present position and the prospects of Indian industries the quantity of capital in the country and its availability for industrial purposes

[1] First published in the *Indian Journal of Economics*, April, 1924.

will have to be carefully considered. The problem of ascertaining this is beset with serious difficulties, inasmuch as, while the calculations as to the quantity of capital even in highly advanced industrial countries where banking habits and facilities have been widely developed are more or less in the nature of guess-work, the wide prevalence of the hoarding habit and the absence of a well-developed banking system in India tend still further to widen the margin of error. It is easy enough to explain the origin of the hoarding habit. Quotations may be given from contemporary writers of the Moghul era, showing that even in those days India had become what Bernier calls a sink of precious metals. As a subject people with a history of many centuries behind them of insecurity of private property, the people of India have developed the practice of secreting as far as possible such property as they value. Political circumstances are thus accountable for the psychological difference between the people of India and of, say, England. In the latter case, the British people have had a proud record of insular security and, under favourable environment, they have developed a vigorous spirit of enterprise which has carried them all over the world, and enabled them to invest their savings abroad, to the great advantage of themselves and their mother-country.[1] The social institutions of the country have also been responsible for the growth of the hoarding habit in India. Where the family is the social unit, and all property is held in common, the individual who is anxious to possess something of his own, which he may deal with independently of the other members of the family, finds himself without any liquid asset, and takes to the storing of bullion as the most portable form of property. The dependent position of woman in the Indian social system, under which she is compelled to immure herself within the four walls of her house, deprived of all opportunities to earn anything for herself, has led her to accumulate gold and silver in the shape of ornaments. Again, an Indian family, the income of which is generally uncertain, has often to meet many unexpected calls and social obligations; a birth, a death, or a marriage in the family, or an unexpected crop-failure, or any of the numerous

[1] See p. 49, *Report of the Committee Appointed to Enquire into Indian Exchange and Currency*, Cmd. 527 of 1920; Mr. Dalal's Minority Report.

ceremonies enjoined by custom or social practice—all these mean the spending of money at short notice, and the ryot therefore saves his gold and silver, by pledging or selling which he can easily put himself in funds.

The lines upon which India's foreign trade has developed have also contributed to her growing absorption of the precious metals. Except in abnormal times, she has a favourable balance of trade, which is equated by imports of bullion. "Unfortunately," says Mr Dalal in his Minority Report already referred to, "India had not been prepared financially for absorbing her favourable trade balances in any other form than the precious metals. Although India is normally a creditor country, with trade balances running highly favourable to her, other means of adjusting favourable balances than the precious metals have not been actively sought for. . . . Great Britain, as a creditor country, set an excellent example of cancelling her favourable balances by investments abroad. There has been no encouragement in India of that method of settling trade balances."[1] It is an open question whether India has more capital than can be profitably invested in the country itself to afford investing abroad; but, in the absence of such an arrangement, huge quantities of precious metals are thrown into the country, where a large part of it disappears in the form of numerous small hoards.

A special reason for the hoarding of gold may be sought for in the comparatively new form of token currency, not exchangeable into gold, introduced in 1893. Up to the closing of the mints in 1893 to the free coinage of silver, the public had been accustomed for generations to full-value coins for their currency purposes; and when the over-valued rupee was introduced into the currency system, they were unwilling to hold their profits and savings in the new coin, but preferred to invest them in gold. In his Note appended to the Report of the Chamberlain Commission, Sir James Begbie points out that the hoarding habit was being gradually weakened under the old currency system, and the cash reserves of the people being attracted into useful and profitable

[1] Page 43, para. 20, Cmd. 527 of 1920. See also para. 81 of the *Chamberlain Commission Report*, Cmd. 7236 of 1914, where it is said that private Indian investments in sterling securities would act as a reserve to support exchange.

channels, when the mints were closed; and that, in consequence, hoarding was once again largely resorted to, "indicating a greater and not unnatural desire for solid security than for profitable returns on investments in a currency medium which did not provide the kind of security the people clearly preferred." And Mr Hartley Withers had told us that the tendency to hoard gold is not absent even in England, and that "this prejudice in favour of gold is so ingrained that any attempt to try to hasten the process by which substitutes for gold are used, these substitutes being mere tokens issued by a Government with no promise to pay gold behind them, might have disastrous effects."[1] The reason for the huge absorption of silver, in 1916–1919, however, was purely temporary. The large purchases of silver by the Governments of India, China and also by the European countries for their subsidiary coinage raised the price of silver to unprecedented heights. The rupee no longer remained a token coin, but on the other hand, its bullion value rose above its face value, with the result that Gresham's Law came into operation, and large amounts disappeared from circulation. Again, the rise of prices necessitated that more money than was usual should be sent out to finance the export trade. The ryots obtained the benefit of the higher prices, but the money did not come back into circulation, since, on account of the rise in prices of the imports as well, they were not willing to buy the imported goods at the new prices, but kept their money instead.

Various estimates have been made of the amount of the hoarded wealth of India,[2] but, in view of their highly conjectural nature, it is perhaps not wise to give further currency to them. Some indication as to the amount available for hoarding is afforded by the statistics showing the actual quantities of net imports of gold and silver from 1873 to 1919, published in the Government blue books.[3] From 1909–1910 to 1919–1920, India's net importation of gold was over 34,922,584 ounces, and of silver, over 899,698,141 ounces. The value of the net imports of

[1] Withers, *The Business of Finance*, p. 61.

[2] Prof. Kale says it is estimated at between 5 and 8 crores. See his *Indian Economics*, 1917 edition, p. 96.

[3] *Vide Statistics of British India*, Vol. II, Financial, Publication No. 1624 of the Department of Statistics, 1922, pp. 17, also 15 and 16.

gold coin and bullion and of silver in these years was as follows:—

Year	*Gold* Rs.	*Silver* Rs.	*Percentage of import of treasure to total imports*
1909–10 ...	216,795,000	94,449,000	19
1910–11 ...	239,786,000	86,680,000	19
1911–12 ...	377,598,000	53,371,000	22
1912–13 ...	340,012,000	171,988,000	22
1913–14 ...	233,238,000	130,329,000	15
1914–15 ...	76,474,000	88,715,000	10
1915–16 ...	*11,091,000	48,296,000	2
1916–17 ...	132,354,000	188,001,000	16
1917–18 ...	251,786,000	190,418,000	20
1918–19 ...	*55,638,000	679,190,000	24

The imports of gold for the five years ending March 31st, 1914, were the largest in modern times, her average yearly imports during this period coming up to about £20,000,000 or approximately 20% of the world's production. It must, however, be borne in mind that all this vast amount does not disappear in the form of hoards. There are still vast areas in the country to be covered by the circulating media, which has not yet percolated to any degree in many regions; and if the imports of gold came to 20% of the world's production, that did not indicate that India was having anything grossly disproportionate to her natural needs, since the population of the country was then about 19% of the total population of the world. The normal demands of the country for the industrial arts and for the satisfaction of the social customs of the people are estimated to have taken up, in pre-war times, about 10 millions sterling annually. Mr W. T. Layton says: "Large quantities (of gold) are used by industries of various kinds—the proportion which finds its way into the arts, as compared with the amount used as currency, being dependent on the extent of the demand for gold as material at the current value of gold. It is difficult to ascertain how much of the world's supply is used in industry, for gold is continually transferred from one employment to another. But a recent estimate by the Master of the United States' Mint shows that in 1907 the new material used for industrial purposes throughout

the world amounted to about one-third of the world's production in that year. But this estimate has very little basis, and it is largely a matter of conjecture how far the enormous increase in the world's gold supply has had the effect of stimulating gold-using industries."[1] Going by the estimates for what they are worth, we find that the United States were recently reported to be absorbing a million sterling in gold per month for industrial purposes, and that, in England, one of the most flourishing trades during the War was that in cheap jewellery, in which form the working classes invested a substantial proportion of their increased earnings. Under these circumstances, to quote the words of Sir Stanley Reed, " it induces a sense of angry injustice to find that the Indian demand for the precious metals for precisely the same purposes is perverted into senseless hoarding, especially when their history and conditions would justify a far larger gold absorption than the Western nations, with their general literacy and highly-organised credit systems, can claim."[2]

There is, therefore, reason to think that the hoarded wealth of India has generally been exaggerated. In this connection, the opinion of the Bengal National Chamber of Commerce may be referred to. So far as the information of the Chamber goes, the ryots in Bengal at least have absolutely no hoard; and whatever silver and gold ornaments they have are not worth taking notice of. The middle classes generally deposit their savings in Post Office Savings Banks, but the ladies of their families have some silver and gold ornaments. Wealthy people deposit their money in the banks, and their female members have, no doubt, ornaments made of gold or gold and precious stones. If there had been a hoard, Government would not have to provide money to the ryots on the first sign of famine in order to keep them alive. The Chamber also considers that a large part of the favourable trade balances shown in the statistical returns does not really ever penetrate to the people at all.[3]

Whatever may be the amount that is now lying accumulated in unprofitable hoards, the existence of a properly-

[1] Quoted at pp. 102–3, Datta's *Report on the Enquiry into the Rise of Prices in India*, 1914.

[2] Appendix XXII to the *Report of the Babington-Smith Committee*, Cmd. 529 of 1920, p. 130.

[3] Cmd. 529 of 1920, p. 78.

developed banking system, with numerous branches in the countryside within touch of its possible customers, might be supposed to be able to attract to itself a considerable share of this idle capital. But up to the present time, India has not had any adequate banking facilities. A few figures will explain the position. India has an area of 1,802,657 square miles, and a population of 319 millions, of whom only 10·2 per cent. live in towns of 5,000, or over, inhabitants. According to the census of 1911, there were 2,253 such towns in the country. Yet, in 1921, only 207 of these towns were served by the banking systems of the country, while the number of banking offices was only 598.[1] The United Kingdom, with a population of 48 millions (1911), had 9,138 banking offices in 1917, and Canada, with a population of 8,460,000, had about 4,000 banks the same year. The percentages of literacy are also relevant in this connection, inasmuch as confidence is the first condition of successful banking, and mutual distrust is the characteristic of all illiterate races. In India, 94 per cent. of the population are unable to read or write a letter in their own script, as compared with 1·6% in Scotland, 1·8% in England and Wales, 7·7% in the U.S.A. and 17·4% in Ireland.[2]

The organised banking systems of India may be grouped under five classes: the Imperial Bank of India, the Exchange banks, the Indian Joint-stock banks, the Post Office Savings Banks, and the Co-operative banks.

i. For the purposes of the present study, it is not necessary to go into the history of the Presidency Banks, which were amalgamated on the 27th of January, 1921, into the Imperial Bank of India.[3] In view of the paucity of banks in India, one of the stipulations made by the Secretary of State in sanctioning the Imperial Bank scheme was that, within five years of its starting, the new bank should open one hundred new branches, of which the Government of India may determine the location of one in four. Prior to the date of amalgamation, the branches and agencies of the three

[1] See Appendix I, *Statistical Tables Relating to Banks in India*, 1921.

[2] Statistics of 1911.

[3] *Vide* Act XLVII of 1920. Mr. James Brunyate's *An Account of the Presidency Banks* gives an account of their early history; while Mr H. F. Howard's article on the Imperial Bank of India in the *Economic Journal* of June, 1921, gives a résumé of the events that led to its formation. See also Mr Findlay Shirra's *Indian Finance and Banking*.

Presidency Banks numbered only 69, including the Colombo branch of the Bank of Madras. Between the 27th of January, 1921, and the 31st of March, 1924, 64 new branches have been opened,[1] the rate of progress in this direction being held in check by the difficulty of getting suitable housing accommodation, and by the paucity of trained men with whom to staff the new branches. A notable feature of the present policy of the Imperial Bank is the encouragement it gives to Indian youths desiring to take up positions in its offices. The following Table indicates the growth of private (*i.e.*, omitting Government) deposits in the three Presidency Banks, and, from 1921, in the Imperial Bank.

31st December,	1880	...	847 lakhs of rupees
,,	1890	...	1,475 ,,
,,	1900	...	1,288 ,,
,,	1910	...	3,234 ,,
,,	1913	...	3,649 ,,
,,	1914	...	4,004 ,,
,,	1915	...	3,861 ,,
,,	1916	...	4,471 ,,
,,	1917	...	6,772 ,,
,,	1918	...	5,098 ,,
,,	1919	...	6,821 ,,
,,	1920	...	7,802 ,,
,,	1921	...	6,578 ,,
,,	1922	...	5,700 ,,

ii. Next to the Imperial Bank come the several Exchange Banks, whose activities are mainly confined to the financing of foreign trade at the sea-port towns. The aggregate paid-up capital and reserves of the 18 Exchange banks doing business in India in 1922 amounted to over 112 millions sterling, while their cash balances in India only were about £16 millions. The deposits in this class of banks rose from £31,035,000 in 1913 to £61,856,000 in 1918, and in 1922 stood at £73,384,000. But such deposits are almost entirely collected at the seaports, mainly at Calcutta and Bombay, and their growth is therefore not very material to the present enquiry.[2]

iii. The Government Blue Book on Banking deals with

[1] *Report of the Operations of the Currency Department*, 1922, p. 29.

[2] For further details, see *Statistical Tables Relating to Banks in India*, 1922 (Calcutta Govt. Press, 1924).

68 Indian joint stock banks. These banks have over 300 branches and agencies scattered chiefly throughout the north-west of India, especially in the Punjab and the United Provinces. Many of these, however, are small concerns, 41 of the 68 having a paid-up capital and reserve of less than five lakhs of rupees each. In the few years previous to 1913, there was a remarkable expansion of joint stock banking in North India, particularly in the Punjab, where, owing to the opening of the canal colonies and growth of the export trade in wheat, there was a good deal of accumulated wealth. Several of these new banks were doubtful concerns, controlled by inefficient and short-sighted financiers, but their deposits grew to such an extent that in 1913 it evoked a serious warning from Mr J. M. Keynes. In his *Indian Currency and Finance*[1] he wrote: "As late as 1900, these banks were comparatively insignificant. Since that time, they have succeeded in attracting so large a volume of deposits as to make them an important part of the banking system of the country. Only six of them date back long enough to remember any real financial crisis in India (for the depression of 1907–8 was not accompanied by the symptoms of financial crisis). Growing up in smooth times, they have thought more of attracting deposits than of retaining cash reserves; and in 1910 we find 16 banks with deposits of £17,000,000 and cash reserves of not quite 11%. Even of these reserves, the greater part is probably held by the older and more established of the banks belonging to this class. In the case of the smaller banks, dealing, as they are, with clients to whom banking is a new thing, and in a country where hoarding is still dominant, the cash balances seem, from the available indications, to be hopelessly inadequate; and it is hard to doubt that in the next bad times they will go down like ninepins. If such a catastrophe occurs, the damage inflicted on India will be far greater than the direct loss falling on the depositors. The growth of banking habits in India is, of course, of the utmost importance to the country's economic development. A startling series of failures will do much to retard it." These words proved prophetic, and in 1913–14, nearly sixty banks, with a total paid-up capital of nearly 144 lakhs of rupees, came to grief. In spite of the check which the spread of the banking habit thus experienced, the

[1] pp. 224–7.

deposit amounts have shown a steady increase since 1915. The relevant figures are given below :—

Date	*Deposits (in lakhs)*
	Rs.
31st December, 1880 ...	63
,, 1890 ...	271
,, 1900 ...	807
,, 1912 ...	2,726
,, 1913 ...	2,410
,, 1914 ...	1,837
,, 1915 ...	1,879
,, 1916 ...	2,572
,, 1917 ...	3,216
,, 1918 ...	4,215
,, 1919 ...	6,128
,, 1920 ...	7,348
,, 1921 ...	8,016
,, 1922 ...	6,502

The rise in the total deposits in all three classes of banks from 1912 to 1921 was by 135% ; and of these deposits, the Imperial Bank had 32%, the Exchange banks 33%, and the Indian Joint stock banks 35%. (In the case of the Exchange banks, only the deposits in India are considered.) Cash balances at the end of 1921 were 29% of the liabilities on deposits in the case of the Imperial Bank, 28% in the case of the Exchange banks doing a considerable portion of their trade in India, and 43% in the case of those doing a major portion of their business abroad. The percentage in the case of the Indian joint stock banks was 20% in the case of the larger banks with a capital and reserve of five lakhs and over, and 13% only in the case of the smaller banks. Statistics showing the actual number of depositors in these three classes of banks are not available.

iv. An even more reliable indication of the growth of the banking habit than the deposits in the joint stock banks is the growth of deposits of the Post Office Savings Banks. The quinquennial average in 1882–3 to 1886–7 of the number of depositors in these banks was 196,000, and of the balance of deposits (inclusive of interest) Rs. 43,377,000. During the succeeding years, there was a very considerable increase, although the Government took steps to prevent it from becoming inconveniently rapid. For this purpose, in 1889–90,

the maximum amount receivable was reduced from Rs.3, 000 to Rs. 2,000, and in 1894–95, the rate of interest was reduced from three and three-fourths per cent. to three and one-eighth per cent. in correspondence with the reduction in the rate of interest on Government securities. Yet, in 1889–1900 the number of depositors had increased to 786,000 and the balance of deposits to Rs. 96,464,000. Thence-forward, both the number of depositors and the amount deposited increased steadily up to 1913–14, when the former figure stood at 1,639,000 and the amount deposited had risen to Rs. 231,675,000. On the 1st April, 1914, the maximum amount receivable on deposit was raised to Rs. 5,000, but the outbreak of the War prevented the increase that would otherwise have followed this alteration. In 1914–15 the balance of deposits fell to Rs. 148,926,000, but the withdrawal tendency was soon arrested, and in 1919–20, there were as depositors 1,760,000 persons, and the balance of deposits with interest was Rs. 213,485,000. The average balance per depositor was Rs. 123 in 1899–1900, Rs. 127 in 1904–05, Rs. 91 in 1914–15 and Rs. 121 in 1919–20.

v. The development of co-operative societies, with their arrangements for taking deposits from members, is also having its effect on the mental attitude of the people. The movement, which was started in India only in 1904, is yet in its infancy; and the figures that follow are important, not as representing any marvellous achievement, but as indicative of the scope that co-operation offers for attracting the idle hoard of the peasant and making it available for productive purposes.

	average of 4 yrs. 1906-7 to 09-10	average of 5 yrs. 1910-11 to 14-15	1915-16	1916-17	1917-18	1918-19	1919-20
No. of members of primary socs.	161,910	548,253	865,053	960,960	1,617,764	1,235,891	1,521,148
Loans and deposits from members, in thousands of rupeees	1,412	8,828	6,367	7,901	8,941	10·895	13,702
Total working capital, in thousands of rupees	6,812	54,842	103, 267	122,292	144,094	175,514	214,071

The above figures, which show the amount of deposits in all the five kinds of banks we have considered, are in some degree misleading. In the first place, it is necessary to remember that an increase in banking deposits, or in the number of cheques passing through the clearing house, does

not necessarily connote a corresponding increase in banking habits. The financial policy of the period 1914–1918, the expansion of the currency note circulation and the creation of credit, have led to an increase of the volume of money in the principal money markets of India. And not only has the volume of money increased, but also its velocity. "Nothing is more remarkable during the past few years than the way in which the unprecedentedly large Government disbursements have returned to the banks in the principal money markets, there to be caught again in the wheel of credit, with the consequence that the enormous seasonal fluctuations of money hitherto characteristic of Indian money markets (money unobtainable at 9% or over in the busy season, and unlendable at 3% in the slack season) have to a large extent been flattened out." But this activity has been mainly confined to the larger business centres of the country, and has left the bulk of the people unaffected; so that it would not be safe to infer from the increase of deposits that the people at large are increasingly taking to the banking habit. A second point to bear in mind in drawing any conclusions from the available banking figures is that they do not by any means correctly indicate the entire banking position in the country, inasmuch as they leave out of account the indigenous banking system, under which the Shroffs, Mahajans and Chetties in the course of their business of financing the internal trade of the country receive deposits from their clients. The depositors in such cases do not usually receive any cheque book, but place their money for a certain fixed term, at the end of which they either renew the period or else take payment together with the interest agreed upon. The amounts thus lodged with the native bankers must be in the aggregate considerable, though there are absolutely no means of ascertaining how much they come to, since the bankers themselves are most reluctant to furnish the necessary information in the fear that such information would be used against them for income tax purposes.

In spite of these limitations to the inferences to be drawn from banking statistics, it is fairly clear that, the inadequate development of the banking system notwithstanding, an increasing flow of deposits is being attracted, a considerable part of which ought to be available for investment in indus-

tries. How far an extension of banking facilities will draw out the money now lying idle it is difficult to judge with any degree of accuracy; but that the response will materially alter the present situation, there appears to be no room to doubt. The rise of prices of agricultural produce in recent times has brought about a growth in savings, a large part of which would find their way into banks, if they could get into touch with the people. A witness before the Babington-Smith Committee has thus summarised the situation: "Where a man had Rs. 50 before, he has Rs. 500 now. It was quite easy for him to keep his Rs. 50 in his house, but it is very difficult for him to keep his Rs. 500 in the same conditions. I believe that there is scope for an extension of banking facilities far beyond what even the most optimistic of us imagine. . . . The Chief Minister of one of the important cotton states in India told me he could take me in his small capital town into a score of houses, in not one of which would there be less than two thousand to three thousand coined rupees. There is in that town absolutely no bank, no credit institution of any kind. . . . In a single cotton district in the Bombay Presidency in 1917 an additional four crores of rupees was moved in in order to finance the cotton crops, and in that district there was no branch of a bank. Much of this large mass of inert currency must come out if proper banking facilities are given for its deposit."[1]

If the idle capital of India is concentrated and mobilised in the manner here contemplated, does it follow that it will therefore become available for investment in industrial enterprises? It will increase the currency in circulation, and the banks will have more money than at present to loan out. But that in itself will not lead to a direct participation of the people in industrial concerns. The conservatism of Indian capital, its preference for safety rather than for profits, have often come in for comment. "Indian capital," said Sir Rajendranath Mukerjee, in the course of his Presidential Address to the Indian Industrial Conference of 1910, "is proverbially shy and unenterprising, but this I ascribe largely to a want of industrial and commercial knowledge on the part of Indian capitalists, and their consequent failure to realise the potentialities of the various schemes

[1] Cmd. 528 of 1920, Q. 4217.

placed before them, coupled with a disinclination to depart from those time-honoured methods of investing and lending money, which have been in force for many centuries and, in many instances, bring in a return which can only be considered as usury. India, generally speaking, is a poor country; that is to say, the majority of the population are poor. But there is wealth in India, and the possessors of it could, with but a fractional part of their amassed wealth, not only develop many of the industries that are dormant to-day, but make India industrially equal to any other country in the world." Habit plays a large part in the psychology of the investor, and in the same way as the Englishman prefers to invest abroad, and the Frenchman to invest in his Government loans, the Indian capitalist prefers to follow his ancestral tradition of rural trade and the financing of agriculture, where the profits are large and certain, and to leave industries to be taken up by foreigners, or else to remain undeveloped. And he is not to blame: modern industries require technical knowledge, which he does not possess; and the prospects of profit in a new concern always seem doubtful. When an industry has already established itself as a certain source of profit, then money is sure to flow in in abundance, and in many cases to such an extent as to seriously depress the industry. In my own province, tile factories in recent times have proved commercially successful; the profits secured by the pioneers excited the cupidity of others less venturesome but not less ready to follow a lead, and to-day there are many tile companies either already floated or in the process of flotation, and there is a general fear, not unjustified by the present position of the tile industry of the country, that a period of depression is coming on. The cotton mill industry is also a case in point; but here the market is so large that, for a long time to come, there is no reason to fear that fresh accretions of capital may lead to over-production and glut. The few major industries of the country have profited by the conservatism of the investor; but too close an adherence to this policy of abundant caution has led to the confinement of industry within narrow and restricted bounds, and various important minor industries with rich and extensive prospects before them, the establishment of which, in some cases, is vitally necessary to make India a self-contained economic unit, have been

grossly neglected. It has in particular led to the present helpless position of the small entrepreneur, who represents the most numerous class of manufacturing producers in the country, and driven h'm into the toils of the usurious Bania.[1]

It is on account of this characteristic of the Indian investor that foreign capital has come to dominate the industrial situation in the country. The total amount of capital invested in India in 1917–18 was estimated approximately at £570,000,000, out of which 81% represented capital outlay, debts and loans, and 19% the paid-up capital of joint stock companies. The capital invested in industries is confined mainly to the cotton, jute and woollen mills and to mining, and covers 6% of the total.[2] Of the total capital investment, by far the greater part represents British capital. No accurate information relating to foreign capital in India is available, though various estimates have often been made. In 1909 it was calculated that British capital in India was in the neighbourhood of £470,000,000.[3] Sir George Paish has discussed the subject at length in two papers read before the Royal Statistical Society[4] in 1909 and 1910, and according to him, India and Ceylon took about £365,399,000, or more than one-tenth of Great Britain's investments abroad. Yet another estimate is that of Mr H. F. Howard,[5] who puts India's share at £450,000,000. The principal heads of investment, according to Paish and Howard, are set out in tabular form below. In his oral evidence before the Committee on Indian Exchange and Currency of 1919, the late Sir Lionel Abraham mentioned £400,000,000 as the probable figure, of which sterling loans came to about £160,000,000, the capital value of railway annuities to about £70,000,000, and the rest was taken up by the capital of Indian railway companies as well as their debenture stock and bonds, and by the capital of the various British companies, principally tea and jute, working in India.[6] The whole enquiry is beset with great uncertainty, but it is clear that the total volume

[1] See Cmd. 51 of 1919, pp. 46–7, 176 *et seq.*, etc.
[2] G. Findlay Shirras's *Indian Finance and Banking*, 1919, p. 392.
[3] See the article "Our Investments Abroad," pp. 375–7, *Economist*, 20th February, 1909.
[4] *Vide* J.R.S.S. Nos. LXXII (1909) and LXXIV (1911).
[5] Chapter V, *India and the Gold Standard*, 1911.
[6] *Vide* Cmd. 528 of 1920, p. 292, Qs. 5341 and 5342.

of foreign capital in India is very great, and that a considerable part of it is invested in Indian industries.[1]

FOREIGN INVESTMENTS IN INDIA

Sir George Paish (India and Ceylon together) (in thousands)	£	Mr F. Howard (India alone) (in millions)	£
Government	178,995	I. Government loans :—	
Municipal	3,522	India sterling stock ...	170
Railways	136,519	Enfaced rupee paper held in London	9
Banks	3,400	Approx. quantity of rupee paper held in India by Europeans	31
Commercial and Industrial	2,467	II. Railway Annuities ...	73
Electric lighting and power	1,763	III. Loans of Local Bodies, taking the foreign share at less than $\frac{3}{10}$ of the whole	10
Financial, land, and investment	1,853	IV. Companies registered in India, taking the foreign share at less than $\frac{1}{2}$ of the whole	20
Gas and water	659	V. Companies with sterling capital carrying on business more or less exclusively in India :—	
Iron, coal and steel ...	803	Railway Companies ...	77
Mines	3,531	Tea companies ...	13·5
Motor traction and manufacturing	90	Other companies ...	20·5
Oil	3,184	VI. Banking, loan, insurance, etc., say	26
Rubber	4,610		
Tea and coffee	19,644		
Telegraphs and telephones	43		
Tramways	4,136		
Total ...	£365,399,000		£450,000,000

The large share taken by British capital in the economic development of India has given rise to serious misgivings

[1] For an estimate of India's net expenditure in interest for overseas capital invested, see *International Balance of Payments*, Vol. I, 1910–23, p. 20, League of Nations' Publication. India, in the year ended March 31st, 1923, is estimated to have remitted over 26 crores of rupees, or, say, £17,500,000 for interest and dividends abroad. Shipping, transport, insurance, banking and other like charges involved India in a payment on balance of some £23,000,000 in addition. According to the Midland Bank's capital issue figures, India borrowed nearly £38,000,000 in the year to March, 31st, 1923 (but all this was not used for investment purposes).

in the minds of Indian publicists. At the end of 1919–20, the statistics available show that there were 634 companies incorporated outside India carrying on their work in the country. Their paid-up capital amounted to £420,633,000, while the debentures issued came to £102,730,000.[1] Of this amount, railways represented £35,444,000 of the paid-up capital and £41,907,000 of debentures. The sterling capital in the tea industry came to £17,990,000; in jute mills to £2,394,000; and in the South Indian gold mines to £2,085,000. In determining the effects of foreign capital on Indian economic development, it is necessary to make a distinction between capital borrowed by Indians, and capital that is employed in India by the foreigner directly. In the former case, the benefits derived by India are obvious. The great sums borrowed from the London money market for railways and irrigation, for example, have been obtained at exceptionally low rates of interest; and the interest charges are now quite negligible when taking into account the remarkable increase in the wealth of the country which these public works have brought about. But when we turn to the industries which have been built up in India by the direct employment of British capital, we come upon a less favourable aspect of the question. It must at once be conceded that but for the direct enterprise of the British capitalist many of the large industries of India—the jute mills, the tea gardens, gold and coal mining, the leather industry—would not have shown such a speedy and marvellous development as they do now. But these very instances stand for what is nowadays called economic penetration; and the only advantage that, in strict monetary measure, India has received from this kind of foreign investment is the wages received by the Indian coolies for their bodily labour.[2] In the mining industries, particularly, the loss India suffers through the foreign exploitation of her mineral resources has provoked serious warnings from both scientists and economists. Sir Thomas Holland once told the Royal Society of Arts that, taking the Indian manganese industry as an example, the whole output of 1892–1911, about 4·5 million tons of high-grade ore, was exported, thus contribut-

[1] See Table 50, *Statistics of British India*, Vol. I, 1922 edition.

[2] *Vide* Kale, *Indian Industrial and Economic Problems*, 2nd edition, p. 156.

ing to the economic development of other countries, while India received as compensation only a small fraction of the market value of the minerals. (In this case, the ore must have brought about 8 millions sterling in the European market, but the Indian Government and the Native States obtained only their royalty of about £56,000, while another portion of the estimated value was spent on labour and transport in India.)[1] So keenly is this loss felt in the country that there are not wanting men who advocate that it is better that no mining be undertaken in India till the indigenous concerns are able to take on the entire work than that the industry should be run as now by foreign capitalists. (Thackersey, Mudholker, etc.)

In thus noticing the evils of the direct application of foreign capital to Indian industries, the valuable lessons that it has taught us should not be overlooked. They have in many instances taken the risks of pioneering new industries, and that in spite of many difficulties, such as those of the climate, the distance and the want of exact knowledge of the country in the earlier periods. The natural disinclination to risk such investments induced by these deterrent circumstances must have been rather increased than diminished by the system of giving a guarantee of interest at a high rate on the large capital of the great railways, since it was a tacit recognition by the Government of the risky nature of private enterprise in India. So long, therefore, as the opportunity was afforded to capitalists to make advantageous investments on a large scale on the security of the State, the inducement to attempt any enterprise without such security must have been greatly diminished.[2] Yet, the British capitalist dared to take the risks, and it is no use to grumble if now he is enjoying the fruit of his labours. If to-day there is a strong volume of opinion in favour of a rapid policy of industrialisation in India, this is in some measure at least due to the object lesson set by the achievements of the British pioneer. Besides, " it is the foreign capitalist who imports into the country the technical knowledge and the organisation which are needed to give an impetus to industrial development. It is to him that we must look largely at first for the introduction of new industries and for instruction in the economies of

[1] *Vide* the *Journal of the Royal Society of Arts*, 1911, pp. 629–52.
[2] *Famine Commission Report*, Vol. I, Cmd. 2591 of 1880, p. 175.

mass production. By admitting foreign capital freely, India admits the most up-to-date methods and the newest ideas; and she benefits by adopting those methods and assimilating those ideas. If she tried to exclude them, the policy of industrialisation which we contemplate could with difficulty be brought to a really successful pitch."[1] The Indian Fiscal Commissioners, therefore, hold that the free utilisation of foreign capital and foreign resources would be an advantage to India. They have not, however, differentiated between the indirect and the direct employment of foreign capital. A fundamental principle of the Indian scheme of industrialisation is that the profits of the industry should as far as possible remain in the country; and this could be accomplished only if, instead of encouraging the direct investment of foreign capital, we adopt a policy of borrowing foreign capital, whenever needed, so that the only external call on the profits will be the charges on account of interest.[2]

We may now consider the attitude of Indian capital towards industries. The growth of the joint stock movement in India furnishes the best criterion for arriving at a judgment on this point. Of the total capital investment in the country in 1917–18, as has been pointed out elsewhere, only 19% represented the paid-up capital of joint stock companies.[3] Nevertheless, the history of the joint stock movement is one of steady progress. In 1895–96, there were only 1,309 companies at work, with an authorised capital of Rs. 416,189,114 and a paid-up capital of Rs. 291,147,434; by the end of 1920, they had increased to 3,668 with an authorised capital of Rs. 8,482,259,476 and a paid-up capital of Rs. 1,232,135,739. The actual progress from year to year is shown in the Table appended elsewhere.[4]

The total paid-up capital invested in banking, loan, investment and trust, *nidhis* and *chit* associations and insurance companies amounted to Rs. 304,242,000, of which 9 per cent. was in companies registered in the Madras Presidency, 45 per cent. in the Bombay Presidency, and 21 per cent. in Bengal. There is a striking contrast between the authorised

[1] *Report of the Indian Fiscal Commission*, Cmd. 1764 of 1922, p. 158.
[2] *Cf.* Dr Slater's remarks at pp. 272–4, the *Asiatic Review*, April, 1923.
[3] For an estimate of capital investments in India, see pp. 851 *et seq.* *Indian Industrial Commission, Evidence*, Vol. II, Cmd. 235 of 1919.
[4] See p. 304.

The statement below shows the distribution of the number of companies and the aggregate capital, both authorised and paid-up, in the principal classes of joint stock enterprise at the end of 1921–22.

Class of Companies	Number	Authorised Capital	Paid-up Capital
	1921–22	1921–22	1921–22
		Rs. (1,000)	Rs. (1,000)
I. Banking, Loan and Insurance—			
Banking	386	1,187,254	131,714
Loan	153	191,451	22,686
Investment and Trust	52	254,871	94,290
Nidhis and chit Associations	237	69,243	23,750
Insurance	88	716,491	31,802
II. Transit and Transport—			
Navigation	35	204,790	42,391
Railways and tramways	49	179,043	151,513
Motor traction, dealing and manufacturing	172	152,468	27,860
Other transit and transport	33	143,963	8,849
III. Trading and Manufacturing—			
Printing, publishing and stationery	237	60,705	13,487
Chemicals and allied trades	142	77,302	21,953
Iron, steel and shipbuilding	60	291,315	42,081
Engineering	103	108,415	40,764
Tanneries and leather trade	54	48,395	12,144
Public Service Companies	43	210,036	73,158
Clay, stone, cement, lime, etc.	122	97,777	32,811
Agencies (including managing agent companies)	108	105,771	32,668
Tobacco (cigars, etc.)	17	83,360	44,830
Soap, candles, etc.	22	29,245	5,654
Other trading and manufacturing	1,154	816,403	289,913

IV.	Mills and Presses—			
	Cotton Mills	286	725,915	357,157
	Jute mills	59	248,546	178,798
	Mills for wool, silk, hemp, etc.	29	70,875	17,598
	Cotton ginning, pressing, baling, etc.	126	37,551	21,278
	Jute presses, etc, ...	20	10,625	7,095
	Rice mills	67	73,518	18,763
	Flour mills	39	18,410	10,120
	Oil mills	65	48,324	15,981
	Other mills and presses	49	42,540	21,403
V.	Tea and other Planting Companies—			
	Tea planting	404	139,499	83,108
	Rubber	33	14,130	6,799
	Other planting companies	82	56,556	8,842
VI.	Mining and Quarrying—			
	Coal mining	273	168,441	100,061
	Gold mining	8	2,987	2,293
	Iron ore	3	109,712	35,413
	Mica	15	5,420	1,948
	Petroleum	17	86,300	20,785
	Other mining and quarrying	70	231,823	156,094
VII.	Estate, land and building	101	241,534	53,665
VIII.	Breweries and distilleries	11	6,488	3,933
IX.	Sugar (including jaggery) manufacture	46	101,233	20,268
X & XI.	Hotels and other companies	119	76,756	19,769
	Total ...	(a) 5,189	(a) 7,545,482	(a) 2,305,489

(a) Includes 10 companies with an authorised capital of Rs. 23,275,000 and paid-up capital of Rs. 10,550,000 at work in the Hyderabad State on 31st March, 1922, but not those for the Indore State from which returns have not been received.

and the paid-up capital of insurance companies. Most of these are the so-called provident or mutual aid societies registered in Bengal, where no less than 45 out of 88 insurance companies were registered.

Transit and transport companies accounted for a paid-up capital of Rs. 230,613,000, of which Rs. 151,513,000, or about 65 per cent., were invested in railways and tramways. Bombay contributed about Rs. 83,943,000, or 55 per cent., and Bengal Rs. 66,730,000, or 44 per cent. of the total capital invested in railways and tramways.

Trading and manufacturing companies accounted for a paid-up capital of Rs. 609,463,000, of which Rs. 73,158,000, or about 12 per cent., were invested in public service companies, Rs. 44,830,000 in tobacco, Rs. 40,764,000 in engineering, and Rs. 42,081,000 in iron, steel and shipbuilding.

Over one-third (Rs. 648,193,000) of the aggregate paid-up capital was invested in mills and presses, chiefly for working or pressing cotton, jute, wool and silk. A great number of mills and presses was registered in Bombay, which appropriated nearly 46 per cent. (Rs. 296,497,000) of the total, most of it being invested in cotton mills and presses. Mills and presses (mainly jute) registered in Bengal had about three-fifths (Rs. 178,798,000) of the capital invested in mills and presses in Bombay.

In tea, coffee, and other plantations, a paid-up capital of Rs. 98,748,000 was invested, and of this amount Rs. 79,145,000 were held in Bengal, the majority of the tea companies owning gardens in north-eastern India being registered in Calcutta.

The capital of mining and quarrying companies was Rs. 316,594,000, of which 32 per cent. (Rs. 102,696,000) was invested in companies registered in Bengal, most of it representing capital invested in coal mines.

In 1921–22, thus, there was an increase in the paid-up capital allotted to the manufacture of cotton, jute, rice, etc., and to banking and loan, tea planting, coal mining and navigation. The increase was also considerable in the capital invested in insurance, estate, land and building, sugar manufacture, jute presses, cotton ginning, pressing, baling, etc., flour, silk, and woollen mills, railways and tramways. In petroleum there was a decrease. In most other directions, it may be noted, there was an augmentation of capital.

It should be noted that the capital dealt with in the foregoing paragraphs represented share capital only, while several companies issued debentures, in addition, the total value of which at the close of the half-year ending June, 1922, amounted to Rs. 140,760,000, and of this amount Rs. 75,675,000 belonged to Bengal, Rs. 55,914,000 to Bombay, Rs. 7,195,000 to the Punjab, Rs. 1,055,000 to Madras, Rs. 691,000 to the United Provinces, and Rs. 87,000 to Assam. The value of cotton mill debentures amounted to Rs. 25,793,000, of jute mill debentures Rs. 28,039,000, and of paper mill debentures Rs. 3,908,000.

Statistics have been collected, so far as possible, regarding companies which have been incorporated elsewhere than in India, chiefly with sterling capital, but which carry on work in India. The total number of such companies working at the end of 1921–22 for which returns are available was 710, and the paid-up capital thereof amounted to £513,144,000, besides £110,478,000, being the amount issued as debentures. Railways represented £35,571,000 of the paid-up capital and £37,325,000 of the debentures. Of the remainder, the sterling share capital invested in the tea industry was £19,756,000 and in jute mills £2,197,000. The goldfields in Southern India are chiefly worked by companies formed in the United Kingdom, the paid-up sterling capital invested therein being £2,161,000. It should, however, be borne in mind that in the case of most of the banking and insurance companies and of some of the navigation and other trading companies incorporated outside India, only a portion, sometimes a very small portion, of the capital shown above is invested in India, as these companies work also in other countries besides India, and information regarding the portion of their capital invested in India is not obtainable.

The year 1919–20 saw a great boom in company promotion, both in new enterprises and in the conversion of established concerns into limited companies. The principal cause for this sudden commercial and industrial activity was the buoyancy of hope induced by the cessation of the unsettled conditions of the war-period, and also by the accumulation of the large profits made during the same period. The practical closing of the foreign markets, either through the shortage in shipping or the prohibition to trade with the enemy countries, gave a powerful stimulus to Indian businesses,

and but for the Indian Companies Restriction Act XII of 1918, the trade boom would have certainly commenced earlier. The repeal of the above Act with effect from the 24th September, 1919, proved the signal for fresh flotations on an unprecedented scale. The following statement shows the trend of company registration in the post-war period:

POST-WAR COMPANY FLOTATIONS

Year	*No. of Companies Regd.*	*Index Number*	*Aggregate Authorised Capital*	*Index Number*	*Average Authorised capital per company*
			Rs.		Rs.
1913–14 ...	356	100	669,153,000	100	1,879,000
1918–19 ...	290	81	212,755,000	32	734,000
1919–20 ...	948	266	2,817,612,000	421	2,972,000
1920–21 ...	1039	292	1,480,370,000	221	1,425,000
1921–22 ...	717	201	808,375,000	121	1,127,000

A noticeable feature in the registration of 1919–20 was a great increase in the average authorised capital of the new companies as compared with that of the older ones. This was due partly to the fall in the purchasing power of the rupee, partly to the ease with which subscriptions were available in the market, and partly also to the feeling that many of the older companies on the register were very much undercapitalised.[1] Among a credulous public who have not yet learnt to distinguish between authorised and paid-up capital, such flotations are likely to do mischief, especially when engineered by unscrupulous promoters who back out of the concern the moment it is successfully launched, and take no pains to see that it is efficiently managed. Yet, out of the 948 flotations of the year 1919–20, no less than 334 had each an authorised capital of ten lakhs and over.

Describing conditions in India at the close of the War, H.M. Trade Commissioner wrote in 1919: "One of the most encouraging features of the past few years has been the readiness of Indian capital to subscribe to new industrial

[1] On this latter point the present writer made some enquiries, but was informed by the Commercial Intelligence Department of India (*Vide* their letter No. 1367 S.A. dated 15–2–1923) that the information at present available does not furnish sufficient data to determine whether the Indian concerns are under- or over-capitalised.

ventures, provided that there is confidence in the names of the promoters and managing agents. There is at the present moment a decided industrial boom in India. Almost every flotation is heavily oversubscribed, and the shares advance to a substantial premium at once. Not only is this the case with the smaller concerns, but very large amounts are subscribed rapidly. For instance, at a recent meeting of the directors of the largest industrial group in the country, it was decided to increase the capital by issuing nearly five million pounds' worth of preference shares. In a few minutes this sum had been promised by directors sitting round the table, and was subsequently entirely subscribed by Parsee and Indian investors. The Marwari speculator in Calcutta has made very large sums during the last few years, particularly in jute mill shares which rose steadily during the War without a setback. He has therefore gained confidence in ' Industrials.' Unfortunately, however, he is a speculator rather than an investor, and there is some danger that the present industrial boom may end in too great an inflation of prices, with the natural consequence of loss of confidence and a slump, which will damage even those companies which are on the soundest foundations."[1]

The depression that followed the boom saw a drastic weeding out of many of the mushroom companies. The quotations of 1919 and 1920 fell from their absurd levels, (see Table next page), and the liquidations in 1921–22 included 254 joint stock companies with an authorised capital of 2,536 lakhs. No less than 6 crores represented life, fire and marine insurance companies, the striking contrast between the authorised and paid-up capital of which is noticeable from the Table at pp. 286–7 ; and two and a half crores represented navigation companies. These were mostly the boom flotations of Bombay ; the notoriously speculative character of the place led it to contribute 15 out of the 25 crores of authorised capital of the companies which went down in 1921–22. But joint stock companies are not the only business concerns in India ; there are numerous private concerns, and the number of these which failed during the period was considerable. By the middle of 1921, the boom had spent itself out, leaving a slough of depression ; and in

[1] *Report on the Conditions and Prospects of British Trade in India at the Close of the War*, Cmd. 442 of 1919, p. 110.

1921–22, as the figures show, the fresh registrations decreased by about 30% and the authorised capital by about 45% as compared with the previous year.

TABLE SHOWING VARIATIONS IN THE PRICES OF SHARES AND SECURITIES (INDEX NUMBERS.)

Description of Shares	29–7–14	26–3–18	27–3–19	31–3–20	22–3–21
5 Govt. securities ...	100	67	74	62	59
96 Port Trust and Municipal debentures ...	100	84	83	82	80
8 banks	100	111	114	132	116
32 jute mills, ordinary ...	100	467	383	562	372
61 cotton mills, ordinary	100	161	157	388	318*
76 coal companies, ordinary	100	133	157	147	150
85 tea companies, ordinary	100	125	124	135	94
4 flour mills	100	206	238	406	388
1 Tata iron and steel ordinary	100	295	284	207	132

* On April 5th, 1921.

In spite of this temporary setback it may confidently be expected that the habit of investing in industrial undertakings will grow apace, not only because of the spirit of patriotism that is now behind it, but also on account of the additional vigour that has been imparted to the industrial movement by the recommendations of the Indian Industrial and Fiscal Commissions, and the definite acceptance by the Government of the principle of actively stimulating industrial and productive effort of all kinds. The last few years have witnessed an extraordinary outburst of industrial activity, seeking avenues which have heretofore been unexplored. Among the ventures that have already been successfully launched are the iron and steel industries of Kulti, Jamshedpur, Alansol and Manoharpur, the hydro-electric installations of Mysore, Kashmir, and the Western Ghats, and schemes for an extended use of electric power in a number of large towns. The subsidiary industries which are springing up in the iron and coal area of Bengal and Bihar have already been referred to elsewhere; and several other schemes for large-scale production have either been fully worked out and financed, or else are being investigated by powerful interests. The leading mercantile and industrial houses of India whose

principal watchword has been caution in the undertaking of new lines of departure[1] have also been drawn into this vortex of industrial activity, and the success they have achieved as a result of their careful preliminary investigations has encouraged others to similar efforts. The financing of these large concerns, which have at their back financial geniuses in close touch with the home and foreign money market, has not perhaps been a difficult matter. But financial genius is rare in India, and the manager of a smaller firm, requiring, say, additional capital for development, at present occupies a position of peculiar difficulty. And he is the representative of the most numerous class of industrialists in the country.

The existing banking organisation of India is insufficiently developed even for the financing of trade; in financing industry, therefore, where the period of turnover of capital is longer, existing banks are of but little help. In the case of the Presidency Banks, the law prevented them from underwriting industrial capital or from investing in, or lending on the security of, shares in industrial concerns,[2] and from locking up their money in loans or advances for a longer period than six months, and from lending money except on the security of two names. This position is not altered by the Imperial Bank of India Act (47 of 1920), which recognises shares and debentures of companies only as collateral security, and that only under certain conditions, and leaves untouched the other conditions.[3] The Exchange Banks have as much as they can do in the financing of the foreign trade, without devoting their funds to long-term loans in industrial ventures. There remain the Indian joint stock banks, which are fettered by no such restrictions as the Imperial Bank, which may do a great deal to further industrial development. As at present organised, they suffer from grave defects, and a perusal of the Liquidators' reports on the People's Bank, the Indian Specie Bank, the Credit Bank of India, the Industrial Bank and the Hindustan Bank,[4] together with the present proportion of cash balances to deposits (which was

[1] See Cmd. 51 of 1919, p. 13; also Cmd. 442 of 1919

[2] See sections 36 and 37, Presidency Banks (Amendment) Act, I of 1907.

[3] See Schedule to the Act, Parts I and II.

[4] For extracts from these Reports, see Appendix VIII to the Memorandum on Banking submitted to the Indian Industrial Commission, *Evidence*, Vol. V, Cmd. 238 of 1919, pp. 826-7.

only 13% in the case of the banks with less than 5 lakhs of capital and reserves) leaves room for the suspicion that the evils which led to the débâcle of 1914 have not been removed.

The part that a soundly-developed system of banking can play in the industrial development of a country is illustrated by the history and practice of the Industrial Banks of Germany, and in the East, of Japan.[1] The British Joint Stock Banks have not undertaken, and indeed are not fitted, from the nature both of their liabilities and of their management, to undertake, the task which the German banks have shouldered; and banking and industry have not been so closely associated together in England for the reason, among others, that the imperative necessity which has led to such a co-operation in other countries was largely absent in this country. From its very infancy, British industry grew wealthy and powerful, and depended largely on its own resources, to such an extent, indeed, that the export of capital through the principal financial agencies has always been disproportionately large when compared with the amounts invested through the same agencies in British industries. In 1913, the public issues of capital, as shown in the *Times* volume of prospectuses, amounted to over £229,000,000 of which only about £13,500,000 was devoted to British industry; in 1912, according to one estimate, out of £191,000,000 of new issues, only £17,500,000 represented home issues. The financing of British industry has been mainly of a local and private nature, and the great issuing houses of London have been more closely in touch with foreign countries than with the industrial concerns of their own country. The consequence was that it was open to foreign financiers to take up unlimited funds in the London short-loan market and finance the industries of their own or other countries, an advantage of which the German banks made the amplest use. This divorce of English banking from industries is in marked contrast to the practice of German banking. "One difference," said a German bank director to the American Monetary Commission, "between the banks of England and of Germany is that, in England, the primary purpose of the banks seems to be to secure large earnings for their

[1] For an interesting comparison between the English and German banking systems in relation to trade and industry see the *Quarterly Review*, October, 1916, pp. 532 *et seq.*

shareholders. In Germany, our banks are largely responsible for the Empire, having fostered and built up its industries." The English view-point is summed up in a dictum of the late Mr Pownall (President of the Institute of Bankers) that "a banker ought never to be a partner." That is exactly what the German banker is. In 1911, we are told, the Deutsche Bank was represented on 134 different Directorates, managing, to name a few of their activities, mining, smelting and salt works, metal working companies, stone and earth works, engineering and machine companies, chemical works, oil and gas companies, textile and paper mills, rubber factories, waterworks, building societies, food-producing companies, and transportation and public utility companies. The Disconto Bank was similarly represented on 114 boards, and the Dresdner on 112. Their all-pervading influence is thus described by Mr W. R. Lawson: "The men who direct the German banks are all the time in close touch with the iron and coal industries, the manufacturing and trading classes, and the ocean steam lines. With them, finance, industry and transportation go hand in hand, and are regarded as integral parts of the same problem. . . . The German banker has a finger in everything that is going on. He is represented directly or indirectly on the boards of manufacturing, trading, shipping and mining companies. He has his eye on all the staple markets. The Bourse is an essential part of his domain. Underwriting is one of his recognised functions, and Germany is thereby spared many of the scandals of British company-promoting."[1]

The lessons of German industrial banking are of special interest to India, inasmuch as Germany at the commencement of her industrial career found herself faced with conditions almost identical with those India is facing to-day. When the importance of industrialisation was recognised by Germany, other countries, especially Great Britain, had already made remarkable progress with their industries. She was poor, and a developed banking system was practically non-existent. It was, therefore, imperative that all the capital available, whatever it was, should be concentrated and mobilised for ready use. In order to grow in the face of foreign competition, Germany availed herself of every weapon she could think of—tariffs, Government aid by

[1] *Bankers' Magazine*, July, 1906.

bounties, favourable export rates in transportation and, lastly, the organised aid of banking. Further, German banking and industry started practically simultaneously, and grew up together in close co-operation. Even from the very starting of the Grossbanken in the middle of the last century, they have adopted the active promotion of industrial enterprises as one of their main functions, and the reason for this intimate partnership was brought about by the prevailing economic conditions of those days. Similar historical environments in Japan account for the way in which banking and industry have grown up in close connection in that country. Special banks of deposit, not directly participating in industry, were not possible at this period, owing to the scanty means of the population. Unlike the industries of Great Britain, the industries of these countries were too poor to maintain and develop themselves, and the banks were, therefore, the only reservoirs from which the capital and credit needed for their building up could be drawn. The strength to which the eight Grossbanken attained at the outbreak of the War may be measured by the fact that, with their associated banks (but excluding the Reichsbank) they possessed a total capital of no less than £132,000,000, while the whole banking capital of the United Kingdom (excluding that of the Bank of England) was only £120,000,000, and that of India (including the total capital and reserves of the Exchange banks, as their Indian portion cannot be estimated) only £460,000.

It is not possible within the limits we have set to ourselves to attempt a description of the methods by which the German banks assist industry. But one aspect of the relations between banking and industry deserves special consideration. Besides underwriting issues and placing loans, they also float new companies, either by themselves or by inviting subscriptions. Issues which have behind them the backing of such powerful financial interests are more readily taken up in the market than otherwise, and new enterprises are thus launched under favourable auspices. They also regulate the price of shares in concerns in which they are interested by buying them when they are unduly at a discount, or selling them when they appear unduly high. Again, the elimination of the private company promoter, to whom a successful flotation is of more importance than a sound

venture, has been one of the merits of the German system of financing industry. "Company promoters do not exist in Germany, and in England they have, as a body, done great harm by their action as intermediaries in converting private concerns into public companies. The Company Promoter exists to induce the public to take shares in a private concern which he is turning into a limited liability company, and, as a rule, his personal interest is to inflate the issued capital of the new concern to his own personal profit, without regard to its future welfare. This is a serious public evil, and demands a remedy. Shall we prohibit the company promoter and, in any substituted system, provide that flotations of new companies shall be made only by responsible bodies who have an interest in the continued prosperity of the companies they put on the market?"[1] Under the German system, a body of industrial experts and highly-trained business men has taken over the functions of the private promoter—people who are able to give the most intelligent examination to all schemes put before them, and who insist, before they accept any new proposition, that they shall have a controlling interest in the new flotation, so that they may be enabled to see that, besides the supply of capital resources, the new company also gets skilled technical and scientific assistance and proper business management. The banks as issuing houses are, therefore, able to accept responsibility to the subscribing public as to the future of their concerns. The German banking system has been the general staff of German industry and, had it not been for this combination between the financier and the captain of industry, Germany would not have attained her high level of business efficiency and her successful industrial leadership.

The methods of the Japanese banking system also should serve as an object lesson to India. Like the Germans, the Japanese also borrowed the idea from the Crédit Mobilier of Paris. We may take the Nippon Kogyo Ginko, founded in the early years of the present century, as a specimen. The bank is under the control of the Government, which holds a considerable portion of the share capital and appoints the directors; and its business includes, among other things, advances on the security of shares of companies; subscriptions

[1] Inaugural Address of Mr. G. H. Pownall to the Institute of Bankers, November 8th, 1916.

for, or taking up, debentures of companies; the business of a trust company; advances or loans on the mortgage of railways, factories and mines; and the purchase of companies' debentures and shares, etc., with money lying idle in the course of business. The by-laws of this bank, which require Government sanction, forbid the loan of an amount exceeding half of its paid-up capital on urban land or industrial buildings; its debentures may not exceed the value of certain securities held by it, or be more than ten times its paid-up capital; and the bank must not give loans for longer periods than five years. This bank, it may be mentioned, is the youngest of the six special banks which figure so largely in the recent economic development of the country. There is thus in Japan a considerable degree of State support and control in the case of banks which are designed to assist commerce and industry.

The place of industrial banks in industry and their sphere of usefulness have attracted considerable attention in India in recent times,[1] especially because it is being realised that "the difficulty in raising capital for industries is mainly the measure, even in India, not of the insufficiency or inaccessibility of money, but of the opinion which its possessors hold of the industrial propositions put before them." Along with the supply of financial assistance, therefore, must be called into being an agency which can see to its proper application. The need can be met by a judicious adaptation of the German system. It is indeed true that there were in 1921 eight principal industrial banks working in India. These were (1) the Calcutta Industrial Bank,[2] (2) the Industrial Bank of Western India, (3) Karnani Industrial Bank, (4) the Mysore Industrial Bank, (5) Tata Industrial Bank,[3] (6) the Indian Industrial Bank, (7) the Industrial and Exchange Bank of India, and (8) the Simla Banking and Industrial Company, with a total authorised capital of Rs. 4,075 lakhs and a paid-up capital of Rs. 421 lakhs; but, even if all their capital resources are devoted to the financing of industry, it would not meet more than a small fraction of the day's requirements. As a matter of fact, however, these banks

[1] See the *Times of India*, "Industrial Banks—Their Place in Industry and Their Sphere of Usefulness," 1st and 3rd December, 1917.

[2] Went into liquidation in 1923.

[3] The Tata Industrial Bank has since sought amalgamation with the Central Bank of India, as a consequence of the crisis brought about by the failure of the Alliance Bank of Simla.

combine ordinary banking, and in some cases exchange business with proper industrial banking—a mixing up of functions which portends calamities. The German banks have been criticised for their permanent assumption of large risks on the basis of their deposits. Dr Riesser has pointed out how, in spite of the flourishing conditions of German industry, the proportion of liquid assets to liabilities was constantly dwindling, until, on receiving a warning from the Government (so it is believed) they began a slow reversion of policy by which, where the deposit business came to the front, the flotation and issue business was slowly relegated to the background[1] and, in order to avoid direct participation, resort was had to the creation of trust and finance companies. It was the transgression of this fundamental principle of banking policy that was responsible for the Indian failures of 1914; and industrial banks would therefore do well to use only share and debenture capital and long-term loans for industrial finance, and not to tie up short-term deposits in that part of their business.

In considering the nature of the industrial banks that may be profitably started in India, the Industrial Commission says: "What is required, then, is a bank that can keep in touch with small industrialists, is able to estimate the prospects of a fairly extensive range of industries, and possesses funds which it can afford to lock up for a time in securities not readily realisable. A bank that is so equipped will often be able, even if it has in the last resort to take over a factory, to avoid much of the loss which such a course would usually entail on an ordinary bank. It is clear that a limit will have to be placed on the amount advanced on security of this kind, and this should be fixed with special care in the case of money advanced towards initial capital. Plant has, in some cases, a sale value which can be estimated with a considerable degree of certainty; it then constitutes a fairly liquid asset. We are of opinion, therefore, that an industrial bank should possess a paid-up share or debenture capital high in proportion to its total business; it should observe the usual precautions in not allowing too large a share of its funds to be used for the benefit of any single interest or group of financially interdependent interests; its loans on plant, buildings and land should be carefully

[1] Riesser's *Die Deutschen Grossbanken und ihre Konzentration*, quoted in the *Round Table*, December, 1916.

considered and should be limited in each case; the larger proportion of its industrial business should be confined to the provision of working capital; it should provide initial capital with caution, at any rate during its opening years, and should not, itself, at first attempt to float companies, though it may advise and assist in other ways persons who propose to do so. The main factor of safety in an industrial bank is the judicious limitation of each class of business to its proper proportions."[1]

In the absence of the specialised business opinion and expert advice which, as we have seen, are of the very essence of a successful system of industrial banking, it is to be feared that India will have to wait for some time before the problem of industrial finance may be left to such banks. Meanwhile, what provision is there for the current financing of industry? It is possible that the low productive capacity and the consequent poverty of the average Indian do not leave much scope for saving and investment. It has also been brought out in the course of this discussion that the existence of a hoard properly so called, which can under any imaginable circumstances be utilised for industrial investment, is highly conjectural; taking it at its highest estimate, it does not exceed Rs. 25 per head of population, and the gold and silver trinkets, in which form the hoard is usually kept, are often employed as security to raise money for current expenses. In so far, therefore, as these fulfil a function, they cannot be considered idle capital. Again, it must be remembered that, whatever savings consequent on the rise of agricultural prices in recent times the peasant has been able to make, have either passed out of his hands through the exigencies of social and customary ceremonies or other forms of wasteful expenditure, or else have been absorbed imperceptibly in the raising of the standard of living. In these circumstances, and in view of the heavy load of indebtedness that the peasant is admittedly labouring under, too much cannot be built upon the possibility of evoking any considerable response from the masses of the people to an immediate demand for any form of capital. In this view, it is possible, again, to exaggerate the significance of the readiness with which Government loans and company flotations were taken up in the years immediately following the signing of the Peace Treaty. This liberation of capital

[1] Cmd. 51 of 1919, p. 181.

has been due to circumstances which, it may be contended, have worked themselves out—the exceptional position of advantage which India enjoyed during the War, the enormous inflation of currency which characterised the war-period, as well as the response to a new stimulus, political as well as economic, which imparted to the current resources of the people a new mobility, have all contributed, to a more or less extent, to the phenomenon already commented upon.

Indian industries, therefore, will have to look to other sources than the farmer for their current supply of capital. The voluminous evidence recorded by the Industrial Commission[1] emphasises the only too well-known fact that the main sources of indigenous capital are the commercial and professional middle classes, the Indian money-lenders and the larger landed proprietors.[2] The problem of current finance is, therefore, to some extent simplified, in so far as the classes of the people who can afford to lead the new industrial development are already in touch with the technique of industrial finance. A word must, however, be said in regard to the position of the money-lender and the landed proprietor. The former is now exploiting the economic weakness of the individual peasant and the social needs of his family. It is not unreasonable to expect that, with the development of the co-operative movement, his clientèle and his opportunities would tend to diminish, and that he would be thus forced to turn his attention more and more to commercial and industrial investments. Co-operation has for India, therefore, a much wider significance than mere agricultural regeneration. The position of the landed proprietor in regard to industrial participation is somewhat dubious; immobility of resources is his principal weakness, nor is he always free to do what he likes with his land (compare the case of the bigger zemindaries); but a proper appreciation of their duties and responsibilities ought to direct the attention of this class of people to the development of agricultural and rural industries, while the bigger Zemindars have enough revenue to enable them to take an active share in the promotion of local and national industries.

[1] The first part of its questionnaire has reference to the problem of financial aid to industries, and Question 2 refers to the sources from which industrial capital is principally drawn.

[2] *Vide* Cmd. 234 of 1919, pp. 1, 126, etc

By far the most important item in the Indian industrial programme of the immediate future is the part that Government is called upon to play in the provision of current resources. As in the nature of the case as affecting all Oriental people, the people of India demand of their Government, not a mere removal of difficulties and hindrances to economic development, but an active intervention on their behalf, and a lead at once forceful and inspiring. They quote the example of Japan, and urge that, in the absence of adequate provision being made by the Government to make capital available for industries, the progress so eagerly desired will be indefinitely delayed. The Indian Industrial Commission had made some detailed recommendations as to how Government may safely advance funds for industrial purposes, the principle of which was accepted by the Government; and at least one Provincial Legislature has now ventured to pass an Act for the giving of state aid to industries.[1] Section 5 of the Madras State Aid to Industries Act, which became law on the 20th of December, 1922, enumerates the classes of industries to which the Act applies, and runs as follows:—

"Sec. 5. (1) The industries to which aid may be given under this Act shall be such as have an important bearing on the economic development of the country, and shall be:

(*a*) new or nascent industries, or
(*b*) industries to be newly introduced into areas where such industries are undeveloped, or
(*c*) cottage industries.

(2) No such aid shall be given to any joint stock company unless:

(*a*) the same is registered in India on a rupee capital, and
(*b*) the company conforms to such rules as may be made by the Local Government from time to time requiring that a minimum number or a proportion of the members of its Board of Management shall be Indians. Provided further, that every recipient of aid under this Act shall make such provision for the training of apprentices as the Local Government may, from time to time, prescribe.

[1] Burma is now considering a proposal for similar legislation.

(3) The decision of the Local Government as to whether the conditions of this section are fulfilled shall be final."

The 6th Section refers to the methods of giving state assistance, and is as follows :

" Sec. 6. Subject to the provisions of this Act and of the rules framed thereunder, the Local Government shall have power to give aid to an industrial business or enterprise in one or more of the following ways :—

(*a*) by granting a loan,
(*b*) by guaranteeing a cash credit, overdraft, or fixed advance with a bank,
(*c*) by paying a subsidy for the conduct of research, or for the purchase of machinery,
(*d*) by subscribing for shares or debentures,
(*e*) by guaranteeing a minimum return on part of the capital of joint stock company,
(*f*) by making a grant on favourable terms of land, raw material, firewood, or water, the property of the Local Government."

And Section 12 gives the Government power to appoint its own directors to control the enterprise assisted.

Other provinces, it may be expected, will soon follow the lead given by Madras ; and we may expect in the near future a great degree of Government aid to industries of all kinds. But extraneous assistance of this sort should be accompanied by the inculcation of the principle of self-help, so that industry may be in a position to support itself at a not very distant date. So long as the present economic impetus helps to raise the average productivity and the national dividend, its cumulative effect is bound to tell on new industrial developments. To take full advantage of this possibility, the need for social reform and readjustment cannot be too strongly emphasised. The spirit has been evoked by education, and although the new movement has had unpleasant political bearings, it is to be hoped that a discriminating encouragement to its economic and social tendencies will not be denied by the Government. For it is this new education that has opened out economic possibilities, that is reforming society and eliminating wasteful social institutions and religious customs. That all these tend to the creation of new capital should not be

overlooked; and in the same measure as education spreads abroad, will the capital resources of the people accumulate in utility and volume.

NOTE.—*Development of Joint Stock Enterprise in India.*

The following Table gives the number of Companies at work in India and their authorised and paid-up capital at the end of each year from 1895–96 to 1921–22 :—

Year	*Companies at work*	*Authorised Capital* Rs.	*Paid-up Capital* Rs.	*Increase or decrease in paid-up capital* %
1895–96	... 1309	416,189,114	291,147,434	6·7
1896–97	... 1596	489,924,634	305,867,364	5·1
1897–98	... 1572	493,376,391	323,213,241	5·7
1898–99	... 1417	505,310,438	348,202,378	7·5
1899–1900	... 1340	493,861,588	346,589,971	0·7
1900–01	... 1366	509,545,295	362,756,630	4·1
1901–02	... 1405	521,824,551	373,981,970	3·8
1902–03	... 1440	525,032,571	380,776,700	1·7
1903–04	... 1488	544,038,490	387,366,713	1·7
1904–05	... 1550	568,824,446	403,225,678	4·0
1905–06	... 1728	637,280,606	418,352,329	3·8
1906–07	... 1922	748,339,639	442,688,739	5·8
1907–08	... 2061	884,533,789	508,138,938	14·8
1908–09	... 2156	1,090,290,192	570,319,222	12·2
1909–10	... 2216	1,179,985,512	614,431,661	7·8
1910–11	... 2304	1,579,094,977	640,496,826	4·2
1911–12	... 2465	1,627,488,649	693,778,595	8·3
1912–13	... 2552	1,738,759,155	721,013,855	4·0
1913–14	... 2744	2,333,361,398	765,618,274	6·0
1914–15	... 2545	2,300,946,835	807,881,472	5·2
1915–16	... 2476	1,842,090,337	850,243,528	5·2
1916–17	... 2513	2,000,421,849	908,956,218	6·9
1917–18	... 2668	2,341,884,632	991,120,816	9·0
1918–19	... 2789	2,550,949,672	1,066,145,465	7·6
1919–20	... 3668	5,482,259,476	1,232,135,793	15·6
1920–21	... 4708	6,978,573,550	1,644,625,392	33·5
1921–22	... 5189	7,545,481,573	2,305,488,592	40·2

Up to 1918–19 the Table includes figures for British India and Mysore, to which have been added Baroda, Gwalior and Indore from 1919–20. and Travancore from 1920–21.

CHAPTER XI

THE STATE AND INDUSTRY

Synopsis :—The function of the State in industrial development. The industrial policy of the East India Company in India. The gradual adoption of the *laissez-faire* attitude.

The Famine Commission of 1880 advocates a policy of industrial stimulation ; but little heed is paid to it

The beginnings of the new policy in Madras. Mr. Chatterton and the aluminium industry. The United Provinces follow suit.

The cold douche from Whitehall. Lord Morley stands out for the orthodox Manchester doctrines. His successor adopts a more reasonable policy, but the enthusiasm of the Government of India already damped.

The war and its lessons. Lord Hardinge's Despatch. The appointment of the Industrial Commission.

The example of the Munitions Board ; how Government may successfully initiate and encourage industries.

The recommendations of the Industrial Commission. The creation of an Imperial Department of Industries. Industrial development a " transferred subject " in the provinces.

The purchase of stores. The new policy ; how it encourages local production.

The demand for protection ; the national attitude on the subject. Bitter memories of Lancashire.

The Fiscal Commission ; its recommendations in favour of discriminating protection. Is India ripe for protection ? Some of the evil consequences of protection. The burden of sacrifice. The chances of foreign domination. The lessons of the sugar and hide duties.

Other and safer directions in which industry may be stimulated. The gospel of self-help. Conclusion.

A DUE appreciation of the difficulties which India will have to surmount before she is able to establish organised industries on a scale sufficient to modify her abject dependence on agriculture, and of their own inability to overcome them without external assistance, has led the Indians to insistently press forward their demand for a large measure of state aid to industries. In the conditions prevailing in India to-day,

it cannot be reasonably urged that the State would be travelling out of its proper domain in actively assisting the stimulation of industrial activity. In the particular circumstances of a given age or nation, according to Mill, there is scarcely anything really important to the general interest which it may not be desirable or even necessary that the Government should take upon itself, not because private individuals cannot perform it, but because they will not. The public may be either too poor to command the necessary resources, or too little advanced in intelligence to appreciate the end, or not sufficiently practised in conjoint action to be capable of the means. State intervention is all the more necessary in the case of a country where there is a very wide distance in material civilisation between the people and the Government; in such a case, it becomes the obvious duty of the Government, with its superior knowledge and organisation, to lead the way, and by its educative and pioneering efforts, prepare the people more and more to shoulder their own responsibilities in this direction.

The earlier history of British administration in India evidences that the Government has not always been averse to active participation in industrial undertakings; the East India Company, as we have seen elsewhere (*vide* Chapter I) was actively engaged in organising and financing those industries in the products of which it had a special interest. The English manufacturers looked with jealous suspicion on these activities and, through their influence, brought about their suspension. When, with the transference of India to the Crown, the character of the Government underwent an alteration, the old policy was given up; and under the influence of the *laissez-faire* doctrine, the administration contented itself with the rôle of a disinterested onlooker.

But the problem was not so readily shelved; the absence of manufacturing industries reacted on the economic conditions of the country, and the recurrence of famines, and the unemployment which crop-failures and bad seasons brought about, obliged the Government to seek a remedy for them in the introduction of diversified forms of employment. The Famine Commission of 1880 saw in the introduction of a diversity of occupations the most important palliative for famine, and made detailed recommendations regarding " the directions in which the Government might usefully aid in

fostering the inception of new industries," and relying on the precedents of the tea and cinchona plantations which Government pioneered till their commercial success was established beyond doubt, and then made over to the private capitalist, advocated that scientific methods of production under the supervision of specially-trained experts should be introduced into those manufactures of the country "which, with some improvements, might be expected to find enlarged sales, or could take the place of similar articles now imported from foreign countries." The paragraphs in which the Commission summarises the possibilities and the limitations of State intervention in industries may be quoted *in extenso*, not only because they are not generally known, but also because they show that the issues which, at a later date, Lord Morley raised, were fully considered so early as in 1880. Among the articles and processes which may be perfected in India, the Commission included the manufacture and refining of sugar, the tanning of hides, the manufacture of fabrics of cotton, wool and silk, the preparation of fibres of other sorts, and of tobacco, and the manufacture of paper, pottery, glass, soap and candles. "Some of these arts," said their Report, "are already practised with success at Government establishments, such as the tannery at Cawnpore, which largely supplies harness for the army, and the carpet and other manufactures carried on in some of the larger jails; and these institutions form a nucleus, around which we may hope to see a gradual spread of similar industry. They afford practical evidence of the success of the arts practised, and are schools for training the people of the country in improved methods; and so long as any such institutions fairly supply a Government want, which cannot be properly met otherwise, or carry on art in an improved form, and therefore guide and educate private trade, their influence can hardly fail to be beneficial. The same may be said of the workshops of the Government and the railway companies, which are essential for the special purposes for which they are kept up, and gradually train and disseminate a more skilled class of artisans.

"The Government might, further, often afford valuable and legitimate assistance to private persons desiring to embark in a new local industry, or to develop and improve one already existing, by obtaining needful information from

other countries or skilled workmen or supervision, and at the outset supplying such aid at the public cost. So far as the products of any industries established in India can be economically used by the Government, they might properly be preferred to articles imported from Europe, and, generally, the local markets should be resorted to for all requisite supplies that they can afford. We are aware that steps have been taken within the last few years to enforce these principles, but more can certainly be done, and greater attention may properly be paid to the subject.

"Otherwise than as above indicated, we do not think it desirable that the Government should directly embark in any manufacture or industry in an experimental way. Such experiments, to be really successful or valuable, must be carried out on a commercial basis. The conditions of any Government undertaking are rarely such as to give it this character, and the fear of incurring an undue expenditure on what is regarded as only an experiment will often lead to failure, which will be none the less mischievous because it was thus caused."

After referring to the encouragement of technical, artistic and scientific education and the establishment of commercial and industrial museums, in which directions the Government may do much good, the report concludes: "To whatever extent it is possible, however, the Government should give assistance to the development of industry in a legitimate manner, and without interfering with the free action of the general trading community, it being recognised that every new opening thus created attracts labour which would otherwise be employed to comparatively little purpose on the land, and thus sets up a new bulwark against the total prostration of the labour market, which, in the present condition of the population, follows on every severe drought."[1]

The only practical outcome of this comprehensive scheme was the issue of a Government Order in 1883[2] asking the officers of the Government to confine their indents on the European market to those articles that cannot be obtained in the country, an order that was more a pious wish than an effective command; the organisation of the Calcutta Exhibition of 1884–5, which led to the institution of the

[1] See *Report of the Famine Commission* of 1880, Vol. I, pp. 175–6.
[2] Quoted at end of Chap. II.

Calcutta Commercial Museum; and the examination of Indian industrial resources by the reporter on economic products. Provision was also made, on a very inadequate basis, for technical and industrial education.

It was in Madras that the first serious effort was made by the Government to tackle the problem. In 1898 Mr A. (now Sir Alfred) Chatterton, then the Superintendent of the Madras School of Arts, obtained a small grant from the Government for experiments in the manufacture of aluminium vessels; and so well did they succeed[1] that, in 1900, permission was obtained from the Secretary of State to employ Mr Chatterton for a term of three years for the development and organisation of technical trades and industries. In the course of six years, a fairly large business in aluminium hollow-ware was developed, and a demand was created which led to the establishment of a number of small factories in other parts of India.

Prompted, no doubt, by the example of Madras, and feeling the need for a considered policy on the part of the Government in regard to the stimulation of industries, Lord Curzon created, in 1905, a separate Imperial Department of Commerce and Industry, to the headship of which Sir John Hewitt was appointed. With the latter's transfer to the United Provinces as Lieut.-Governor, that province also began to tread in the footsteps of Madras. An industrial conference was summoned in 1907 at Naini Tal, which formulated a scheme for industrial development in the province. There was to be a Director of Industries, assisted by a mixed committee of officials and business men, whose main functions were to be the dissemination of industrial information, the introduction of new, and the stimulation of existing, industries. The Director was also to control industrial and technical education as the head of a technological institute, the professors attached to which were to assist by investigation and advice in the solution of industrial problems. The Government gave loans or grants to industrial concerns, and also provided competent technical advice. Some of its initial ventures, however, were not quite successful; and, in 1913, the Government disapproved of the idea of the Director combining in himself the

[1] The sale receipts of the Aluminium Department of the School was Rs. 44,621 in 1898–9, and Rs. 91,432 in 1899–1900.

headship of the Industries Department and of the technological institute, inasmuch as the latter post required a scientist and the former a man of general industrial and economic knowledge and of some business instinct; it realised the often-neglected truth that "the science of directing organised industrial concerns can only be learned by experience, and not in technological institutes, however elaborate their equipment."[1]

By this time, however, the sky had already become clouded. The success of the Madras Government had led them to expand their activities, and though, at the end of 1903, after having successfully demonstrated the possibilities of the aluminium industry, the Government sold their plant and stock to the Indian Aluminium Company, Mr Chatterton was pushing on with chrome tanning, hand-loom weaving, and the introduction of power-driven machinery, in all of which he achieved conspicuous success. In 1908, an industrial conference was held at Ootacamund, which advocated an enlarged sphere of Government activity in industrial matters, much to the alarm of the powerful business interests of Madras, which were represented in it. The limits of State aid were clearly defined in one of the resolutions, which ran :—"The Government may undertake, as a pioneer, the introduction of new industries or industrial processes for the purpose of training students or apprentices, or for demonstrating that such industries will be commercially successful, provided—

(1) that no such undertakings be engaged in without prior consultation with an advisory board, upon which Indian interests and the leading commercial and trading interests in the Presidency should be represented;

(2) that no such undertaking, if used for demonstrating any process as commercially successful, should be engaged in, unless, after careful enquiry, the Government arrives at the conclusion that it is one in which the private capitalist does not already exist nor is willing to venture;

(3) that it should be a principle of such undertakings that the fullest possible publicity should be given by the periodical publication of reports and by a full statement of the accounts of the undertakings; and

[1] *Vide* U.P. Govt. Resolution No. 1163–XVII–415, dated 27th August, 1913.

(4) that looking to the principle that such undertakings, if used for demonstrating that any process is commercially successful, should be directed to the assistance of private enterprises, it should be a rule that Government should withdraw from any such undertaking, as soon as it is clear that it has sufficiently demonstrated the advantage of the improved methods of working in that particular industry."

Though the European business interests in Madras recorded their opinion that the State should confine its activities to technical training, research and the dissemination of industrial information, and should not embark upon the pioneering of industries, the Government of the day accepted the main recommendations of the Ootacamund Conference, and, in 1909, they proposed to the Secretary of State the creation of a permanent Department of Industries for this purpose. Lord Morley, who was then at the India Office, disapproved of the cardinal features of the scheme submitted to him. He was sceptical of the utility of State effort in experiments and demonstration on a commercial scale of likely industries; and in spite of the well-defined limits which the Ootacamund conference had set up as to the commercial character of such undertakings, wanted Government activity to be strictly confined to industrial instruction alone, and to avoid the semblance of a commercial venture. "So limited, interference with private enterprise is avoided, while there still remains an ample and well-defined sphere of activity. The limit disregarded, there is the danger that the new State industry will either remain a petty and ineffective plaything, or will become a costly and hazardous speculation. . . . The policy which I am prepared to sanction is that State funds may be expended upon familiarising the people with such improvements in the methods of production as modern science and the practice of European countries can suggest; further than this the State should not go, and it must be left to private enterprise to demonstrate that these improvements can be adopted with commercial advantage."[1] Lord Crewe, who succeeded Lord Morley at the India Office, adopted a more reasonable attitude and gave greater latitude to the Indian Government by expressing himself favourable to "the purchase and maintenance of experimental plant

[1] Despatch No. 50, Revenue, dated 29th July, 1910.

for the purpose of demonstrating the advantages of improved machinery or new processes and for ascertaining the data of production".[1] But, in spite of Lord Crewe's reassuring tones, the Government of India seemed to be in doubt as to how far they would be justified in directly encouraging industrial activity. Their desire to move in these matters thus received, even at its initial stage, a decided check ; and though Departments of Industry were created in several provinces, it was not till the war broke out that the Government resumed their pre-Morley interest in the promotion of industry.

The war brought with it a new orientation. The difficulty of securing supplies from abroad threatened to jeopardise Indian economic life, and drew forcible attention to India's dependence on countries outside the British Empire ; it also brought home to the people and the Government the military importance of a self-contained India. In view of these lessons, it was necessary to examine afresh the industrial policy which the Government should pursue ; and in their despatch of the 26th November, 1915, Lord Hardinge's Government thus put the question to the India Office : " It is becoming increasingly clear that a definite and self-conscious policy of improving the industrial capabilities of India will have to be pursued after the war, unless she is to become more and more a dumping ground for the manufactures of foreign nations, who will be competing the more keenly for markets the more it becomes apparent that the political future of the larger nations depends on their economic position. The attitude of the Indian public towards this important question is unanimous, and cannot be left out of account. Manufacturers, politicians and the literate public have for long been pressing their demands for a definite and accepted policy of State aid to Indian industries ; and the demand is one which evokes the sympathy of all classes of Indians whose position or intelligence leads them to take any degree of interest in such matters " ; and finally, " After the war, India will consider herself entitled to demand the utmost help which her Government can afford to enable her to take her place, so far as circumstances permit, as a manufacturing country."

[1] Despatch No. 24, Revenue, dated 12th March, 1912.

The next year saw the appointment of the Indian Industrial Commission, with the following special terms of reference :—

"(*a*) Whether new openings for the profitable employment of Indian capital in commerce and industry can be indicated.

(*b*) Whether and, if so, in what manner, Government can usefully give direct encouragement to industrial development,

(i) by rendering technical advice more freely available ;
(ii) by the demonstration of the practical possibility on the commercial scale of particular industries ;
(iii) by affording directly, or indirectly, financial assistance to industrial enterprises ; or
(iv) by any other means which are not incompatible with the existing fiscal policy of the Government of India."[1]

While the Commission was still sitting, the increased difficulties of obtaining stores for war and other essential purposes made the immediate stimulation of the local manufacture of munitions a matter of vital importance, and the President of the Commission was called upon to organise a department for the purpose. In April, 1917, the Indian Munitions Board was formed to control and develop Indian resources, with special reference to the needs created by the war, to limit and co-ordinate demands for articles not manufactured or produced in India, and to apply the manufacturing resources of India to war purposes with the special object of reducing demands on shipping. The principal methods adopted by the Board to encourage local production were (1) the direct purchase in India of articles and materials of all kinds needed for the army, the civil departments and the railways ; (2) the diversion, by means of the priority system and full control over foreign indents, of all orders for articles and material from the United Kingdom and elsewhere to the manufacturers in India ; (3) the giving of assistance to individuals and firms who desired to import plant or to engage chemical or technical experts and skilled labour from abroad, in order to establish new industries or develop old ones ; and (4) the dissemination of information and expert advice, and the giving of other direct and indirect assistance and encouragement to persons

[1] *Vide* para. 3, Govt. of India's Resolution No. 3403, *Commerce and Industry*, dated Simla, the 19th May, 1916.

prepared to embark on new industries in India. The main principle of the Board was that it was only in cases where the articles needed, or suitable substitutes, could not be purchased locally, or their manufacture within a reasonable time could not be arranged, that orders might be placed abroad. By their scrutiny of priority applications, the Board was able to discover that a good many of the articles for which India relied on foreign countries could easily be made in the country itself; and special attention was paid to the development in India of what are called the "key industries."

The successful working of the Indian Munitions Board helped to crystallise the views of the Industrial Commission, inasmuch as it served as an experiment on a large scale designed to test the value of several of their conclusions, not only as regards the manufacturing capabilities of the country, but also as regards the kind of administrative machinery suitable to carry out a policy of active industrial development. In its report, therefore, it adopted two fundamental propositions as the basis of all their constructive proposals: (1) 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 (2) that it is impossible for Government to undertake that part, unless provided with adequate administrative equipment and fore-armed with reliable scientific and technical advice. Their proposals are, in substance, the same as those formulated by the Famine Commission nearly forty years ago; but they are conceived in a different spirit, and in place of the careful restrictions then imposed on Government activities in this direction, a policy of energetic intervention in industrial affairs is now advocated; and, to discharge the multifarious activities which this policy demands, the creation of Imperial and Provincial Departments of Industries is now held to be a necessity. "The circumstances of India have made it necessary for us to devise proposals which will bring the State into far more intimate relations with industrial enterprise than the policy of Government or public opinion has hitherto permitted. But as regards our main proposals—technical education in practical relation to industrial requirements, the supply of advice and assistance through

organised scientific and technical services, the provision of more liberal finance for industries, so far as possible through private agency—we feel confident that these are solutions clearly indicated by the very difficulties which they are designed to surmount, as well as by the small degree of Indian experience available, and substantially supported by the best-qualified opinion of the country. Finally, we have been strongly impressed by the earnest demand throughout India for economic progress and by the growing realisation of the dangers to which industrial unpreparedness exposes a nation. We feel sure that the strongest support will be forthcoming from the public generally, and from Indian capitalists and industrialists in particular, to any well-considered scheme for industrial progress which Government may see fit to adopt, and we submit our report in the earnest hope that our recommendations will, with the approval of Government and the goodwill of the Indian public, help in some measure towards the ideal of an India, strong in her own strength, and a worthy partner in Empire."

The recommendations made by the Commission were favourably received both by the Government and the Indian public; and though, as a result of the administrative reorganisation brought about by the Montagu-Chelmsford Reforms, the development of industries is a transferred subject, the Central Government has shown its readiness to help by the prompt organisation of a Department of Industries, to the headship of which Sir Thomas Holland was appointed. The Imperial Department of Industries is to operate as a clearing-house of information and as an advisory and liaison department; it will place its resources freely at the disposal of the provinces, and will assist them when required with technical advice in dealing with industrial schemes, in the development of industrial education, in the exploitation of extra provincial markets, and in the recruitment of staff. The fact that in the provinces this all-important branch of national development is henceforth to be under Indian control is sufficient guarantee that its claims will not there be overlooked.[1]

The most important among the immediate proposals made by the Industrial Commission referred to the organisation of a system for the local purchase of Government stores.

[1] *Cf.* the Madras State Aid to Industries Act.

During the past forty years, the Government of India have made several efforts to get the rules for the purchase of stores altered, in order that indigenous industries might be encouraged, but the India Office, which had the controlling hand, was unwilling to relax them, and, though trifling modifications were made in 1909 and 1913, the indenting officers in India have usually taken the line of least resistance, with the result that the volume of local purchases remained quite out of proportion to what the country could have supplied. After the publication of the Commission's Report, the Government of India appointed a committee to make detailed enquiries and recommendations on the matter, since " the most obvious and direct form of assistance which the Government can give to the industries of the country is by the purchase of supplies required for the public services so far as possible in the country itself."[1] Among the recommendations of this committee are some which specially relate to the encouragement of indigenous production ; and of these the policy of guaranteeing orders deserves attention, because its adoption has been found to be most beneficial. The classical example is that of the iron and steel industry ; and it may be convenient here to recount the steps taken by the Government in this direction. In the matter of rails, an agreement was concluded with the Tata Iron and Steel Company that Government would take 20,000 tons of rail every year, for a period of years, at a price equal to the price of imported rails c.i.f. Calcutta. As regards steel plates, Government, in agreement with the same company, guaranteed to find a market for 10,000 tons a year for ten years at a price equal to that of imported steel plates c.i.f. Calcutta, provided that the first 10,000 tons were supplied within three years from the date of commencement of the agreement. The Company, however, owing to circumstances beyond its control, failed to produce plates within the specified period. As regards wagons, the Government of India published a *communiqué* on March 1st, 1918, announcing that they would guarantee to purchase in India 2,500 broad-gauge and 500 metre or narrow-gauge wagons annually for ten years, provided that the price was not higher than the price at which wagons can be imported. In the matter of locomotives, again, the Government of

[1] Para. 1, Resolution of the Govt. of India, dated 5th December, 1919, appointing the Stores Purchase Committee.

India published a *communiqué* on October 1st, 1921, in which they undertook to invite tenders annually in India for all the railway locomotive engines and locomotive boilers required by them during the twelve years commencing with 1923. Among the conditions published in this *communiqué* it was stated that tenders in India, to be successful, must quote prices " not unfavourable " as compared with the price of the imported article, and that tenderers must satisfy Government that an appreciable part of the manufacturing process would be performed in India. It was also added that firms receiving orders in India would be expected to provide facilities for the training of Indians in their works. The Committee which was appointed in accordance with Sir Vithaldas Thackersey's Resolution in the Legislative Assembly of the 2nd March, 1922, " to consider and report as to what steps should be taken by the Government to encourage the establishment of the necessary industries, so that as large an amount as possible of the Rs. 150 crores (Rs. 1,500 millions) proposed to be set aside for the rehabilitation of the railways during the next five years be spent in India, and to advise the Government in regard to the revision of the Indian Stores rules " found that, beneficial as the system of guaranteeing orders has already proved, in itself, it is not likely to be of much avail, since newly-started Indian industries will have to compete with powerful firms which have had the momentum of an early start. In the railway industries, with which the committee was more immediately concerned, it was found that these difficulties are accentuated at the present time by the circumtance that, owing to the general trade depression, manufacturers abroad, especially in the United Kingdom, are fighting with their backs to the wall in order to keep their works open and their men employed, and that they are quoting prices which, in some cases at any rate, are below the commercial cost of production. In any case, they are quoting prices with which firms in India cannot possibly compete. As a case in point, the lowest tender for 3,132 railway wagons recently (1923) called for by the Railway Board was from an English firm, which quoted 50 per cent. less than the lowest Indian tender, even with the addition to that tender of c.i.f. charges and import duty. The British firm which obtained the bulk of the order has an authorised capital of eleven millions sterling, and is a combination of numerous old-

established engineering concerns which, between them, manufacture almost every part of a wagon from the initial pig-iron to the final paint. In order to compete successfully with such powerful interests, it is necessary to grant a much larger measure of assistance to Indian industries than has hitherto been given; and the committee therefore express themselves in favour of a policy of protection.[1]

The demand for protection has, indeed, been one of the oldest demands of the Indian public. The political activities of Lancashire had attracted attention to the influence of the tariff, and the country has long been chafing under the belief that her fiscal policy was dictated from Whitehall, and had reference only to the commercial interests of Great Britain. The theoretical free-trader, it has been said, hardly exists in India; and the debates in the Indian Legislative Council in March, 1913, show that educated Indian opinion ardently desires a tariff. So long as the people who refuse India protection are interested in manufactures with which India might compete, Indian opinion cannot bring itself to believe that the refusal is disinterested or dictated by care for the best interests of India.[2] The specific exclusion of the question of tariff from the terms of reference of the Industrial Commission, therefore, naturally caused some hostile comment. In his Resolution in the Imperial Legislative Council of the 21st March, 1916, in reply to which the appointment of the Industrial Commission was announced, Sir Ibrahim Rahimtoola had put, as an integral part of the enquiry he advocated, the question of full fiscal autonomy, specially in reference to import, export and excise duties. Sir William Clark, the then Member for Commerce and Industry, noted that, in the opinion of the mover, " a Government of India, uncontrolled by the Secretary of State, untrammelled by the conceptions of fiscal policy which may be held by the British Government of the day, would be a far more potent instrument for the development of industries in India than the administration of this country under its present constitution." But, in view of the decision to reconsider the fiscal relationship of all parts of the Empire after the war, the Government was unwilling to raise

[1] The Indian Steel Industries (Protection) Act came into force in June, 1924.

[2] *Vide* para. 342, *Report on Indian Constitutional Reform*, Cmd. 9109 of 1918.

the question till such fortunate time had arrived. Thus it was that, to borrow Sir Frederick Nicholson's expression, the part of Hamlet had to be omitted from the deliberations of the commission.

The Joint Select Committee on the Government of India Bill which presented its report on the 17th November, 1919, expressed itself clearly in favour of full fiscal autonomy for India: "Whatever may be the right fiscal policy for India, for the need of her consumers as well as for her manufacturers, it is quite clear that she should have the same liberty to consider her interests as Great Britain, Australia, New Zealand, Canada and South Africa. In the opinion of the Committee, therefore, the Secretary of State should, as far as possible, avoid interference on this subject when the Government of India and its Legislature are in agreement. . . ." The principle here enunciated was accepted by the Secretary of State in his Despatch to India of the 30th June, 1921.

Meanwhile, the financial necessities of the Government were driving it to measures which, without intending it, were approximating more and more to a protectionist policy. The increased expenditure of the war-period had to be met from fresh sources of taxation; direct taxation, always unpopular, would in the then conditions of India have been also politically inexpedient; and the Government was therefore compelled to turn to the customs revenue. In 1916, the general rate of import duty was raised from 5 per cent. *ad valorem* to 7·5 per cent.; but in 1918–19, there was a deficit of 6 crores, and by 1922 it had accumulated to 90 crores.[1] In 1921, therefore, the general rate was raised to 11 per cent. and again, in 1922, to 15 per cent. In view of the practical protection which this high rate of import duty implied, it seemed clearly absurd to hold out any longer for free trade principles; expediency pointed to a graceful acceptance of the popular demand as the only satisfactory way out of the difficulty, and in a Resolution of the 7th October, 1921, the appointment of a Fiscal Commission to examine the tariff policy and make recommendations was announced.

The Commission had before it only two alternatives: on the one hand was a high general revenue tariff, with its accidental and uncertain protective effect; on the other, the

[1] *Financial Statement* for 1922–23, pp. 3–4.

setting up of a tariff deliberately designed to serve the ends both of protection and of revenue; and, in the circumstances, they have decided, and it would seem wisely, in favour of a scheme of scientific protection. The theoretical basis of the scheme is unexceptionable; for the reasoning of the free trader that the capital and labour of a country, if left unmolested, would seek out those industries which yield the greatest economic return and that it is to the advantage of all countries, both individually and collectively, to devote themselves to those industries in which they have the greatest comparative advantage, and exchange their special products for those of other countries, is not always applicable in its entirety to all times and countries. A country possessing great natural advantages for a particular industry might find itself handicapped at the start by the competition of fully-developed rivals, and the initial difficulties might be so great that, without some measure of extraneous assistance, capital and labour may not flow into it. As to the second part of the reasoning, it is necessary to bear in mind that, while the strictly economic point of view deals with undifferentiated "wealth," drawing no distinction between a pound's worth of toys and a pound's worth of steel plates, from the point of view of national interests such a distinction is full of significance. In special cases, therefore, protection is a legitimate expedient; and the real problem is to ascertain what those special cases are. An effective scheme of protection, then, has to be "something more than an enunciation of principles; it is necessary to proceed further and come to close quarters with specific instances; to ask whether it is likely that eventual gain will counterbalance immediate loss, and what the conditions actually are in the country in question. These are not questions to be answered through deductive reasoning in terms of yes and no; they are to be answered, if at all, through laborious research and in terms of probabilities." The Fiscal Commission, while aware of all these difficulties, makes no attempt to answer them. Their solution is the creation of a permanent Tariff Board which will investigate the claims of particular industries to protection with special reference to their suitability to the country, their incapacity to develop properly without protection, and their eventual ability to face world competition unaided. They are also to watch the operation of the tariff,

advise the withdrawal of assistance when it becomes no longer necessary, and generally advise the Government and the Legislature in carrying out their policy of discriminating protection. On the Tariff Board is thus thrown the responsibility of the entire scheme; and some idea of the arduousness of their task may be formed from the following extract: "The industries of the country, says every journalist and every public man, are young, and, managed as they are by men necessarily as yet of lower business experience and ability than those of the West, need a definite support from the Indian Government by means of import duties and bounties. . . . It is, however, a striking limitation of the new industrial spirit which has been awakened in India that there is no clear public opinion with regard to the nature of the industries which ought to be started in the country and protected by Government."[1]

The history of India's earlier deviations into the path of protection is not such as to inspire us with confidence in its ultimate success. Take the case of the sugar duties. For a long time the Indian sugar industry was declining, and imports from the West Indies and Java were increasing in quantity. Then came the practical dumping of the bounty-fed sugar from Central Europe, and legislation had to be undertaken to put an end to it. In 1903, Sir Edward Law declared that, in consequence of the legislation, the inflow of bounty-fed sugar ceased, but the imports from the West Indies actually increased, and in 1906–7, the Finance Member declared in the Council chamber that the legislation was, from the Indian point of view, a complete failure. In 1911, when Pundit M. M. Malaviya wanted a further enhancement of the sugar duty, the late Mr Gokhale took the opportunity to examine who were the real beneficiaries under the system of protection adopted. He pointed out that, if the area under sugar-cane had declined, the area under other crops has correspondingly increased, and that it was not proved that the cultivator had suffered thereby; that the protected sugar was largely consumed by the poorer middle classes with incomes between Rs. 100 and Rs. 1,000 per annum, and that the increased price came out of the slender pockets of this class; and that the factories for whose benefit these poor classes were so mulcted were most of them in European

[1] Prof. Mukerji, *Foundations of Indian Economics*, pp. 342–3.

hands.[1] The Indian Sugar Committee of 1920 feared that "any increase in the duty might result in bolstering up an inefficient industry to the detriment of the consumer, and that, secure behind a high protective wall, factories in India might make no efforts to reach the standard of those in other sugar-producing countries, notably Java, where the industry has been able to dispense with any protection, subsidy, or assistance from Government." Yet, in 1922–23 the sugar duty was further raised to 25 per cent. *ad valorem*. The other experiment in protection was introduced by Act XIX of 1919, by which an export duty of 15 per cent. was imposed on hides and skins, with a rebate of 10 per cent. on exports to other parts of the Empire. The policy was dictated by the United Tanners' Federation of Great Britain, which was anxious to cut out the German ring which in pre-war days had controlled the Calcutta hides market. The immediate effect of the policy was reflected in the trade returns; hides and skin exports, which stood at 12 per cent. of the value of total exports in 1919–20, fell to 4 per cent. in 1920–21, and India lost a favourable market. The Fiscal Commission points out how the duty has injured the producer, and aggravated the depression in the export trade. "We have received evidence that the duty has been particularly injurious to the trade in low-quality hides, which, as a matter of fact, the Indian tanners do not require. The Indian tanners wish to retain for themselves the high-class hides, for which, even with the export duty, there is some demand abroad. But in order to obtain this advantage, the trade in low-quality hides, which depends almost entirely on export, has been seriously injured. The depression in price caused by the export duty, added to the natural world depression in price, has resulted in many cases in making it unprofitable to collect the inferior hides at all. We have received evidence that the hides are frequently allowed to rot on the carcasses, and that, in consequence of the low prices which have undoubtedly been accentuated by the export duty, a source of wealth, in the aggregate not inconsiderable, has actually been destroyed."[2] The Fiscal Commissioners argue that, if in place of an export duty an import duty had been imposed,

[1] See Gokhale's *Speeches*, Natesan's 3rd edition, pp. 437–42.
[2] *Fiscal Commission Report*, Cmd. 1724 of 1922, p. 108.

the Indian tanning industry might have received some encouragement, and all the undesirable consequences above detailed prevented. However that may be, these two instances serve to show that a protective policy is often uncertain in its effect, and that it may involve a sacrifice on the part of the country adopting it, without a compensatory *quid pro quo* in the shape of a new industry.

Again, having once embarked on a policy of protection, when are we to stop? Among the duties allotted to the Tariff Board are that it should watch each selected industry during its earlier stages, urge the withdrawal of assistance if it shows no prospect of success, press for the modification of duties where this may be desirable, and for their abolition when it has reached full competitive efficiency. The task is by no means an easy one; for the history of protectionist countries teaches us that protected industries never grow up; the artificial stimulus of protection enables new industries less favourably situated than those originally started to grow up, and when protection is sought to be removed, the labour in the less favourably circumstanced industries is likely to be thrown out of employment. As has been pointed out, " in theory, protection does not become a source of positive advantage until it gives place to freedom of commerce. In fact, after a nation has once tasted the stimulus of protection, commercial freedom is either impossible of attainment, or can be attained only through a struggle so great as to mark an epoch in financial legislation. In theory, protective duties should be high when first imposed, and decline as nations learn the lesson of manufacturing skill. In fact, they begin with a moderate charge and raise it higher and higher each succeeding year. In theory, the burden of protection, that is to say, the cost of the nation's industrial education, is borne by the agricultural industry. . . . In practice, especially when Government rests upon popular favour . . . the policy of protection quickly drifts into the illogical and self-destructive policy of an all-round protection."[1] This aspect of the case has by no means escaped the observation of the Fiscal Commissioners; they realise full well the difficulty of reducing or abolishing a duty in opposition to the vested interests which are likely to grow up; nevertheless, they reject the

[1] Adams, *Finance*, p. 417.

proposal that the protection should be limited to a fixed period, in view of the difficulty of ascertaining the rate of expansion of any industry, and prefer to leave the matter in the hands of the Board. Under the circumstances, their decision is no doubt wise ; but it only adds to the difficulties with which the Board will ultimately be faced.

In setting out their case for the adoption of a protectionist policy, the Fiscal Commissioners rely to some extent on the precedent of some of the great industrial nations who claim their prosperity as due to the tariff protection they enjoy. Germany and the United States of America are the two countries which are often held up as models to all protectionist countries. But a closer examination would show that their case is not quite on all fours with the case of India. It is true that agriculture was the main industry of both these countries before they adopted their present tariff policy, and that subsequently they have developed a high degree of industrialism. But even before they started on a career of intense protection, they had a much more equable distribution of the population between agriculture and industries than obtains in India at the present day. In the United States in 1870 only 47·5% of the occupied population were engaged in agriculture ; mining and manufactures took up 21·4% ; and trade and transport 9·9%. Likewise, in Germany in 1882 only 42·5% were engaged in agriculture, while mining took up 35·5%, and commerce 10%. In India, in 1911, fully 82% of the population were supported by agriculture ; and only 11% by industrial occupations, and 7% by trade and transport. These proportions are relevant in balancing the gain against the loss which a policy of protection would bring. In the two countries we have referred to, one half of the population was immediately benefited by the sacrifice imposed on the other half ; but four-fifths of the entire population of India will have to bear the burden of protection in order that the remaining one-fifth may reap its direct fruits. The actual volume of the sacrifice that India will have to make will be infinitely greater than that of these two countries ; for, in 1870, the United States had a population of only 39,818,449, and the German Empire, in 1880, had only 45,234,061 ; India, in 1921, had a population of 319 millions.

It is also worth while noticing that, while the proportion of the population which stood to gain immediately by protection was greater in these countries than in India, they had also the further advantage that the non-industrial sections of the population, which it was the aim of protection to draw to industrial occupations, were much more prepared to enter the ranks of industry than the corresponding classes in India. Agriculture in those countries had reached a higher pitch of efficiency than in India to-day. The Americans have always been the foremost to make the fullest use of labour-saving machinery, and as early as 1860 could boast of a considerable number of agricultural inventions of great value. "In nearly every department of rural industry," says a *Report of the Census* of 1860, "mechanical power has wrought a revolution. . . . The greatest triumphs of mechanical skill in its application to agriculture are witnessed in the instruments adapted to tillage, harvesting, and subsequent handling of the immense grain crops of the country, and particularly upon the Western prairies. Without the improvements in ploughs and other implements of tillage which have been multiplied to an incredible extent, and are now apparently about to culminate in the steam plough, the vast field corn crops of those fertile plains could probably not be raised. But, were it possible to produce wheat upon the scale that it is now raised, much of the profit and not a little of the product would be lost, were the farmer compelled to wait upon the slow process of the sickle, the cradle, and the handrake for securing it when ripe. The reaping-machine, the harvester, and machines for threshing, winnowing, and cleaning his wheat for the market have become quite indispensable to every large grain-grower."[1] They had even at that date learned the principles of farm management and organisation, and built up their own agencies for the sale of their produce; and they were attempting to apply the lessons of science to their business. In short, they had technicalised agriculture, and a transition from it to manufacturing industries was but a short step. The cheap wheat with which America inundated the European continent caused a serious agricultural depression, to get over which the more advanced continental countries,

[1] Quoted at pp. 387–8, Prof. Lippincott's *Economic Development of the United States.*

notably Germany, impressed organisation and science into the service of agriculture; and with the spread of the co-operative principle, and the establishment of *industries agricoles*, the people became more and more familiar with industrial methods and practices, imparting greater mobility to labour, and rendering more easy the transition from one occupation to another. The increased prosperity which the New Agriculture brought about also enabled the farmer to bear, with comparatively less strain than otherwise, the cost of the economic protection which industries now began to claim.

But the situation in India is quite different; for, it must be remembered that, while agricultural problems have recently been receiving considerable attention, the reforms achieved so far have not been great, and that for the most part Indian husbandry still retains its archaic character. Agricultural methods and processes are not such as to train up a class of men who can easily adapt themselves to the more strenuous and exacting occupations of industry, nor is the agricultural output so prolific and profitable as to enable the agriculturist to bear the burden which a protectionist policy would impose on him. The rise in the general level of prices which the adoption of such a policy will bring about is therefore likely to affect him very prejudicially, and the dilemma which would ensue has been thus summarised by the Fiscal Commissioners: "Either the agricultural producer will not receive for his produce an increased price which will fully compensate him for the increased cost of production, in which case agricultural interests would suffer, and there would be a tendency for marginal land to go out of cultivation; or the price of agricultural produce will be raised generally to cover the increased cost of production, with injurious effects on the mass of the population."[1] The Commissioners, however, have sufficient faith in their own scheme to contend that, if due discrimination is exercised, both agricultural interests and the community at large may be relieved of a great part of the burden; and since the details of the scheme are yet to be worked out, the public can only rely on their optimism and on the infallibility of the Tariff Board. But their argument that protection would increase the wages of the

[1] *Report*, p. 45.

industrial workers, part of which would be available for expenditure in the villages, and that agricultural wages would rise in sympathy, and that the severity of the new conditions on the rural population would thus be mitigated, seems a little far-fetched. The universal tendency of wages to lag behind prices has been well established not only by the history of other countries, but also by the course of recent events in India. Referring to the conditions in Germany in 1882, a Frankfurt journal wrote: "The working man was promised a fowl in his pot; he has not got the fowl, and it is likely that he will lose the pot as well."[1] There were moderate increases of wages in many industries, but they were not equal to the increased cost of living. And there is only too good reason to fear that wages will take a similar course in India, especially in view of the fact that Indian labour is scarcely as yet organised and educated enough to insist on collective bargaining.

There are two other factors which militate against the possibility of India reaping the full fruit of a policy of protection. These factors have not, indeed, been overlooked by the Commissioners, but it is permissible to doubt whether they have attached to them the importance they deserve. In dealing with the Financing of Industry, we had occasion to notice that, for some time to come, at any rate, India will have to seek her industrial capital elsewhere. Would not a tariff wall act as a standing invitation to the foreign capitalist to invest his money directly in India, and exploit the resources of the country? And Mr Lavington points out how, in their enumeration of the natural advantages which India enjoys, the Commissioners leave out organising capacity, both actual and potential.[2] The foreign entrepreneur, with both the capital and the organising talent at his command, is already watching the trend of affairs in India closely, and the present Government policy of purchasing stores locally, and otherwise encouraging industries which have their habitation in India, has already led some of the prominent business houses in Great Britain to open branch houses in India; and H.M. Trade Commissioner in India, in his annual reports, has been pointing out the advantages which the present régime offers to them,

[1] Quoted at p. 82, W. H. Dawson's *Protection in Germany*.
[2] *Economic Journal*, March, 1923, p. 55.

and calling upon more of them to follow the examples already set. The effect of this tendency, it is hardly necessary to emphasise, will be to transfer the control of Indian industry to foreign hands, and to still further impoverish the country. In speaking on Sir Ibrahim's Resolution in the Imperial Legislative Council in March, 1916, Sir William Clark deprecated the taking of any steps which would induce the foreigner who now competes from a distance to transfer his activity to India, and compete with Indian industry within its own bounds; and there can be no doubt that the proposed tariff would hold out such an inducement to foreign business interests.

We are thus led to the conclusion that India is not yet sufficiently developed to reap the full fruits of a policy of protection, and that the benefit that the country may derive under it is, under present conditions, more than likely to be nullified by the sacrifices it is sure to involve. But protection is not the only path to industrial development. A great deal has yet to be done to create those organisations and systems which are a condition precedent to a developed industrialism. The railway system is entirely inadequate to meet the needs of the country, and the evidence summarised in the Acworth Committee's Report[1] shows how several industries are being throttled for want of sufficient transport facilities. The revision of the railway tariff, which is at present devised mainly to develop the export trade, has to be undertaken with due regard to the possibilities of Indian industrial expansion. Confidence and mobility have to be imparted to indigenous capital, and an efficient and widespread banking system yet remains to be evolved. The results of scientific research must be made more readily available to the industrialist, and new organisations to facilitate direct access to foreign markets and to foreign centres of technical and industrial education should be actively canvassed. Above all, the quality of the human factor in economic development has to be greatly improved. The present low standard of output and of comfort, the contempt for manual labour, the low vitality, the absence of ambition, the inordinate tendency to borrow for unproductive expenditure—these are all factors which tend to keep a nation low in the scale of civilisation and material

[1] Cmd. 1512 of 1921, Chap. II.

progress. The necessity for combating these uneconomic tendencies leads us to education and social reform. Both these are in effect convertible terms, and the ultimate fate of India depends upon the manner in which these huge problems are tackled. A weak and ignorant population, however richly endowed with natural resources, cannot be made to appreciate the economic possibilities around them, and to seize the opportunity for bettering themselves. The low expectation of life in India—as disclosed by actuarial calculations, a new-born male infant's average term of life in India was only 22·59 years in 1911, as compared with an English male infant's average of 46·04 years—deprives the people of the leadership of those who, by their experience and wisdom, are fitted for the posts of command in the various public activities of the country; and this is an incalculable economic loss, which it is not beyond human power to prevent. And, among a population always prone to depend on others for even the little things that they could themselves accomplish, the lesson of self-help and of self-reliance has to be systematically inculcated. It is possible to argue that these lines of development do not strictly belong to the domain of the economic reformer; but it should not be overlooked that a removal of these disabilities will at once set free a fund of creative energy which will seek its fields of endeavour in various forms of productive activity, and thus hasten the economic regeneration of the country. These and other directions afford the widest possible scope for the activities both of the Government and of the people; and it seems a pity that these surer, if slower and more arduous, paths of development should be forsaken for the uncertain ways into which the will-o'-the-wisp of protection might lead us.

NOTE TO P. 169.

The following table has been compiled from the results obtained by the Industrial Census, undertaken in connection with the Census of 1921 :—

	Establishments employing more than 20 persons.	1921.	
		No.	*Persons.*
I.	Growing of special products	2,034	817,340
	Tea	1,353	746,760
II.	Mines	927	265,067
	Collieries	581	180,660
III.	Quarries of hard rocks	188	26,138
	Stone, etc., quarries	170	24,454
IV.	Textiles	2,098	760,115
	Cotton	1,498	425,883
V.	Leather, etc., industries	177	13,530
	Tanneries	139	9,787
VI.	Wood, etc., industries	326	31,133
	Saw Mills	183	20,073
VII.	Metal industries	632	164,780
	Metal, Machinery, etc.	280	81,598
VIII.	Glass, etc., industries	825	78,063
	Brick, etc., factories	762	71,607
IX.	Chemical products	762	102,382
	Oil Mills	265	13,741
X.	Food industries	1,451	92,953
	Flour and Rice Mills	736	41,464
XI.	Industries of dress	140	8,480
	Boot and Shoe factories	59	1,967
XII.	Furniture industries	100	5,877
	Furniture factories	99	5,748
XIII.	Building industries	283	27,672
	Lime Works and Kilns	210	18,032
XIV.	Transport and Communication ...	395	154,173
	Railway Works	169	112,265
XV.	Power-generating stations	124	14,825
	Gas and Electric Works	81	11,528
XVI.	Industries of luxury	572	50,436
	Printing Presses	478	44,534

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