

# China's Industrial Revolution

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**A**LTHOUGH the political aspect of the existing situation in China is almost the only one discussed in current articles, there is a growing belief that the real causes are economic, and that conditions would not be greatly improved if the present Government of military chieftains contending for supremacy were replaced by a really republican form of government, based upon the American or British system. Even universal, compulsory, popular education, widely advocated as a panacea, would probably only make the masses more receptive to new ideas, and would not alone improve living conditions. The basic fact that dominates everything else in China is the grinding poverty of the workers. The annual per capita income in China has been estimated at only \$60—little more than the estimate of \$39 for India, where the demands of climate are less rigorous. It is calculated that in North China the minimum annual cost of food and clothing for a family is \$150, without considering rent, heat and the indispensable sundries, but about 80 per cent, of the families have less than this. Clearly, what is needed to raise standards of living is increased per capita production. It is an axiom that, when mere existence has become so hard as to be unendurable, the masses will resort to and remedy offered by demagogues, no matter how illogical. This is the explanation of the advance of Bolshevik and other radical ideas in China today.

Startling as it may seem, it may be true that the immense armies of China, which are sometimes estimated as including 1,600,000 men, are a most unwise form of poor relief and the requisitions levied by the officers and soldiers upon the helpless merchants and farmers may be a wasteful and crushing method of collecting an unemployment dole. Most intelligent observers of Chinese affairs show that they realize this dimly when they agree that the disbandment of these forces, which is an essential part of all reform programs, would only result in an immense increase of brigands, unless it were at the same time accompanied by extensive construction of highways and railroads in many provinces, in order to give employment to the discharged soldiers, who could not possibly be absorbed by agriculture or industry. Not even the least realization of these facts is shown by the leaders of Chinese thought, especially the foreign-trained students, who practically control the press. They concentrate their attention upon paper constitutions and outward forms, and make practically no concerted effort to solve the real problems. Few of the foreigners who are interested in China attempt to deal with anything except surface conditions, and there is grave danger that serious mistakes will be made at the conferences, which are expected to take place soon, in accordance with the provisions of the treaties signed during the Conference on the Limitation of Armaments at Washington.

## Conflict of Occident and Orient

The chaos in China, which to many seems hopeless, is largely the result of a head-on collision between the factory system of the Occident and the obsolete handicraft organization of society of the Orient. The results are especially disastrous, because, until recently, the Chinese failed to realize what was occurring, and did not take the necessary measures to adapt themselves to the inevitable, though they had as an example the success of the Japanese in adopting those features of the Western civilization which were required by the national welfare.

The economic organization of China was for ages well balanced. Each region produced very largely the goods which it consumed, and there was relatively little need for the transport of large quantities of foodstuffs or manufactures. A large percentage of the population lived in villages, which were almost entirely self-supporting, and the local handicraftsmen supplied the local demand. The artisan worked for customers whom he knew and whose needs could be planned for in advance. There was no need for him to sell in distant markets, where demand and prices fluctuated according to tendencies which he could not understand. The lack of roads acted like a high tariff to protect him from

competition from outside the village. Each family was unknown, and the muscles of men and animals supplied practically assured of a living, though perhaps a very modest one, and life, while arduous, was not unhappy. Machinery power for all operations. This primitive system is now being forced to compete with the cheaper goods of the Occident, produced by machines driven by steam and electricity, which enable one man to do the work of hundreds. At the same time railroads, highways and steamships bring these articles to every town, with a minimum of cost for transportation. Naturally the handworker cannot meet the prices of machine-made commodities, and is gradually forced out of business and driven back to the already overcrowded land. The whole social organization is disrupted. In the teeming cities of China the man who loses his job is like a man who loses his footing in a panic-stricken mob fleeing from a burning theater. He is trodden under foot, to rise no more.

## First Railroad Torn Up

The masses have realized this situation almost from the beginning, even if their rulers have not. Thus, the boatmen and wheelbarrowmen, who feared that they would lose their jobs, aroused public sentiment to such an extent that the Chinese government was forced to buy the first railroad in China, at Shanghai, and tear up the rails and dump the engines into the river. The human beasts of burden, who laboriously pull the junks up through the rapids of the upper Yangtze River, instigated the violent attacks upon the steamers which have been replacing them. Handspinning in China is fighting for its life, and handweaving is only kept alive by the importation of machine-made cotton yarn from India, Japan and other countries. It is, of course, evident, that hand labor cannot compete with large-scale production, and the handicraftsmen are doomed in all except special articles. The tremendous agitation excited by Gandhi in India is based upon the same conditions. Just when the handworkers were facing this crushing competition, the prices of their raw materials were enhanced by the demand for them for export. China, once the only source of silk goods, now exports large quantities of raw silk. Further, the foreign requirements for the foodstuffs of China cause them to be exported, thus increasing the cost of living, and the export of rice has even to be forbidden by law. All the odds are against the Chinese handworker, and no relief is in sight. He is driven to desperation, the victim of economic tendencies as ruthless and as inevitable as the law of gravitation.

The civilization of the Occident is largely based upon the production by power-driven machinery of large quantities of standardized goods, which are made largely from raw materials, such as rubber, imported from abroad into Europe and America. The operatives which make them require considerable amounts of foreign foods, like sugar, tea and coffee, besides many comforts and luxuries. These raw materials and foods are paid for by the export of manufactured articles in endless variety, which are sold not only in the Western world but in China and other countries of the Orient. Gandhi saw the situation and tried to remedy it by boycotting all machine-manufactured commodities, whether made in India or elsewhere; but his total failure was inevitable. There can be no hope for the handworker who has to compete with the power-driven machine, either in China or any other Asiatic country. Even in the Occident the gradual introduction of the industrial system caused much distress among the workers, leading even to riots and to the destruction of machinery by the handworkers whom it had displaced. In time, however, they were absorbed to tend the machines and a new social organization displaced the old. This process is now going on in China, intensified by the larger population, estimated at 430,000,000—one quarter of the human race—and by the relatively sudden impact of the two civilizations.

It is impossible to contemplate calmly so much human misery. A large part of these millions is constantly underfed, and we are constantly being called upon for contributions to relieve millions who suffer from actual famine. Even if our consciences would permit us to be brutally callous, our self-interest will soon force us to take active measures to remedy the situation, for we are beginning to learn that the masses of Asia are no longer willing to starve, patiently and submissively, in despairing silence. The danger of a Bolshevik China must be averted at all costs. Certain parts of the Bolshevik propaganda are making astonishing headway, especially among the younger generation. Fortunately for the world, the remedies are not only evident, but it is possible to apply them, if no time is lost. Part of the damage to Chinese society arises from the fact that portions only of the Western civilization have forced their way into China. Safety, therefore, lies in the development of the compensating mechanism of Occidental social organization.

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Organized instruction and control by the Government is even more essential in China than elsewhere, as it has not developed many great corporate institutions, and the habit of united effort upon a large scale has yet to become common. Without this the construction of a well-balanced industrial organization throughout China will be slow. The failure to recognize this is a terrible handicap. Not only the military and civil officials lack entirely a comprehension of this need, but even the foreign educated young men, the hope of China, are wasting their energies in political dissensions and attempts to gratify their personal ambitions.

### Necessity of Change

The first requirement is an understanding of the necessity of the industrial change and a willingness of the population to adapt themselves to the new conditions. Many of the Chinese merchants have made astonishing progress along these lines, and the masses have shown that they can be trained into satisfactory machine operatives. The opportunity to make profits or earn larger wages is proving a strong incentive and will produce the desired results here, as elsewhere. However, growth of anti-foreign feeling and the desire to eliminate the nationals of other countries form a great impediment, as there is a scarcity of technically trained Chinese to act as foremen, superintendents and managers. The age-old respect for education has caused the Chinese students to devote themselves almost entirely to academic subjects and to fail to secure the technical training, which is one of the greatest needs of their country.

Large sums are needed to erect factories, to provide machinery, raw materials, to pay wages and to finance the new enterprises, but Chinese capitalists are reluctant to invest their funds in corporations outside the treaty ports and usually prefer to manage their own undertakings rather than entrust them to the officials of corporations. Hence the capital must come from abroad, at least at the beginning, and foreigners are not yet willing to invest largely in China. Large profits can be earned by employing in factories the abundant cheap labor to make from local materials the goods that are consumed in China, which are usually imported. The Chinese have proved to be well adapted to machinery, as they are intelligent, deft, and do not object to the monotony which is so wearing to the American operators of machines. In some cases, Chinese workmen can produce with American machinery goods at one-fourth the cost in the United States. It is quite possible that in time the competition of Chinese factories will be an important factor in international trade, but it will be many years, at the present rate of progress, before China will be able to supply domestic demand for most of the the articles of consumption.

The rapid growth of population is a problem of increasing difficulty. Although emigration to foreign lands, and to Manchuria and other less densely settled portions of China may be a temporary remedy, a decrease in the excessive birthrate and an increase in the productivity of agriculture will soon be necessary. The Chinese are gardeners rather than farmers, and the present returns for enormous human labor are generally inadequate. The available fertilizers are well used, and there is some attempt at the rotation of crops, although this might be improved. The substitution of power for human and animal muscles and the use of better implements and machinery are urgent, but are rendered difficult by the poverty of the farmers, the small size of the holdings and the nature of the crops. Much could be done by increasing irrigation, for the rainfall is inadequate in many regions, but the present way of raising water from streams and wells by man-power or with animals is much too expensive, and the cost of even the simplest pumps with engines to drive them is prohibitive. It is possible that cooperative societies might assist to provide chemical fertilizers, pumps and agricultural machinery if the government were in a position to introduce and supervise them. Probably quicker results could be secured by scientific seed selection than in any other way, but this process is practically unknown, except where it has been introduced by missionary or other colleges, and it will take much patience and effort to convert large numbers of farmers to this method. Government action would be required.

### Foreign Capital Timid

The construction of railroads and of highways is often said to be the greatest need of China, and there has been some activity along these lines, but progress is slow owing to the lack of local capital and the unwillingness of foreign capital to invest because of various-unfortunate experiences. Under normal conditions such enterprises have always proved profitable, as both passenger and freight traffic is large and the cost of operation astonishingly low.

Almost all of these proposed remedies depend upon one requisite, which is fundamental in civilized society—safety for life and property, which outside the territory under foreign control, does not exist in most regions in China. Since the overthrow of the Manchu Emperors in 1911, and the death of President Yuan Shih-kai in 1916, China has been the prey of military adventurers, who have replaced the civil administration, and who overtax and oppress the people at pleasure. A number of them rule provinces as a result of having fought their way to power or having been appointed by the Peking government. Not only do these rulers use the local revenues to support their armies, but they seize the proceeds of the salt taxes, which are pledged as security for foreign loans. Sun Yat-sen, the ruler of Canton, even threatened to confiscate the customs revenues in his territories, which are collected by foreigners in the employ of Chinese government, and used to pay the interest and principal on foreign obligations. The railway earnings are also diverted to military uses, instead of being spent to pay overdue bills for locomotives, cars and other necessary material, so that the whole transportation system is falling into dilapidation through failure to make necessary repairs and replacements, and through the interference of the soldiers.

The economic reorganization of China, which is absolutely essential to the welfare, not only of the masses, but of all classes, is practically impossible without the organization of some form of government, at least as effective as that of the Manchu Empire. Since 1919 Marshal Wu Pei-fu, Chang Tso-lin and Feng Yu-hsiang have all tried in vain to crush their competitors and unify the country by force, but apparently is no leader at present in China who possesses the prestige, ability and military resources necessary to do this. The various Parliaments, either elected or appointed, which have met in Peking and in Canton, have been conspicuous failures and have passed few really constructive measures. As only about 5 per cent of the population can read intelligently, a representative, democratic republic seems for the present impracticable. Those who know China best are apt to believe that the Chinese will solve their own problems, if given time enough, but the rest of the world is showing signs of unwillingness to permit about one-quarter of the human race to lose the gains in standards of living which are being achieved almost universally. As conditions appear to be growing worse in China, with few signs of improvement, the feeling is growing that China has a right to assistance from more fortunate countries, for the same reasons as aid was given to Germany, Austria, Hungary and other European countries.

Some of the problems are very similar. China has large quantities of depreciated paper money, a huge floating debt and millions of dollars of Treasury notes and bonds, upon which not even the interest has been paid for years. In addition, there are unpaid, overdue and unsecured foreign and domestic obligations of various kinds. The total, excluding the paper money and including bonds secured upon different revenues, is sometimes estimated at about \$1,000,000,000 gold, and probably does not much exceed \$1,500,000,000, though no accurate information on the subject exists, owing to the custom of the different Ministries of borrowing without the countersignature of the Ministry of Finance. The annual expenditure of the Peking government, excluding interest upon the debts is probably more than \$100,000,000 gold a year. This, however, is merely an estimate, as salaries and other bills go unpaid for many months, and the actual unpledged revenues are less than \$50,000,000. There is an ever-increasing deficit in the budget without any attempt being made to balance it. Money is borrowed at ruinous rates of interest to meet pressing obligations by pledging every possible source of revenue. What money is found in the Treasury is usually paid out for the support of the army and the higher officials, the employes of the civil administration going unpaid.

### Decreased Revenues

While the expenses have increased enormously since the fall of the Manchus, the revenues have decreased, as the principal source, the land tax, is now retained by the provinces, and only small sums are realized from the alcohol and tobacco taxes, stamp taxes and similar imposts. Most of the receipts of the import and export duties, and of the salt taxes, are pledged to pay the interest on various obligations, so that the Chinese government is left without the means of paying even the absolutely necessary expenses of the civil administration. It is stated by some investigators that if the original plans for the collection of the salt tax were carried out the present receipts could be doubled without increasing the burden on the consumers, as large sums disappear between the original payers of the tax and the Peking Treasury. The most obvious source of increased revenues is the proceeds of

the 5 per cent customs duties, which cannot be raised, as they are limited to this figure by treaties with various powers. It is proposed to increase these to 7½ per cent at the Special Customs Conference, but they cannot be raised above the this amount except by new treaties, though existing agreements provide that they can be raised to 12½ per cent if the Chinese government will abolish the "likin" or internal transit duties. But this is not possible as the Peking government cannot control the provincial authorities which now collect the "likin." Many Chinese contend that they have the same abstract right as other countries to levy import and export duties at any figure that seems to them desirable, and say that if the treaties which limit their freedom were abrogated they could provide for all expenses by increased customs. Such increases are not favored generally by foreigners, as it is believed that additional burdens would tend to decrease trade, and it is feared that the extra revenues would be spent on the useless armies which are even now a severe drain upon the resources of the country.

There is no evidence that the Chinese are making much progress in solving their financial, economic, political and military problems, and it seems that, as in the case of Europe, aid from other countries will be necessary. While difficulties are very great, they are not insuperable, as China has immense resources in minerals, metals and in agricultural and industrial possibilities. Further, it has been materially injured by the war, and its financial liabilities are very small in proportion to the real wealth of the country, if the resources could be developed and organized. There is a growing opinion, both in Chinese and in foreign circles, that the first step is for the Chinese government to request the treaty powers to cooperate with it in constituting an international economic commission to study the country's economic and financial problems and to make such recommendations as may seem desirable regarding the whole situation, with special reference to the payment of the obligations of the Chinese government, both foreign and domestic, and including such modifications of existing treaties as may seem desirable, provided the necessary conditions could be provided for. The Special Customs Conference could not perform this function since it is limited to definite objects. Progress is being made in the settlement of European problems. Even Russia is showing a tendency to adapt its social organization to economic laws, but the world cannot be restored to a normal and healthy condition until order has taken the place of social chaos in China.

Only those who have studied the astonishing progress in China during recent years, in spite of all obstacles, of the industrial system of the Occident, can realize the immense importance of avoiding as far as possible the mistakes which factory production has made in other lands. When China has become as much industrialized as Japan, profound readjustments will be required in international commerce, and it will be possible, under favorable conditions, to divide among the producers of the world a much large total amount of the comforts and luxuries of life. At present, however, China, like the Occident of some decades ago, is suffering from the underpayment of factory labor, slums, sweatshops and the exploitation of women and children. It is most important, in the interest of humanity, that proper legislation to protect the operatives from exploitation should be passed at once. The advanced industrial legislation of India shows that this is not impossible, provided intelligence is shown in working out the details. A beginning can be made if the treaty powers are willing to cooperate in the foreign concessions, and this example could be made to influence the Peking and Canton governments, and possibly some of the provincial governments.