

**CHINA'S INDUSTRIAL DEVELOPMENT:
ITS PROBLEMS AND PROSPECT**

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CHINA'S INDUSTRIAL DEVELOPMENT: ITS PROBLEMS AND PROSPECT

I. INTRODUCTORY

Perhaps we are all familiar with the Industrial Revolution in England which took place during the latter part of the eighteenth century. Along with it the slow-going methods of the handicraft stage were radically changed, by the introduction of power manufacture, to the new process of machine production of the so-called industrial stage. This period of transition, from 1770 to 1840, the span of a single life, is, after all, a short period from the standpoint of the historian. Yet its changes were so influential that they swept away those methods of production that had been used for centuries and caused profound modifications in social structure in England which foreshadowed a far-reaching significance.

The same phenomenon might be said to be true with China, but a few decades later. In fact, in many respects China's industrialization bears the same results as the industrialization in western countries a century and a half ago. The social and economic effects of this great economic change in England for instance, are to a certain extent reproduced in this land of medievalism. In this conjuncture, however, I am of the opinion that the year of 1842 might be taken as a prelude marking an important epoch in Chinese history. It was the time when contact of the old, self-sufficing Cathay with the commercialized West began to have a profound effect upon her. Before 1842 China's foreign intercourse was practically confined to one port, Canton, and was carried on under rigid restrictions. After the Industrial Revolution, however, along with other countries, China began to feel effects of the expansion of this industrialized West. That mighty changes should have resulted is but a foregone conclusion.

It is interesting to note that the earliest agent of the new age was England. But upon a second thought we would deem it but logical and consequential, since the Industrial Revolution first began in that country. She dominated the foreign commerce of China during the 19th century, until the so-called Opium War broke out. The latter was concluded by the Treaty of Nanking, the terms of which were the opening of five ports for trade and for settlements (as provided in the Supplementary Treaty of 1843), the origin of the extra-territorial system and the sacrifice of tariff autonomy, all at the expense of thus humiliating China. And this opening up of five ports to foreign commerce paved the way for China's industrialization.

China's industrial development, however, did not begin until in the early sixties. In 1862 the first steamship was built by the Ammunition Bureau in Anching. Three years later the Kiangnan Construction Bureau, now the Kiangnan Dock and Engineering Works, was established. In 1872 the China Merchants' Steam Navigation Company, the first and the only large Chinese shipping enterprise, was organized. Four years later the first railway, the Woosung Railway, was built. The modernization in China's transport was accompanied by similar change in her manufacturing and mining industries. The first rice cleaning mill was established in Shanghai in 1863, the first silk filature in 1873, the first coal mine in Kaiping in 1878, the first cotton and weaving mill in Shanghai in 1890, the first iron and steel works in Wuchang in 1890, the first match mill in Hankow in 1894, the first oil pressing mill in Newchang in 1895, and the first flour mill in Shanghai in 1896.¹

Yet, despite the early beginning in China's industrialization, the opportunity for rapid transformation did not present itself until the World War shut off the supply of foreign goods and gave the native producers the monopoly of a great market, as might be evidenced by the unusual boom enjoyed by and the rapid growth of the cotton and silk industries—two of the largest and most important manufacturing industries in China. Thus, taking 1913 as 100% basis, the quantity increase for cotton spindles was

¹ Fong, H. D.: *China's Industrialization, A Statistical Survey*, pp. 1-2.

estimated to have reached 371.7% in 1920, and that for filature silk export was estimated to have reached 168.3% in 1919.¹

Other industries, whether big or small, old or new, also flourished to an appreciable extent. For instance, the coal output increased from 100% in 1913 to 158.9% in 1920; the iron ore output increased from 100% in 1913 to 194.4% in 1920, and the iron output increased from 100% in 1913 to 166.7% in 1920. As coal and iron constitute the two largest mining industries in China, the rapid increase in their output may be taken as an index in the growth of China's mining.²

After 1920, industries in China still kept on forging ahead actively, but their growth varied extensively. Thus, for instance, notwithstanding the various adverse conditions both at home and abroad, the cotton manufacturing industry has been found to be still progressing in recent years. A comparison of the following figures will verify this statement:³

TABLE I. GROWTH OF COTTON SPINDLES IN CHINA, 1920-31

Year	Number of cotton spindles, in thousands	%
1920	2,843	100.0
1925	3,570	125.6
1930	4,498	158.2
1931	4,904	172.5

However, the silk industry, due to the world crisis on the one hand and the Japanese competition on the other, has unfortunately received a serious set-back first in 1927 and then since the year 1930. Of the 108 silk filatures situated in Shanghai a great many were forced to close down temporarily or forever during last year. The same remarks refer to the 49 filatures in Wusih and to the 28 filatures in Hanchow, two of the leading silk industry centers in this country besides Shanghai. Still worse were conditions in South China. Kwangtung, the second silk-producing province next to Kiangsu, used to export raw silk to an average annual value of 50 million taels. The falling off in 1932 amounted to about 80%, a tremendous decline.

¹ *Ibid.*, Table Ib.

² *Ibid.*, p. 3.

³ Chinese Cotton Millowners' Association: *Complete List of Cotton Mills in China*, 1932.

As a result exports of raw silk from China declined about 75 per cent, when compared with the average value of the preceding ten years, which latter displayed the following totals:¹

TABLE II. CHINA'S EXPORT OF RAW SILK, 1923-32

<i>Year</i>	<i>Piculs</i>	<i>Haikwan Taels (in thousands)</i>
1923	138,423	138,919
1924	131,273	108,059
1925	168,018	140,358
1926	168,563	144,444
1927	160,002	128,706
1928	180,186	145,443
1929	189,980	147,681
1930	151,429	109,181
1931	136,186	84,680
1932	76,671	32,539

Due to the effect of the world-wide depression and the unfavorable political situation at home, most of the other industries progressed but slightly in recent years, and quite a few were even forced to undergo the same misfortune as the silk industry just mentioned.

A question may be asked then: How far has China been industrialized on modern lines?

Strictly speaking, China has been "industrialized on modern lines only to an insignificant extent."² It is an established fact that the economic balance in China of primitive farming methods and domestic handicraft industry which persisted through these many centuries has now broken down as a result of its impact with the West. "But, the manifestations of modernism in China are still of a spotty nature and not general. They do however connote a refreshing state of receptivity on the part of the Chinese people to modernizing influences."³ Of course "this fact combined with the nationalistic movement which is evident throughout the length and breadth of the country promises much indeed for the future of China."⁴ But how? Or, what will become of China's future industrialization? In other words, what will be the prospect for her industrial development in the future?

¹ Kann, E.: *China in 1932*, Shanghai, pp. 25-26.

² *The China Year Book*, 1932, "Report of the British Economic Mission to the Far East," p. 190.

³⁻⁴ Arnold, J.: *China Through The American Window*, p. 13.

Before attempting to frame any answer to the above questions, I wish to draw my readers' attention to a number of the fundamental problems that are confronting present-day China's industries and which together have a vital bearing upon her industrial future.

II. FUNDAMENTAL PROBLEMS RELATIVE TO CHINA'S INDUSTRIAL DEVELOPMENT

1. LABOUR

Supply and Unemployment: In respect of the numerous problems that are essential to China's industrial development, the problem of labour commands our primary consideration. Though there is a great dearth of data regarding labour in China, yet it is an acknowledged fact that labour supply is by no means scanty in this country. Even it has been estimated that about 80 per cent. of China's total population belongs to the farming class, even it has been shown that China's industrialization is confined chiefly to six provinces,¹ the effect of the spread of the modern factory system is so great that its influence is gradually extending into the neighbourhoods of the industrialized areas,² and that, with the concentration of population in these industrial centers, there always seems an excessive supply of human resources. Of course the growth of trade and industry in the cities calls for the concentration of workers, which naturally hastens the city-ward drift of population.

It is generally asserted that the Chinese are instinctively an industrious people, that Chinese labour is both quick and intelligent, and under favorable conditions quite, if not very, efficient. However, this does not imply that this enormous force of labourers are mostly skillful hands; on the contrary a great many of them are found to be recruits, unskillful and not at all well-trained.

We may logically infer then that, from an over-supply of labour, competition and unemployment naturally result. Although accurate index on unemployment in China is lacking, its severity is but obvious. The percentage of unemployment among the organized workers in Shanghai, for instance, was estimated at 7.19 in

¹ Namely: Kiangsu, Liaoning, Hopei, Kwangtung, Shantung and Hupeh. See Fong, H. D.: *China's Industrialization*, pp. 30-32.

² Lamson, H. D.: "Effect of Industrialization upon Village Livelihood," in *Chinese Economic Journal*, October, 1931.

1928 and 6.45 in 1929.¹ But these estimates do very little justice to the whole subject of unemployment in this country. Suffice it to say, however, there is every reason to believe that the number of unemployed in China is ever on an upward trend, and that so far as I know no way has yet been devised for its prevention.²

Disputes and Strikes. Labour disputes and strikes are but natural outgrowths of modern factory system. The chief causes in order of their frequency for disputes between the factory owners and their employees, and the resultant strikes, are found to be, first, the question of wages; second, the dismissal of employees; third, dissatisfaction with factory and working conditions; and sympathy with strikers in other factories or other industries a poor fourth. The question of wages will always be a bone of contention in China as elsewhere; but the dismissal of employees as a cause for disputes and strikes has a special significance in China possibly not realized by some factory owners. Apart altogether from the question of labour-unionship and workers standing by each other, there is a strong feeling in the Chinese mind against dismissing a delinquent employee. He or she may be punished, but it is only a very serious offence which should be dealt with by dismissal, since this is looked upon by the Chinese as depriving the delinquent of his or her means of livelihood. Thus in the old days, a servant of an official or even of a member of the gentry might be given corporal punishment for an offence, but was seldom dismissed. A servant or employee might leave of his own accord, but to be dismissed was considered a punishment far beyond the deserts of almost any misdemeanour. Here is what the traditional conception of "saving-face" deeply embodied. Of course, the present trend of feeling is definitely against any such thing as corporal punishment, but there still lurks that prejudice against dismissing an employee, and in view of this, employers of labour would do well to avoid as far as possible this method of dealing with a delinquent, which is so extensively used under the Western system.³

¹ Fong: *China's Industrialization*, p. 37.

² For detailed discussion read the *China Year Book*, 1931, pp. 521-24; Tao & Lin: *Industry and Labour in China*, World Social and Economic Congress, The Hague, August, 1931; "Unemployment in China," *Chinese Economic Journal*, Dec., 1931; Fang, F. A.: *Chinese Labour*, Chapter VII; etc.

³ "Labour in Shanghai." in *The China Journal*, May, 1930, pp. 237-8.

Strikes are not infrequently the result of propaganda of the communistic elements in China, especially of a certain class of student,¹ and these are harder to deal with than others where the workers have, or think they have, a legitimate grievance. However, such causes for stoppage of work will decrease, I think, as our Government gets stronger, and though serious at the moment, they cannot be looked upon as anything more than a transient phase.

While labour in China, like that of any other industrial area the world over, is at times difficult and troublesome, it certainly cannot be said to be more so than any other; it is, nevertheless, on the whole, a matter for congratulation that disputes when they arise are generally settled as quickly and easily as possible. And I am glad to say, too, that fewer disputes and strikes were reported during the past two years than previously.²

Wages, Hours of Labour, and Cost of Living. Wages and hours of labour constitute another problem for labour. The problem of wages in China, being heterogeneous in character, is very complicated. Wages of the industrial workers vary according to locality, custom, occupation, industry, sex, age and experience of the labourers. To a more or less extent, the above statement is applicable to the question of hours of labour. But the hours problem is further complicated by the following factors, namely: climatic conditions, midnight labour, rest days and holidays.³

Not only is there a different system of payment as well as rate in every factory, but also the daily working hours vary from industry to industry. That the wages are low and the hours long have been shown by the Ministry's recent investigation, according to which the commonest money wage per month in 29 industrial cities in nine provinces runs from ten to fifteen dollars, and the commonest hours of work per day reach ten.⁴ Minimum wages,

¹ It is of interest to note here a sentence that appeared in the *Chinese Economic Monthly*, Vol. 3, No. 3, p. 108, which reads as follows: "The students played a considerable part in leading the agitation, creating general labour unrest throughout the country."

² For more detailed discussion see the *China Year Book*, 1932, pp. 496-9; Fang, F. A.: *Chinese Labour*, Chapter VI; *The Chinese Economic Monthly*, Vol. 3, No. 3, pp. 103-8, and No. 10, pp. 444-8.

³ Chen, T.: "Labour," in the *China Year Book*, 1932, p. 499.

⁴ Ministry of Industry, *Bulletin on a National Survey of Industry and Labour*, No. 1.

however, may be very low, but they are hardly worth considering for they only affect beginners and learners, who soon get increased wages according to their capacity to learn.

Side by side with the question of wages, a brief review on the cost of living among the working families or individuals seems worthwhile; because from the data on income and expenditure, certain general observations may be made respecting the prosperity or destitution of the workers and their families. And as most of their income is derived from wages, an inference may be drawn as to whether or not the wages are adequate to maintain the workers and their families in decency and health.

As to the changes in the cost of living in certain cities, the situation is to a limited degree revealed by the index numbers, as the cost of living index numbers for Shanghai, Peiping and Tientsin; and the retail price of food index numbers for Nanking and Canton. But it should be pointed out that the base period of these index numbers is not the same, nor is the method of constructing the index numbers.¹ The details are shown in the following table:

TABLE III. INDEX NUMBERS OF RETAIL PRICES AND COST OF LIVING IN LEADING CITIES

	<i>Nanking</i> 1926=100.0	<i>Canton</i> 1926=100.0	<i>Shanghai</i> 1926=100.0	<i>Peiping</i> 1927=100.0	<i>Tientsin</i> 1926=100.0
1926	100.0	100.0	100.0	102.0	100.00
1927	119.0	103.8	106.7	100.0	108.59
1928	122.8	107.6	102.5	101.6	113.29
1929	128.0	108.4	107.9	106.5	116.28
1930	134.6	114.2	121.8	109.6	121.50
1931	—	—	125.9	95.8	110.35

In spite of the fact that the cost of living in Peiping and Tientsin is found to be lower in 1931 than the previous year, and that the same thing was true in Shanghai last year,—being nearly 7% lower than in 1931²—still it has been found that the wages are in most cases insufficient to maintain the workers and their families in physical fitness as well as in working efficiency. It has been further pointed out that “in a small number of factory workers, the

¹ Chen: *Ibid*, p. 502

² “The cost of living in Shanghai last year was nearly seven per cent. lower than in 1931, judging from the price indexes published by the National Tariff Commission. Among the broad classifications upon the basis of which costs are calculated the only increase was in housing.”—*Finance and Commerce*, Shanghai, Vol. 21, No. 7 p. 183.

husband earns enough to support himself and his wife," that "on the whole the family income is small, and as the chief source of income is derived from wages, it is reasonable to conclude that the wages are inadequate."¹

By and large, the majority of the industrial workers in China realize that they are being placed in a precarious situation, for they know that their expenditure is greater than income, and that their wages are unusually low; so in many strikes the principal demand is for an increase in wages, as I have referred to above in connection with labour disputes and strikes. As a matter of fact the persistent demand of the workmen for wage increase finds sympathetic support in the Factory Act of 1929 which states in Article 20 that "minimum wages of the workers shall be determined in accordance with the living conditions prevalent in the various localities in which the factories are established." But this article cannot be enforced, until a national cost of living survey or several large-scale regional surveys to cover the leading commercial and industrial areas are conducted as basis for the determination of minimum wage rates. If national minimum wage rates were established, China could satisfactorily comply with her obligation to the International Labour Organization for her ratification in March, 1930, of the Minimum Wage Convention. Internally, China could also improve the economic and social well-being of the working population through an effective increase of wages. One conclusion seems inevitable, i.e., wages must be generally raised if social and industrial peace is to be maintained. As a preliminary step to the elevation of the wage level, comprehensive field surveys on the cost of living of the workers are essential.²⁻³

Welfare, Woman and Child Labour. Another problem of labour is the welfare of the labouring class. The risks of labour, arising from unemployment, accident and occupational disease, have begun to multiply in modern industries without new means having

¹ Chen, T.: "Labour," in the *China Year Book*, 1932, p. 503.

² *Ibid.*, pp. 503-4.

³ For fuller discussions upon these subjects, the following books are recommended: Tao, L. K.: *The Standard of Living Among Chinese Workers*; Chen, T.: "Labour," in the *China Year Book*, 1932, Chapter XVIII; Fang, F. A.: *Chinese Labour*, especially Chapter IV.

been devised for their prevention or compensation. In modern mills such as cotton spinning and weaving, flour milling, etc. the workers are frequently subject to accidents in view of the common disregard for the fencing of machinery. Trachoma and tuberculosis, as occupational diseases, are common in carpet weaving and cotton spinning and weaving respectively; so also was necrosis of the jaw in match making before the prohibition of the use of yellow phosphorus in 1925.

Industrial welfare service in the country as a whole is rarely met with. The living conditions of the workers are too deplorable to think of. On the whole, it can be said that the factories in China have but inadequate provisions for the protection of the workers' health and safety.

Chinese workers are pitifully deficient in adequate means of education. It is estimated that about 95 per cent. of China's labouring class are illiterate. Illiteracy breeds ignorance, and constitutes one of the main obstacles to attaining working efficiency. In view of the need of well disciplined or skillful labour, proper education is of prime importance.

In modern industries the replacement of handicraft by machinery reduces the erstwhile craftsman to machine tender in some cases, but in most cases creates a new class of labour composed chiefly of women and children for the selfsame task, which often requires but little skill or strength. In the national survey on industry and labour covering 29 cities in 9 provinces, by the Ministry of Industry in 1930, out of the total number of 799,912 workers, 372,837 or 46.6% are female labourers, while child labour constitutes 6.9%, or 54,905 in absolute numbers.¹ The significance that the employment of child and woman labour creates is both social and economic. To copy the words of Dr. H. D. Fong:² "Socially their employment affects national health and vitality, especially in China where the new factory law, providing for eight hours work, a minimum age of 14, two months rest with pay for motherhood and prohibiting night work among child and woman labour, has not

¹ Ministry of Industry, *Bulletin on a National Survey of Industry and Labour*, Nos. 1 & 2; and Chen, T.: "Labour," *Ibid*, pp. 504-6.

² Fong, H. D.: *China's Industrialization*, p. 38.

yet been enforced. Economically, the employment of child and woman labour has the tendency of depressing the wages if not of replacing the employment of adult males. Chinese labour, in the absence of minimum wage or family allowance laws, has no means of redress from this evil of underpayment."

Labour Legislation. Because of the labour problems that modern industries create, attempts have been offered by the Government and other interested parties towards their solution. Labour legislation,¹ a result of such attempts, is therefore a new thing in this country. In this respect the National Government has passed five laws—namely, the industrial disputes act of 1928 and 1930, the factory law of 1929, the labour union law of 1929, the collective agreement act of 1930 and the factory inspection law of 1931; but much depends upon the effectiveness with which these laws are to be administered. It is known, too, that the Government is contemplating drafting a labour insurance law to protect the welfare of the workers by requiring them to be insured against the risks of sickness and death.² "The factory law and the factory inspection law, applying as they do only to factories employing thirty or more workers and driven by mechanical power,³ are a little too narrow in scope, and have not yet been put into effect because of practical difficulties."⁴

The above-mentioned laws have been regarded by many, industrialists as well as economists, to be too idealistic and too much divorced from the existing conditions prevalent in all factories. It has even been pointed out by the experts that the lack of qualified inspectors and the absence of birth certificates to ascertain the age of the workers constitute but two of the numerous handicaps to their enforcement.⁵

Furthermore, Dr. Chen Ta, an authority on labour problems in China, did not hesitate to make such a remark: "But how far

¹ Read Fang, F. A.: *Chinese Labour*, pp. 128-85; Chen, T.: "Labour," in the *China Year Book*, 1932, pp. 506-10.

² *Finance and Commerce*, Vol. 21, No. 6, p. 155; No. 9, p. 249.

³ *Factory Law*, Chapter I, Clause I: "This law shall apply to all factories driven by steam, gas, electricity or water power, regularly employing workers thirty or more in number."

⁴ Fong, H. D.: *China's Industrialization*, p. 39.

⁵ Read *North China Daily News*, Shanghai, January 15, 16, 17 and 29, February 8 and 28, 1931.

these laws are applicable to the economic and social situation now prevailing in the country and can therefore bestow noteworthy benefits to the common people, few are in a position to answer." "To some," he continued, "the initial step should be taken with the Factory Act as it attempts to regulate working conditions in the factories. It is then pertinent to examine the Factory Act, and problems of its enforcement, as the National Government finally set August 1, 1931, as the date of enforcement. In the summer of 1931, a factual study of the applicability of the factory law to the Shanghai area was made.¹ The results of the survey, though defective in certain aspects, may throw light on the obvious discrepancy between the idealism of the law and the actual socio-economic situation which the laws seek to govern. The study indicates certain preliminary steps to be taken for the gradual enforcement of the act."²

I do not profess to denounce the imperfection of these factory laws, but am only desirous of pointing out that promulgation of these laws is one thing while their applicability and enforcement is another. Unless drastic revisions—based on a large-scale scientific investigation with a view to adapting them to the conditions and temperaments of the people thus involved—be made upon these laws, little benefit, I am afraid, will be derived from their enforcement and little success will they achieve either on the part of the labourers or of the employers.

Labour Organization. Side by side with the labour legislation is the rise of labour organization.³ An investigation completed by the Ministry of Industry in 1930 reported a total of 576,250 union workers in nine provinces. The workers of most of the main industries are organized into labour unions; but while strikes take place, it is seldom that they last very long or become as bitter as they do in most countries to-day, which argues well for both the workers and the employers. Yet unionship itself is not a thing to be discouraged. It is important, however, that the object of all labour unions should be to promote the efficiency of the workmen,

¹ Chen, T.: "Study of the Applicability of the Factory Act of the Chinese Government: A Preliminary Survey of the Shanghai Area."

² *The China Year Book*, 1932, p. 507.

³ Fang, F. A.: *Chinese Labour*, Chapter V.; the *China Year Book*, 1932, pp. 493-6

to improve their living and working conditions, and to better their social and economic status, but should not be the fulfillment of the ambition for personal gain or lust. Failing this, it is more profitable for the workers to be without a labour union than with it.

Conclusion. All in all, as an effect of industrialization, labour problems in China are becoming not only many in number but also kaleidoscopic in presentation and complicated to solve. If vitality and efficiency of the labourers be taken into consideration if China's industry and labour are to prosper and society to enjoy peace, not only should the above problems be seriously studied but the following remarks, in the words of Dr. Chen Ta,¹ should be borne in mind in order to insure a more fruitful solution:

"A general tendency to-day is to imitate the tactics of the labour movement of the West. Certain practices may have been successful for the struggle between capital and labour in Europe or America but may yet be ineffective in China. Trade union methods and practices of western countries should be so modified as to suit economic and social conditions in China. The 8-hour working day should not be blindly advocated when the 10-hour day would in many cases be a blessing to the workers. It is useless to agitate blindly for labour co-partnership in industry when the majority of the workers are still illiterate and care little for such privileges."

2. RAW MATERIAL

Next in importance to the labour problems is perhaps the problem of raw material supply. In spite of the surplus quantity of human resources favorable to the growth of industrialization, China's natural resources are, contrary to the popular notion, rather limited for the self-same purpose.

Despite the facts that China is essentially an agricultural country, that she is the world's largest producer of soya beans, kaoliang, sweet potatoes, peanuts, cabbage, tea and bamboo, that she ranks second in the production of rice, wheat and tobacco and third in cotton, the problem of the shortage of foods and raw materials has become evermore threatening to the national subsistence.

¹ Chen, T.: "The Labour Movement in China," in *International Labour Review*, Geneva, March, 1927, pp. 362-3.

Although rice is the staple article of food for the Chinese in the southern and central provinces, as wheat and millet and other grains are in the north, it is found, however, by virtue of the Chinese Maritime Customs Statistics, that China imported on an average some 17,740,000 piculs of rice annually during the past three years,¹ that wheat imported amounted to over one million and a half tons (short tons) for the year 1931 and a little over one million tons for 1932, not including the imported flour—in bags of 49 pounds each—of 13.3 million and 18 million bags respectively. Such enormous figures are not only surprising but intrinsically serious, knowing that China is basically an agricultural country.

Turning our attention to the raw material supply for industrial consumption, we shall find, for instance, the increase in the importation of raw cotton still more astonishing. The rapid growth of the cotton industry in China, against the insufficient home supply, has expedited the increase of cotton imports. China's consumption of raw cotton per year was estimated to be approximately over 2.3 million bales of 300 pounds each.² However, judging from the Chinese Customs statistics, aside from a considerable portion of home-grown cotton that was exported,³ China's importation of raw cotton, mostly from U. S. A. and India, was placed at 1,241,000 bales (of 500 lbs) for 1931 and 99,000 bales for 1932; or, in other words, about 50% of the total consumption in this country. The value of these imports was, according to the Customs statistics, U. S. \$60,912,000 in 1931 and U. S. \$40,735,000 in 1932.⁴

Again, despite the fact that tobacco is being produced in marketable quantities in almost every province in China, still we find from the Customs statistics that the importation of tobacco leaves amounted to 165,609,000 lbs in 1931 and 78,359,000 lbs in 1932. While in regard to the chemical industries, we find a large annual import of soda ash, the three essential acids,⁵ and dyestuffs, especially.

Imports of rice and paddy (in thousand piculs)	1930	1931	1932
	19,991	10,741	22,487

² *Textile News*, Shanghai, No. 962, p. 2150 (in Chinese). Of course this refers to the mill consumption alone.

³ Raw cotton exported during 1931 was reported to be 790,000 piculs, in 1932, 663,000 piculs.

⁴ *Finance and Commerce*, Vol. 21, No. 8, p. 223.

⁵ Namely, sulphuric, nitric and hydrochloric acids.

aniline and artificial indigo, the raw materials of which the country possesses quite a bountiful supply. The latter, i.e., aniline and artificial indigo, for instance, were valued at a total of U. S. \$3,800,000 for last year's import. The manufacture of paper has long been considered a Chinese invention thousands of years ago. Yet, we find the importation of newsprint paper amounting to 870,000 piculs in 1931 and 935,000 piculs in 1932, while the value of imported paper for 1932 was estimated at about U. S. \$14,700,000. It is true that China does possess a supply of raw materials for making the afore-mentioned commodities; but it is just as true that the supply is not thought sufficient to meet the enormous requirements.

Thus far we have discussed the supply of raw materials from a quantitative point of view. Speaking of quality, the future of China's industry seems to be still more endangered. Cotton produced in China largely belongs to the short-staple class, and is generally adaptable only to weft and short-end work. Even with the introduction of the American seeds over a decade ago, the apprehension remains that these acclimatized seeds either have degenerated or are deteriorating. With the advanced demand for finer counts of yarn, there has been a dearth of long-staple cotton, and the American and Egyptian imports have met the demand satisfactorily. While the present trend of demand is towards still finer yarns as the civilization and popular taste grow, the supply of home-grown cotton will register a further calamitous set-back.

The causes which account for the retardation of the native cotton production are numerous, among which might be mentioned, first, inferiority in quality and therefore less demand, second, adulteration which makes the supply still worse, third, civil strifes and natural calamities which have almost completely disorganized the existing rural economy, and fourth, lack of government support and encouragement. It is too well-known that in China cotton growing, along with other agricultural enterprises, is still unscientific. But the Government has rendered very little, if any, assistance to the farmers in what is rapidly becoming one of the most important sources of income for the land-owners in many provinces. Although

recently in certain districts cotton experimental farms have been started, they are few in number, and there is a crying need for the addition of many more in all parts of the country, and farmers must be educated to forsake their antiquated methods of cultivation.

China ranks second in the world in wheat production. Her normal crop was estimated by the Chinese Government Bureau of Economic Information at 600 million bushels (of 60 lbs) per year.¹ However, so far as quality is concerned, wheat produced in China, generally speaking, does not seem to be on the same level as the foreign imported variety. For instance, to cite the Customs Trade Report for 1930, it states thus: "Principally on account of the big drop in the world market price and the slight improvement in exchange towards the end of September, local mills at Shanghai placed considerable orders for Canadian and Australian wheat at prices slightly higher than that ruling for Chinese grain. The mills appear to prefer foreign wheat to native, inasmuch as the former gives better milling values, not only due to its superior quality but also as being free from sand and dirt. As a rule, one picul of native wheat produces some 87 pounds of flour, while the same quantity of foreign wheat yields 100 pounds."²

I purposely picked cotton and wheat for illustration of the question of quality, because they are the raw material supply for the cotton industry and the flour industry, two of the leading industries in China. With reference to other raw materials, the same notion may be applied; i.e., their quality is in most cases what the native industries most desire.

The deficient supply of home-grown raw materials, coupled with their not-so-good quality in comparison with foreign supplies, which as a matter of consequence lead to tremendous imports, is a matter of grave concern to the future of China's industrialization. It is detrimental not only to the national wealth, in the form of excess of imports over exports, but also to the development of the industries thereby related.

¹ *The China Year Book*, 1932, p. 90.

² *Ibid*, p. 91.

The basic solution, therefore, rests in the attainment of the possibility of self-dependence within reasonable limitations, both quantitatively and qualitatively,—without which, China's industrial future will be in constant peril.

It is common knowledge that China, though spacious in area, has as well a considerable portion of arid land. According to the estimate by Professor Baker, agricultural economist in the U. S. Department of Agriculture, the proportion of the physically cultivable land in the U. S. A. which is cultivated is nearly 39%, whereas in China the proportion is only about 26%. Again, his study shows that whereas the area of cultivated land per capita of the total population of the U. S. A. in 1919 was 3.6 acres, in China it was about 0.4 acre. In other words, there was about nine times as much cultivated land per person in the U. S. A. as in China.¹

A great many factors account for China's farming backwardness. In addition to the conservatism of the rural population in farming processes might be mentioned the disastrous effects, direct or otherwise, of the incessant civil wars, the communistic activities, the floods, the famines, and several other factors. China's rural economic structure is on the brink of total collapse. A re-organization of China's rural economic structure offers no alternative but immediate execution. To this end, private as well as government effort must be sought, and notably the latter, without which the reconstruction plan will achieve very little, if any, discernable success.

In agricultural potentialities there are tens of millions of acres of fertile land in China awaiting economic transportation to open them to settlement. Furthermore, with scientific agriculture, well-planned irrigation, extensive afforestation, essential railways and roads, improvements in rural credits and marketing methods, the eradication of plant and animal pests, better seed selection, and fertilization, this country's agricultural productivity as well as quality, may be very greatly increased, and ample provision will be made to feed its population on the one hand and to supply its industries on the other.

¹ Baker: "Land Utilization in China," in *Problems of the Pacific*, 1927, p. 329.

3. MACHINERY AND GENERATING POWER

One of the most conspicuous aspects of the modern factory system is the increasing utilization of the machine power in place of manual labour for large-scale production. The more advanced the industry, the more use will it have for machinery. It is said that the invention of the power-driven machine paved the way for industrial revolution. In other words, without machinery there would be no existence of the modern factory system.

Without question the expansion of modern industries in China has increased steadily the demand for machinery and power apparatus, such as motors and engines. Almost every important industry in this country finds itself dependent upon the supply of machinery from foreign countries, notably England and U. S. A. From a study made of the Customs statistics for the past twenty years, we find the importation of machinery and tools registering a total value of HK. Taels 4,533,791 in 1912, while in 1931 it reached HK. Taels 44,875,346, a tremendous increase of nearly ten times.¹ On the one hand, this phenomenon may be regarded as encouraging, since it seems to designate the fact that industrialization in China is on a progressive scale. However, upon a second thought, such a phenomenon does not seem so encouraging, for at least two reasons. First, that the future development of China's industry should largely, if not wholly, depend upon foreign machinery is a policy not only unsound but also detrimental to the balance of trade, as it affects the national wealth, and to the industry, as it restricts the scope of future expansion. Secondly, machinery, being vital to any industry, is of such a nature that its supply is liable to be cut short or discontinued in the event of war, as its makers are obliged to turn out war weapons for their national defence under such circumstances. Imagine what a handicap this would mean to the native industries in such an event.

¹ Statistics showing the Import of Machinery and Tools

	(Value in HK. Taels)
1912	4,533,791
1917	5,439,770
1922	51,066,853
1927	19,743,096
1931	44,875,346
Twenty years' average	21,667,443

The question naturally arises: To what extent shall China depend on the supply of foreign-manufactured machinery? Or, in other words, can China supply her own industries with home-made machinery as other countries do?

Investigations reveal the deplorable fact that not only the iron and steel industry in China is yet in its infancy, but the smelting of iron is still undeveloped. That China's present position in the mineral production of the world is insignificant has been clearly set forth by the Geological Survey of China, producing as it does in respect of world's mineral production only 0.5% of iron ore, 0.02% of copper, 0.09% of lead, 0.09% of zinc, 6% of tin, 1.6% of coal, and finally, 0.00008% of petroleum.¹ China's iron reserve has been estimated to amount to 951.7 million tons.² According to a recent estimate, her annual production of iron ore amounts to 2 million tons, with pig iron about half a million tons. However, it should be noted that the iron mines in China are largely under Japanese control. Japan, being a country very poor in iron-ore resources in proportion to the great demand of her smelting industry, has been, during the last two decades, consistently striving to develop China's iron deposits. The three Manchurian deposits—Miaoerkou, Kungchangling and Anshan—are all in the Japanese hands. Other deposits along the lower Yangtze valley are more or less under her control, since many of them have borrowed heavily from her. It is no wonder that practically all of the export of iron ores goes to Japan.

On the other hand, China's import of iron and steel is much more than its export, although its export of iron ores far exceeds its import. Manufactured iron and steel form an important item of imports. The total value of the imported metals, iron and steel, according to the Customs statistics, amounted to HK. Taels 84,850,295 in 1931 as against an annual average of HK. Taels 48,457,979 for the past twenty years, indicating an increasing demand for them.

Side by side with the problem of machinery might be considered the generating powers, since the two are quite closely related. The

¹ Fong, H. D.: *China's Industrialization*, p. 8.

² Hsueh, K. L.: "The Iron and Steel Industry in China," in *Chinese Economic Journal*, Vol. II, No. 1, p. 6.

impetus of the growing industries has in one way or another hastened the demand for power supply. Of the mineral resources that give rise to the generating of power, such as electricity and steam, coal and petroleum are perhaps the two most important. However, recent studies have pointed out the fact that so far as China's reserve and production of these two important minerals are concerned, they seem to be quite limited. According to the Geological Survey, China's coal reserve amounts to 217,626 million tons,¹ which is only four percent of the world's total;² while its annual production reaches an estimate of 25.7 million tons.³ In respect of petroleum, China's reserve, after making every allowance for deficiencies in present knowledge of the economic geology of China, is still probably less than one percent of that of the U. S. A.;⁴ while its annual production seems to be negligible in comparison with the latter's yearly yield of 42 billion gallons.⁵

So far as capitalization goes, about forty percent of Chinese coal mines are under foreign control, notably Japanese and British.⁶ North China is rich in coking coals; besides local uses, coking coal and coke are exported in increasing amounts to Japan for metallurgical purposes. In the interior provinces coal is extensively worked for local consumption. But owing to the lack of communication it cannot be transported to any great distance from the centres of production.⁷ Thus, the increasing demand for this mineral in the different industrial centres of China, coupled with the above two features,—namely, export to Japan and lack of interior communication—resulted in the importation of coal amounting to roughly 11.1 million Customs gold units⁸ in 1932. The import of gasoline and kerosene oil is in still more enormous amounts, reaching 170,034,000 gallons in 1932, against 200,895,000

¹⁻² "China's Coal Reserve And Production" in *Chinese Economic Journal*, Vol. II, No. 1.

³ Torgasheff, B. P.: *Coal, Iron and Oil in the Far East*, 1929, p. 13.

⁴ Fong: *China's Industrialization*, p. 8.

⁵ Arnold, J.: *China Through the American Window*, p. 26.

⁶ *Chinese Economic Journal*, Vol. II, No. 1, p. 22.

⁷ Wong, W. H.: "Mines and Minerals," in the *China Year Book*, 1932, p. 181.

⁸ One Customs gold unit equals U. S. \$0.40.

gallons in 1931.¹ Fuel oil import was estimated at 235,000 tons in 1932, compared with 227,000 tons in the year previous.

That iron, steel and coal are essential to any modern country for the purpose of national existence, self-defence and development is obvious. Iron and coal, constituting the raw materials either for machinery or for generating powers, are therefore being regarded as the basic industries in a country. Furthermore, iron and steel, which together form the major heavy industry in any country, are not only an industry by themselves, but also constitute an indispensable factor in building other industries. It is estimated that every American has the equivalent of about thirty mechanical slaves as a resultant of the very advanced scientific and industrial state of his society. China has probably less than one mechanical slave for each of its population. Its per capita consumption of iron and steel is estimated to be less than 1/180 of that of the United States.² It is therefore imperative that China should with all her effort and intent develop her iron and steel industry in order that she will be able to manufacture her own machinery and power apparatus in the future, otherwise her industrialization will be constantly on an unstable and uncertain foundation, as far as the supply of the latter is concerned.

It is known that a great many machinery factories of all sizes have been established in all the industrial centres in China and are enjoying quite a prosperous business. Generally, they are able to make quite a variety of textile, flour, tobacco and other machinery, of which the designs of foreign makers are within their ability or capability to copy or to make some improvements on.

China will probably develop an iron and steel industry of her own, but it may not suffice for her industrial future. Of course she will make for herself much of the hardware and small machinery suited for the small user of cheap products. But the lack of technical knowledge and large capital will prevent this industry from progressing to any appreciable extent. "Iron goes to coal"

¹ Customs Statistics Showing Imports of Gasoline and Kerosene Oil (in thousand gallons)

	<i>Gasoline</i>	<i>Kerosene</i>	<i>Total</i>
1931	29,755	171,140	200,895
1932	24,115	145,919	170,034

² Arnold: *China Through the American Window*, p. 21.

is an old axiom. Countries like Sweden, Brazil, Cuba and Newfoundland, although rich in iron ores, cannot develop their iron and steel industry because coal is lacking. France having acquired Lorraine now leads Europe in the output of iron but has to send her ores to Germany to be smelted.¹ China, however, presents a different picture. Her known coal reserve, though in a sense limited, is considered to be ample enough to smelt all of her known iron ore reserve, which, while leading the countries of the West Coast of the Pacific Ocean,² is again considered to be sufficient to meet the present demand. With these two natural governing factors—ore supply and coal supply—favorable, the iron and steel industry of China not only needs immediate development, but has a promising future, provided, of course, financial and political conditions are normal. However, whether the bulk of these resources will ever be utilized for the benefit of China seems questionable, inasmuch as the Japanese interest in China's iron and coal is exceedingly great,³ as I have already mentioned in the foregoing paragraphs. This will be a grave problem for both the Government and the people to solve as far as her industrial future is concerned.

Regarding the mineral resources for generating power, China's deficiency in the petroleum reserve perhaps may be compensated in some measure by her abundance of coal supply and hydro-electric power potentialities. Of the 20 million horse-power of the latter potential supply, which ranks fourth in the world's total, China has developed only about a thousand horse-power,

¹ Hsueh, K. L.: "The Iron and Steel Industry In China," in *Chinese Economic Journal*, Vol. II, No. 1, p. 7.

² *Ibid.*: Known Actual And Potential Iron Ore Reserves On The West Coast Of The Pacific Ocean:

<i>Country</i>	<i>Iron Ore Reserve (in million tons)</i>
China	950
Netherlands East Indies	800
Australia and New Zealand	345
Philippine Islands	200
Japan and Korea	80
Malay Peninsula and British Borneo	25
Russian Far East	5
French Indo-China	Moderate
Siam	"

³ *Ibid.* p. 10.

which is merely 0.005 percent.¹ Will China be so clever as to increase the utilization of this potential supply for her industrial purposes?

4. CAPITAL AND FINANCE

According to the latest list compiled in 1932 by the Chinese Cotton Mill Owners' Association there were 128 cotton mills in China, among which three have suspended work and another one has not yet started operation. After careful revision of the list, the capital and reserve for 122 mills is found to be \$528,978,017.² The spindles for these 122 mills amount to 4,675,176, and looms 40,743, and following the usual conservative estimate of representing 12 spindles for one loom, amounts to 488,916 spindles, thus making a grand total of 5,164,092 spindles.³

We are all aware of the fact that the cotton industry is by far the foremost and largest factory industry in China to-day. That this is a large-scale industry can be further evinced by the fact that, from the above statistics, it requires on the average a capital and reserve of \$4,335,885.40 per mill, taking for granted, however, that a mill may refer to a plant or to several plants owned by the said mill or company. In other words, to be more specific, it may be said that the average capitalization of this industry amounts to \$102.43 per spindle.

A comparison of the following table will show that in respect of capitalization, Chinese mills were not so well-equipped as their British and Japanese competitors.

¹ "Utilization of Hydro Power in the World of To-day," in the *Shun Pao Monthly*, Vol. 2, No. 1, pp. 107-16. (in Chinese)

² The total capital and reserve of the 78 Chinese-owned mills amounts to \$98,665,006 and Tls. 31,502,000, making an aggregate of \$143,279,083.3; that of the 3 British-owned mills amounts to Tls. 10,000,000, or \$14,162,300; while that of the 41 Japanese-owned mills amounts to Tls. 36,602,000 and Yen 243,117,706, making an aggregate of \$371,536,633.7. Therefore, the total sum of these 122 mills amounts to \$528,978,017. It should be noted, however, that the exchange rate is fixed at Tls. 70.61 to \$100, and Tls. 92.85 to Yen 100, or in other words \$131.5 to Yen 100; being the average rate for 1932. (Ref. Kann: *China in 1932*, p. 12.)

³ The 78 Chinese mills owned 2,501,178 spindles, both yarn and thread, and 18,746 looms. The 3 British mills owned 170,610 spindles and 2,691 looms. The 41 Japanese mills owned 2,003,388 spindles and 19,306 looms. Following the customary conservative estimate of representing 12 spindles for a loom, the total spindleage will be 2,726,130 for Chinese mills, 202,902 for British mills, and 2,235,060 for Japanese mills, constituting a total sum of 5,164,092 spindles.

TABLE IV. CAPITALIZATION OF 122 COTTON MILLS IN CHINA, 1932

<i>Nationality</i>	<i>No. of Mills</i>	<i>Total capital and reserve</i>	<i>Average capitalization:</i>	
			<i>Per mill</i>	<i>Per spindle</i>
Chinese	78	\$143,279,083.30	\$1,836,911.30	\$52.56
British	3	14,162,300.00	4,720,766.70	69.80
Japanese	41	371,536,633.70	9,061,869.10	166.23
Total	122	\$528,978,017.00	\$4,335,885.40	\$102.43

The above table shows that in regard to average capitalization per mill British mills are a little over $2\frac{1}{2}$ times stronger, so to speak, than the Chinese mills; while the Japanese are almost 5 times stronger than the latter and about 2 times as strong as the former. With respect to average capitalization per spindle, if we make the Chinese mills stand as 100%, the British become 132.8, and the Japanese 316.3, being 3 times as strong as the Chinese and almost $2\frac{1}{2}$ times as strong as the British mills. Three things should be noted, however, in connection with these studies. First of all, among the 78 Chinese mills one or two are considered to embody some foreign interests too, and are thus financially partly foreign. Secondly, it is known for some technical reasons, among them the business tax being the principal one, that quite a number of the Chinese mills which are situated in the interior are prone to minimize their amount of capital, at least in the books. Thirdly, some of the Japanese mills have their capital authorized in Japan, i.e., in conjunction with their sister mills at home, thus rendering their capitalization in China seemingly exaggerated. I purposely bring these points forth to avoid some technical misunderstanding that may arise from the above figures. Nevertheless, since there seems no way to make rectifications possible, we can only let them stand as they are, and content ourselves that they do not materially affect our general conclusions.

Judging from the above comparisons we can readily conclude that the Chinese cotton mills are, on an average, less capitalized than their foreign competitors. Strictly speaking, we may say that they are more or less under-capitalized.

Not only is under-capitalization a phase prevalent in the cotton industry, but also in almost every, if not all, modern industry in China, particularly that which is Chinese-owned. Instances are numerous, but the following may suffice to illustrate.

As regards the silk industry, a survey shows that in 1928 the 90 steam filatures in Shanghai, each on an average possessing a working force of 583 persons, had a capital investment of only \$27,799. Another survey shows that in 1929 of the 38 steam filatures in Wusih, each had on an average 722 workers with a capital investment of \$51,025. Again, in Shanghai, for instance, there were in 1928, 51 silk weaving factories, of which 46 employed a total capital of \$1,279,000 or an average of only \$27,805 each.¹

In the food group flour milling is perhaps the largest factory industry in China to-day. In the three centers of flour milling—namely, Shanghai, Tientsin and Wusih—in 1928–29, there were altogether 22 mills employing a total capital of \$12,295,000 and a total working force of 3,033, which gave an average size of \$559,000 or 138 workers.² It should be borne in mind, however, that this industry, unlike cotton spinning and weaving, needs a large working capital but rather a small working force.

The disadvantage of under-capitalization to any industry may not present itself during the time of prosperity, but will be immediately felt when the business becomes dull and money becomes "tight," or in other words bank credits are not easily accessible. The sad experience encountered by the cotton industry and other industries after the World War needs no reminder. The failure of a number of the industrial concerns during the last two years as an effect of trade depression and keen competition lends another testimony.

No industry can prosper without the assistance and facilities given by the banks. While in finance the process of industrialization has given rise to modern banks, it is interesting to note that since 1919 the development in modern banking has been rather great.³ But to what extent have the banks been financing the industries is very hard to say, since it is still very difficult to secure the much-needed statistical data covering this subject. With the latest information available, however, the writer is glad to cite one instance to enlighten the subject a little. According to the

¹ Fong: *China's Industrialization*, pp. 22–23.

² *Ibid.*, p. 24.

³ *Ibid.*, pp. 28–29.

business report for the year 1932 prepared by the Bank of China, one of the largest and foremost banks in this country, we notice that among the percentage distribution of its loans, 11.46 were given in 1932 to industrial enterprises, as compared with 10.14 in 1931. While showing an increase of 1.5% these percentages are by no means large. According to Mr. E. Kann, a noted financial expert in this country, in his review of *China in 1932*,¹ "the continued unsatisfactory political situation in China is responsible for a policy of caution on the part of would-be financial captains." "It is due to the same handicap," he continued, "that banks are not granting credit freely." Though under-capitalization may account for the failure of some and retardation of other industrial enterprises in this country during the past two years, yet the factor of credit contraction has stood out more conspicuously. It is therefore suggested that the industries should make a determined effort to put themselves on a more stable and concrete basis by re-adjusting their capitalization, and that the banks, while reasonably avoiding unhealthy credit inflation in the country, should exercise every discretion to avoid undue restriction of bank credit to productive enterprises. The role which the banks play in China's industrial development is manifestly important. It is hoped that they will give every substantial aid to the home industries so that the latter will be able to cope with the present financial crisis, thus paving the way for future expansion.

5. ORGANIZATION AND MANAGEMENT

The modern development of large-scale industry has necessitated the specialization in not only labour but administration. One who knows China's present economic condition will not deny the fact that her industrial enterprises, exclusively Chinese-owned, are largely still a long way from being properly organized or efficiently managed. Only some of the more important ones have reached this stage. The majority of them are still very much in the home work-shop class, much as the weaving industry in Lancashire and Yorkshire before the factory system came into vogue and

¹ Kann: *China in 1932*, p. 24.

forced the weavers to abandon their little private looms and homes in the country and move into the great industrial cities.

The evil effects of loose organization and poor management are perhaps too well known to need repetition. Lack of a well-laid system or plan will naturally give rise to the result of high cost but low quality of production, which finally will unfortunately meet the disaster of loss of market and the failure of the enterprise. Therefore, no time nor effort should be spared by the industrialists to realize and introduce the advantages of good organization, the cutting down of over-head expenses, the standardization of products, and the resultant guaranteeing of steady markets, the reduction of the prices of articles involved, and the general raising of the status of the artisans and workers employed in each particular industry. This is bound to come, especially in a period of fatal competition like this.

Some measure, therefore, should be taken to raise the standard of management in this country, for at least two reasons. First, China's industrial future will in no small measure rest in the difficult days that lie ahead, on a recognition of the importance of the management factor. Secondly, the inefficient firm is not only in perpetual peril itself, but it imperils and menaces the future of industry as a whole. Other things being equal, it will be necessary, in the future, to combine with originality the power of adaptation to changing market conditions and, above all, the power of producing with a minimum of waste. And this can be accomplished only by means of good organization as well as management.

In this connection, I think it is worthwhile to reproduce a few passages which appeared in a New Year manifesto by 31 leading British industrialists and public men on the importance of efficient management to industry:¹

"The relatively new art of industrial management will primarily concern itself with the human factor," stated the manifesto, "recognising that anything done by management to improve the working environment, the standard of life, or the efficiency of the thinking of the human unit will react to the benefit of the undertaking.

¹ "Science of Management" in the *North China Daily News*, February 28, 1933.

The proper interpretation of the term 'scientific management,' now so frequently used, is that it is essentially the art of generating, utilizing, and controlling educational forces, both in industry and without, so that the human industrial team can continually be equipping itself for performing its task with a degree of efficiency ever on the up-grade.

"To an ever-increasing degree, men of high personal character and cultured vision are finding in management a sphere of high social service. They are using the resources and methods of science to raise the effectiveness of their contribution to the organization and direction of industry.

"The real leadership in the work of industrial reconstruction is being given by management in co-operation with labour and capital. Systematic education for management is, we contend, one of the chief steps required to assure Britain's industrial future."

I think what is true of Great Britain in the above case is also true of China, although the latter is, industrially speaking, far behind the former. In my humble view, training in the field of management knowledge is invariably an urgent need for industrialized China. It should be noted, too, that this new profession—education for management—will have a more far-reaching consequence on economic stability and industrial progress than people can generally imagine. However, its full results will be far from immediate.

Side by side with the management factor, I wish to point out the fact that China lacks, besides other things, a well-disciplined technical force. Not only are institutions for technical and scientific training in this country few, but their curricula seem to be insufficient, or inefficient, to meet the timely requirement. It is true that the Chinese students of to-day are sadly in need of practical rather than academic training. Our country, I am of the opinion, needs more masters of agriculture, commerce, industry and science, but fewer masters of arts and still less doctors of philosophy. Thus every effort should be made to encourage the young generation to take up technical and scientific education on the one hand, and to give them, on the other, supplemental experience in industrial plants, business offices, research stations, farms, etc., either at

home or abroad, so that they will be prepared in a more practical way to serve their country in its industrial development.

6. COMPETITION

That China, with a total area of 4,278,352 square miles¹ and a total population of about 475 millions,² affords a tremendous market for trade is a fact known to all. However, notwithstanding her rich potentiality, China represents a distressingly low purchasing power, perhaps the lowest per capita of all countries, by virtue of the fact that four-fifths of her population is mainly concerned with the sheer problem of subsistence. Among a low-purchasing-power people such as the masses in China, price is naturally a prime consideration. China is therefore intrinsically a price market, and not a quality one; which also accounts for the fact that trade competition is very keen.

Four kinds of competition might be mentioned. Domestically there are three; namely: first, competition of foreign manufactures, second, competition arising from the increase in the number of factories started in China by foreign interests, and third, competition among the home-makers. Externally is the remaining one; i.e., competition of Chinese products with other manufactures in the foreign markets.

There is no denying the fact that during these few years of acute world depression China has been made the dumping ground of many foreign articles. Our imports continued to be heavy, but we have been unable to sell much of our goods abroad. Several factors are attributable to this phenomenon. First may be mentioned the factor of over-production—or under-consumption, as some economists have chosen to term it—of foreign countries which must find an outlet for their surplus supply at home. Second comes the question of quality and price. Cognizing that China is basically a price market, the foreign competitors, notably Japanese, have exerted every effort to cut down the cost to meet competition, while at the same time maintaining the usual standard of quality, if not better, of the merchandise, which the home makers

¹ *The China Year Book*, 1932, p. 1.

² *Kann: China in 1932*, p. 2.

are unable to make at the same cost, with the result that the Chinese manufacturers are wholly unable to compete. Third, politically, with the existence of extraterritoriality and the not-so-complete tariff autonomy in China, the foreign traders have been placed upon a much more advantageous footing than the home producers. Fourth, technically, the foreign competitors are better organized. Not only do they enjoy better banking and transportation facilities, but they are superior to the Chinese in matters of salesmanship and marketing. Fifth, in China, whereas the popular demand is flexible, the market is a variety one, and wants and tastes are just as varied as the different localities. The foreign traders, having taken this psychological factor into serious consideration, have found themselves successful in meeting the popular demands.

The right allowing foreigners to establish industrial plants in the treaty ports of China began with the Treaty of Shimonoseiki; and after 1895 the development in manufacturing industries took a rapid stride. Of the three kinds of foreign investments in China,¹ the business investment no doubt has the most important bearing on her industrialization. Such investment is chiefly British and Japanese, each of which constitutes about one-third of the total, according to Dr. Remer. Because of the privileges enjoyed by the existence of the settlements and the concessions, about one-third of such investment is in Manchuria, where the Japanese influence dominates, one-third is in Shanghai, and the rest is found to be scattered around in Hongkong and several other ports. The British business investment was estimated to amount to 1,434 million dollars. The Japanese investment was found to differ from 1,037 to 1,832 million yen.² The American investment was estimated by Mr. Arnold at 200 million U. S. dollars.³ It is no wonder, therefore, to note that a great many of the industrial undertakings are being operated either entirely with foreign capital or jointly with Chinese and foreign capital. The threatening

¹ According to Dr. H. D. Fong, in his book on *China's Industrialization*, p. 43, "foreign investments in China have been classified into three categories, namely, foreign loans to the government, business investments and philanthropic investments."

² Fong: *China's Industrialization*, p. 43.

³ Arnold: *China Through The American Window*, p. 27.

expansion of the British and Japanese influence in China's industries needs earnest attention. In view of the increasing activity on the part of Japan in China's fundamental industries, namely, cotton textile, coal, iron and steel, the future struggle between the Chinese and Japanese industrialists certainly will not be lightly looked upon, as Japan has been and still is China's most bitter competitor in this half-developed big market. It seems needless to remind us of the hard times suffered by the Chinese industries last year as a result of the Japanese policy in dumping large quantities of textile manufactures, coal, cement, paper and other commodities into China.

In foreign trade, as well as domestic trade, Japan has long been China's most bitter rival. In silk industry, for instance, China has always suffered at the mercy of Japan. In the words of Mr. Kann,¹ "raw silk experienced in 1932 the worst year in its career. This was due in part of the world crisis and partly to the depreciation of the yen. The last-named condition enabled Japanese holders of stock to dispose of these in terms of foreign currency at levels with which China could not compete. As a result exports of raw silk from China declined about 75 percent. when compared with the average value of the preceding ten years which latter displayed the following totals:

<i>Year</i>	<i>Piculs</i>	<i>HK. Taels (in thousands)</i>
1923	133,423	138,919
1924	131,273	108,059
1925	168,018	140,358
1926	168,563	144,444
1927	160,002	128,706
1928	180,186	145,443
1929	189,980	147,681
1930	151,429	109,181
1931	136,186	84,680
1932	76,671	32,539"

The plight of competition is omnipresent, while its power is omnipotent. That competition affects China's industrial future is a recognized fact. No artificial solution will be of any avail, nor does it seem necessary. Let it be remembered, however, that "in the struggle for existence" the result is generally "the survival

¹ Kann: *China in 1932*, p. 25.

of the fittest." This stands true with all economic activities as it has been with the biologic world.

7. TRANSPORTATION FACILITIES

The problem of transportation in its relation to China's industrial future is a matter not only of paramount significance but of immediate concern.

China, possessing as she does a population which is one fourth that of the world and scattering over a territory which is one third larger than that of the continental United States, would enjoy the potentiality of an unlimited market had political and economic conditions proven favorable. This great nation, being conservative and slow-moving in temperament and therefore reacts poorly towards modern changes, has not, as most people have commonly misunderstood, undergone a rapid process of economic modernization under the industrializing influence of the West, for one simple reason—namely, the lack of transport—if not for any others. Whatever industrialization there has been in China during the last seven decades or so is confined chiefly to the six provinces¹ whose area is but one tenth that of the total for China.² In the opinion of Mr. Julian Arnold, U. S. Commercial Attache in China, "railway freight rates in America average slightly more than one cent gold per ton per mile contrasted with transportation costs in China via beasts of burden, human carriers, carts or wheelbarrows of about ten times this amount."³ Can it not be inferred that, economically, China's industrialization would have been put in a more favorable environment but for the lack of modern transport facilities?

The length of China's railways is rather limited, amounting altogether to 15,000 kilometers.⁴ Szechuan, with a population estimated at upward of fifty millions, has not as yet a mile of railways, except the little narrow gauge line used in coal mining. In railway mileage, China has probably the lowest per capita of any civilized country, the ratio, according to Dr. Fong, being only 1/186 of that

¹ Namely: Kiangsu, Liaoning, Hopei, Kwangtung, Shantung and Hupeh.

² Fong: *China's Industrialization*, p. 44.

³ Arnold: *China Through The American Window*, p. 21.

⁴ Fong: *China's Industrialization*, p. 12.

in the United States.¹ Under such circumstance, it is not strange to note that to travel from Kweiyang to Nanking, which covers a distance of 1,404 miles, takes twenty days. But were new lines connecting these two points to be built, the journey could be reduced to only 57 hours or a little less than two and one-half days. Similarly, the journey from Nanning to Canton, covering a distance of 1,495 miles, could be reduced from ten days to fifty hours.²

Unfortunately, the length of China's highways is also limited; their mileage has been estimated by Mr. Arnold to amount to 40,000 as compared with 3,000,000 of the U. S. A.³ However, the benefit of the opening up of highways throughout this country cannot be under-estimated. Not only will it hasten the unification of the country by means of inter-provincial traffic, but it will facilitate the economic development of the nation to a great extent in view of the favorable reaction which it will bring upon the trading conditions.

It is a matter of gratification and encouragement to note that in spite of the domestic disorders, a great deal of constructive work has been accomplished in China during the last two or three years, the most noteworthy of which is road-building and to a lesser degree railway construction. The National Government railways showed considerable improvement in operations with some new constructions during the past year.⁴ In addition, substantial plans for extensions and additional construction with Government, provincial or private interests are not lacking.⁵ Most important among these is perhaps the Canton-Hankow railway, for the completion of which funds totalling £4,000,000 have been arranged from the trustees of the British Boxer Indemnity Funds. With these funds it will be possible to complete the gap of approximately

¹ *Ibid.*, p. 13.

² Sun Fo: "National Scheme of Railway Construction," in the *China Year Book*, 1930, p. 362.

³ Arnold: *China Through The American Window*, p. 25.

⁴ "Despite financial difficulties during recent years, a semi-official announcement states that the Government was able to complete 346 kilometres of railways between 1929 and 1932, while 410 kilometres are at present under construction."—*Finance and Commerce*, Vol. 21, No. 14, p. 401.

⁵ Read *Finance and Commerce*, Vol. 21, No. 6, pp. 150 and 155; No. 8, p. 219; No. 12, p. 342; No. 14, p. 404.

250 miles, linking up the northern and southern sections of the line, in three years, if all goes well.¹

Probably the most patent constructive work in China during the past decade is the extensive highway development under the auspices of the governmental, provincial authorities and private efforts, notably the provincial authorities. For instance, Hunan province has completed 700 miles of motor highways, and is working on plans for an additional 500 miles involving connections with its neighboring provinces. Similarly, Kwangsi in south-west China, which ten years ago was rated one of the most backward and poorest of provinces, can to-day boast of 1,000 miles of roads over which motor buses are in operation. Again, in the populous province of Szechuan the highway construction has recently made possible through automotive transportation from Chungking, the commercial metropolis, to Chengtu, the political capital, at a distance of about 250 miles. Another achievement of importance during the past year is that Hangchow, capital of Chekiang province, has been connected with Shanghai by motor road and also has a motor highway linking it with Nanking. Instances of the highway construction program progress are many, but the above may suffice to illustrate.

It will be shown that new projects with the self-same purpose continue to receive attention of the National as well as the Provincial Governments, the most important of which may be mentioned the plan to link up and maintain 22,000 kilometers of highways in the seven provinces of central China. May we say that the prospects for a coördinated highway system in China are more favorable than at any time during the recent few years?²

However, in so far as water traffic is concerned, China presents a lamentable scene. In most countries, inland navigation is reserved to the natives of the country. In China, however, the inland waterways are open to foreign navigation. Either the inland navigation is still in a primitive stage, or else shipping between treaty ports and inland ports is largely under foreign control. Except for the China Merchants' Steam Navigation Co., which

¹ *Ibid.*, Vol. 21, No. 5, p. 119.

² Read *Finance and Commerce*, Vol. 21, No. 5, p. 134; No. 7, p. 188; No. 8, p. 219.

recently became state-owned, and a few private enterprises of importance, China's river transport is practically almost all under the control of the foreigners, particularly Great Britain and Japan. China has a tremendous long coast-line; but how many steamships under native interest are at present carrying cargoes to and from the various coast ports? Not to mention the oceanic shipping—which is simply a shame on the part of the nation.

Poor service and high freight are two of the main complaints of Chinese steamship service. The causes attributable to its retardation in reform and progress are many; whereas lack of proper organization and management, shortage in capital, corruption and abuses are perhaps the chief ones. Last, but not least, is the destructive factor of political unrest in the form of incessant civil strifes, which I shall dwell upon again somewhere in the following paragraphs.

We are cognizant of the principle that the future development of China's industries will largely depend on the increase of transport facilities, if not anything else. Inasmuch as transportation itself represents an essential industry, its development will therefore assume a dual role, being both the cause and the effect of China's industrialization in the future. While additional construction plans are desirable, the writer wishes to suggest that improvements in the present state of operations and service are just as necessary. Above anything else, the freight rate must be readjusted to facilitate trade. That the railway freight in China is high is a recognized fact. How far the home industry and trade have suffered from this high rate is a problem beyond our imagination and estimation. I wish, however, to cite just one instance to illustrate my point,—i.e., the sad experience encountered by the native coal industry during the past year. It was found that the Japanese coal in Tsingtao was selling at \$8.00 per ton, while coal from Po-shan mines, which are some 320 kilometres from Tsingtao, was selling at a higher price in order to cover cost, owing to the high freight it had to pay on the Kiaochow-Tsinan Railway.¹

Would China's industries be benefitted by the system of commodity rates that has been so prevalent in the American railways?

¹ "A Bird's-eye View of China's Present Economic Status," in *The Eastern Miscellany*, Vol. 30, No. 4, pp. 11-12. (in Chinese)

8. NATIONAL STABILITY AND GOVERNMENT SUPPORT

It is no exaggeration to say that Chinese industries would have progressed in more directions and ways had the domestic political environment been favorable. In fact, the political environment has never been favorable to industrialization since the establishment of the Republic in 1912. "The recurrence of chronic civil war, and the increasing burden of taxation that it entails, hinder considerably the economic development of the nation, despite the impetus given to the native industries by the stoppage of foreign supply and the absence of foreign competition during the World War."¹ In addition might be mentioned, first, the never-ending "red menace" and its just as never-ending campaigns for the suppression of the red bandits, or the self-styled communists, in and around Central China; second, the overwhelming disastrous Yangtze floods of 1931; third, the Japanese incursion of Mukden on September 18, 1931, and their ensuing successes which resulted in the complete dominance of the Three Eastern Provinces, or, more familiarly with the Westerners, Manchuria; and last, but by no means least, the appalling losses incident to the Japanese invasion of Chapei in Shanghai during the spring of 1932. Although accurate figures are lacking, the first estimate of losses sustained during the latter Sino-Japanese undeclared war in Shanghai exceeded one and one-half billion dollars in value.² Estimates on the material losses caused by the so-called "red menace," the colossal flood and the Japanese conquest of Manchuria are impossible to compute. All the above factors are, however, either directly or indirectly detrimental to the industrial progress in this country.

It is regrettable to say, however, that instead of giving assistance or support in any concrete form to the various native industries, the Government has not infrequently in the past hampered their progress or in some instances practically ruined them by virtue of civil wars, taxes, corruptions, and what not. Even during the course of recent years when the Government has repeatedly expressed its desire to encourage and to help the nation's industrial develop-

¹ Fong: *China's Industrialization* p. 11.

² Kann: *China in 1932*, p. 1.

ment, efforts which have denoted any material assistance are still meagre to notice. For example, an analysis of the budget of the National Government for the fiscal year of 1931-32¹ will reveal that, under the expenditure items, the appropriation for industrial administration, in the "ordinary" category, amounts to \$5,336,380 as against a total of \$868,919,492, or 0.6%, while in the "extraordinary" category, it amounts to \$2,097,982 as against a total of \$24,415,581, or 8.6%. All in all, the appropriation for industrial administration amounts altogether to \$7,434,362 as against a grand total of \$893,335,073, or 0.8%. Even if we take the funds allocated to industrial administration, communications and reconstruction together, the amount, both ordinary and extraordinary, is found to be \$13,630,219, or 1.5% of the total sum. And this is the amount apportioned by the Government to the welfare of their industries.

In the words of Dr. Fong,² "according to a recent compilation by Mr. Chen Han-seng, of the Academia Sinica, the military expenditure increased more than five-fold from 1916 to 1928. Whereas in the former year the expenditure amounted only to 153 million dollars, in the latter year it increased to 800 million dollars. These expenditures for military purposes, whether national or provincial, are chiefly defrayed from the taxes upon the nation's agriculture, industry and trade, directly or indirectly. Likin or octroi, which was not abolished before the first of January, 1931, constitutes a rich source of revenue. Land tax is another source, of which the illegal levies are excessive, including a host of surtaxes under different names, as well as advance collections. Abuses, especially in the form of surtaxes,³ have been practiced upon other taxes, such as the salt tax. The indirect taxation, including forced loans or sale of bonds, and inflation of paper notes or subsidiary coins, reaches at times a larger mass than the direct taxation." These imposts are nothing less than a form of extortion, and until they can be checked there is little prospect of business revival.

¹ *The China Year Book*, 1932, pp. 436-37.

² Fong: *China's Industrialization*, pp. 11-12.

³ Read particularly "Levies on the Cotton Trade in the Provinces," in *Finance and Commerce*, Vol. 21, No. 4, p. 92, and "Provincial Surtax on Cotton Yarn," in the same periodical, Vol. 21, No. 5, p. 139.

During the past year of 1932, the five big industries—namely tobacco, cotton yarn, flour, match and cement—paid in the form of consolidated tax a total amount of \$79,156,000 to the National Government.¹ But what support or what protection did these industries receive from the latter, after all?

In respect of government support, we shall find not much financial assistance has been extended to the native industries by the Government, except in a few instances, of which the moral and material aid given by the government authorities to the silk industry last year is perhaps the most noteworthy one.² Unlike other countries, government support in the form of subsidies to the various industries is still an unpopular thing in China. We have heard much about industrial enterprises fallen under government control or supervision, but very little have we heard about the government extending assistance, financial or moral, to the home industries. The recent pathetic experience encountered by the Dah Hsung Cotton Mill of Shihkiarchwang in the province of Hopei, which shows the extent of the protection accorded to that undertaking in a time of need, lends but a brilliant testimony.³ Similar instances with other mills or other industries are not unknown. If this is the quality of the protection upon which industrial enterprises have to rely from the Government it is little cause for wonder that investors stand aloof.

However, to do our Government justice, the protective nature of the new tariff schedule has been benefitting the native industries in no small measure ever since its enforcement. Until recently China has been restricted by the unequal treaties in not being able to fix her own tariff. Such tariff restrictions were harmful to her; not only did they cut short the sources of revenue, but they afforded, above all, no protection for the local industry. "Her import duty had always been fixed at five percent *ad valorem* until the restoration of tariff autonomy in 1926. The true beginning of tariff autonomy

¹ Wu: "China's Financial Condition, Present and Future," in the *New China Magazine*, Vol. 1, No. 3, p. 4. (in Chinese) Contrasting this with the budget for 1931-32, this tax made good a surplus in revenue amounting to some \$3,379,000, the estimated income being \$75,777,228.

² Kann: *China in 1932*, p. 26.

³ Read "Is There Any Protection for Industrial Enterprises In China?" in *Finance and Commerce*, Vol. 21, No. 7, pp. 182-83.

in China, however, must be dated from the first of January, 1931, when she put into effect the new import tariff schedule.¹ This schedule introduces for the first time the protective principle, raising the duty to the maximum of fifty percent *ad valorem* for those articles whose import may inflict serious competition upon home industries, but reducing the duty to the minimum of 5 percent for other articles whose import helps directly or indirectly China's industrialization."²

To conclude, it may be said that without government support in one way or another little hope will be attached to the industrial development of China. Whereas government support, either direct or otherwise, is urgently needed, I venture to suggest the following:

1. Peace and national solidity.

It is an undeniable truth that the first essence towards China's economic development is, above all, peace and national solidity. Political unification is therefore of prime concern. Civil strife of whatever character must be stopped once and for all; since it is too familiarly known that civil wars not only have disrupted or ruined transportation, but have cut short, if not exhausted, the purchasing power of the people. The realization of national solidity and peace will be the foremost assistance, though in a sense indirect, which the Government can give to the native industries.

2. Strict measures in curbing corruptions and abuses among the government officials in order to facilitate the progress of trade and industry.

3. Development, under government control or supervision, of the heavy industries and transport facilities, especially railway and shipping.

4. Financial aid, in the form of subsidies, loans or other assistance, to the farms as well as the industries. In this connection, it may be of interest to note, for example, that the Italian government is giving assistance to the shipping industry in the form of subsidies amounting to more than 290 million lire annually.³ Will the Chinese government be so sagacious as to follow suit?

¹ *The China Year Book*, 1932, pp. 484-85.

² Fong: *China's Industrialization*, pp. 40-41.

³ "Italy Practically Controls Or Supervises All Industry," in *The China Press*, Shanghai, March 24, 1933, p. 10.

5. Enforcement of liberal education among the masses, particularly the laboring class. The determination of an educational policy and the responsibility of educational administration should rest with the municipal educational authorities; but the expenses for education may be borne equally by the government and the industry.

6. Practical measures for the protection of the industry, concerning both capital and labour. Their enforcement is more vital than mere promulgation.

7. Sponsorship on the part of the Government of the "Buy native products" movement.

8. Enforcement of more effective means for unified control of tax administration such that any violation or illegal action may be severely dealt with.¹

9. A more advanced effort be made towards the revision of the present tax and tariff schedules in order to consolidate more concretely the protective nature towards native industries. A schedule for anti-dumping tax should be inaugurated;² as we still remember that, for instance, the dumping policy of the Swedish match industry has almost entirely swept away the native match-making craft, whereas instances of the Japanese dumping policy at the expense of the native industries are too numerous to cite.

It is a recognized principle of economics that no country should tax its exports except those articles which it is its policy to keep exclusively for home consumption. China, however, has taxed her exports generally ever since the beginning of her trade relations with other countries. Under the new export tariff, as promulgated on May 7, 1931, all the staple articles of China's export trade, viz., silk,³ skin and hides, eggs and livestock are now subject to a higher duty. Though it is expected that this new tariff will yield a higher revenue, it, however, neglects two fundamental facts that

¹ The Government seem to be exerting some effort towards this end. Read "Control Of Taxes" in *Finance and Commerce*, Vol. 21, No. 10, p. 286, and "Illegal Taxes in the Provinces" in the same weekly, Vol. 21, No. 13, p. 374.

² The Government are now taking this into consideration. Read "Dumping Tax On Foreign Yarn" in *Finance and Commerce*, Vol. 21, No. 14, p. 404, and "Anti-Dumping Taxes" in the same periodical, Vol. 21, No. 15, p. 431.

³ Owing to the critical position of the silk industry last year, the Government had to come to its rescue, which resulted in a decree discontinuing the levy of export duties on raw silk from May 18, 1932.

China produces not only for a national market, but also for an international one, and that China's ability to buy depends on the facility with which she can sell, plus other factors contributory to equalizing her imports and exports. Whether this increase of export tariff will encourage home production or protect home industry is doubtful to say. But it is still more doubtful to predict that this will encourage an increase of world consumption of China's staple exports, under such circumstances and in this time of world-wide economic depression. We shall not forget that the levy of export duties on tea and silk, which had for many decades been two of China's most staple exports, had nearly ruined them, until it was too late for the Government to take corrective steps by discontinuing the levy of the export duties.¹ A discrimination must be made between the increase of revenue through a higher export tariff, at the expense of the home farms and industries, and the loss of a world market for the nation's staple exports. Is China going to lose all her essential exports, which contribute so greatly to her economic integrity and national solidity, or is she going to follow the established principle of economics that no country should tax its exports except those articles which are kept exclusively for home consumption? We shall see.

Turning to the import tariff schedule, it may be said that the net result of this new tariff will be a tendency to restrict imported manufactures and encourage the establishment of certain industries in China. For instance, raw cotton at present is to pay an import duty equivalent to about 10% *ad valorem* on the present basis of cotton valuations. It should be noted, however, that most of the imported cotton, chiefly Amercian and Egyptian, does not compete with the native product for the latter is of shorter staple, and therefore the foreign cotton is required in order to provide the mills with material necessary for the manufacture of finer count yarns and better quality cloth. Thus it would seem that excise taxes on the factory outputs would constitute a safer source of revenue than an import tax on raw material which is an essential constituent of manufactured products in domestic

¹ Hu: "Export Tariff System And Our New Export Tariff Schedule" in *The Eastern Miscellany*, Vol. 30, No. 4, pp. 37-47 (in Chinese).

industries. It should be clearly defined, however, that the writer does not attempt to advocate the theory that the Government should raise the tax on the manufactured products, as the latter are already subject to a heavy taxation and are craving for some measures of relief.

9. WORLD FINANCE AND EXCHANGE

The scientific and material progress of the world tends to bind the nation together and to create common interests. The development of mass production has created a situation in which the producing nation is dependent upon the prosperity of the consuming one. In other words, human activities all the world over are nowadays so closely related that for good or evil the doings of one nation will often reflect some bearing on the other.

In foreign trade, China's share, though insignificant when per capita trade expressed in gold dollars is considered in comparison with that of other nations,¹ is considerable when the volume given in silver is concerned. "In order to obtain a bird's-eye view of China's foreign trade for the past ten years a complete record for that period, together with index figures, is given below (1912-100) (Haikwan Taels):

Year	Imports (in 000's)	Index	Exports (in 000's)	Index	Total Trade (in 000's)	Index
1923	923,402	195	752,917	203	1,676,320	198
1924	1,018,210	215	771,784	208	1,789,995	212
1925	947,864	200	776,352	209	1,724,217	204
1926	1,124,221	237	864,294	233	1,988,516	235
1927	1,012,931	214	918,619	247	1,931,551	228
1928	1,195,969	252	991,354	267	2,187,324	259
1929	1,265,778	267	1,015,687	274	2,281,466	270
1930	1,309,755	276	894,843	241	2,204,599	261
1931	1,433,489	303	909,475	245	2,342,964	277
1932	1,049,246	221	492,641	132	1,541,888	182" ²

Notwithstanding "silver has saved China from the dire consequences of the world depression,"³ "China's foreign trade movements in 1932 were under the direct influence of the world crisis

¹ Fong- *China's Industrialization*, pp. 44-45.

² Kann: *China in 1932*, p. 22.

³ "By now it is universally recognised that the roots of the depression are entangled in the complicated problems arising from the post-war settlements and the subsequent intrusion of political and nationalistic factors into international commerce and exchange.

and naturally displayed such symptoms as are inherent in a prolonged economic depression. Owing to the remainder of the world not being able to purchase normally from China, the latter country's buying power was, of course, correspondingly reduced."¹ With China's unfavorable trade balance registering an annual excess of imports over exports of half a billion haikwan taels,² how can one expect that her buying power can be elevated. It is but natural that a country's ability to buy depends on the facility with which it can sell, in addition to other factors contributory to equalizing its balance of trade.

In spite of the very low level of silver values³ resulting in relatively high costs of imported manufactured goods, which coupled with enhanced import duties have continued to lend assistance to the growth and promotion of home industries, this adverse low silver exchange is in one sense harmful to China's industrial development. The unfavorable exchange rates have made it extremely difficult for China to consider the purchase of machinery and raw materials which are much needed in the course of the growth of her industrialization. Plans for the development of her railways and other means of communication, and for the establishment of new industrial enterprises, may accordingly be retarded to some extent by this low price of silver. For the sake of illustration, I would like to quote a few sentences from the 1930 Customs Report on Trade, as follows:

"One of the results of the crisis has been the depletion of monetary gold reserves from almost all countries in favour of two creditor states, America and France. The consequences of this movement brought about an intensification of the adverse balance of trade of countries producing mainly raw materials, and a simultaneous aggravation of the industrial depression in countries relying on exporting the manufactures abroad.

"In this respect China was spared some of the tragedies which had forced themselves on the rest of the world. China had no monetary gold to let out from her currency reserves, and nobody wanted her large silver reserves. In this factor lies the secret why this country has managed to escape the horrors connected with the fearful economic crisis. Silver—and one must emphasise, low priced silver—has saved China from the dire consequence of the world depression, for during 1932 the wholesale commodity price index relating to this country has been maintained at a level which was not characterised by sagging price quotations."—Kann: *China in 1932*, p. 1.

¹ *Ibid.*, p. 22.

² Excess of Imports over Exports: 1931 Hk. Taels 524,013,669.
1932 " 556,605,240.

³ Read the two tables in Kann's *China in 1932*, pp. 12-13. It is pathetically interesting to note this sentence, on page 12, reading "Unquestionably, 1932 brought the lowest local exchange rates, a record of which Shanghai is not proud."

“At the beginning of the year business continued to show encouraging prospects of development, but during the last three quarters it was severely handicapped by the land-slide in silver exchange, which affected almost every branch of the machinery trade. Up-country buyers were slow to realize how depreciated their silver currency had become, and it was a source of constant embarrassment for sellers, during protracted negotiations with potential clients in the interior, constantly to be compelled to increase tael prices to keep in line with the diminishing values of silver, and not infrequently, even in the case of comparatively inexpensive machinery, these negotiations proved abortive, as the price gradually rose beyond the reach of intending purchasers.

“It must, however, be remembered that the fall in silver has not been responsible for the curtailment of business only but also for inflated silver values, and when these values are converted into gold it will be seen that nearly every branch of the machinery trade recorded a decrease.”¹

It should be noted, therefore, that the future industrialization of China is a problem which concerns not only this country but also others. Other things may be equal, but to what extent China's industrialization goes will rest largely upon the world finance as well as international trade and economic conditions. In a period of depression like this, no one country can be benefitted thus at the expense of others. Unless some practicable and substantial measures be adopted among the family of nations towards the equal distribution of wealth and commodities, the re-adjustment of world finance and exchange, the balanced returns from foreign trade and the revival of general purchasing power, China's industrial future does not seem so very bright although she may enjoy a temporary boom at present. For after all, one country is dependent upon the rest just as another for mutual subsistence and prosperity, and the fundamental economic law of supply and demand still stands unaffected as it has stood for so many centuries.

¹ *The China Year Book*, 1932, p. 235.

III. PROSPECT AND CONCLUSION

To sum up the above problems, the following points may be brought out:

1. China possesses a large resource of labour supply; but the rise of a new class of labour, as an effect of industrialization, and the problems that it brings constitute a subject which needs extensive research for a satisfactory solution.

2. China's raw material supply, though deficient at present, can be increased if efforts should be made, provided political conditions are favorable, on the reconstruction of the rural economic structure to such an extent that not only improved modern farming processes should be introduced, but also millions of acres of fertile land should be developed for settlement.

3. China is solely dependent upon foreign countries for the supply of machinery and generating power, although her iron and coal reserve and hydro-electric potentiality are sufficient to meet the present increasing demands. But most of the known iron and coal mines are under foreign control, notably Japanese and British. These potential supplies, however, await political as well as economic adjustment for their development, inasmuch as their successful operation requires the Government support on the one hand and the employment of considerable capital on the other.

4. Chinese industries are generally under-capitalized and meagerly equipped in matters of finance, which conditions may be improved upon through coöperative efforts on the part of the industrialists and the bankers.

5. Most of the Chinese industries are inadequately equipped in respect of organization and management; efforts for their betterment are therefore strongly urged.

6. In view of the fact that China is basically a price market, trade competition is very keen, especially that of foreign manufactures and that of the factories started in China by foreign interests, which are assuming an increasingly threatening aspect on the native industries. Among the foreign competitors, Japan and Great Britain play the most prominent part.

7. Transportation facilities, being essential to the process of industrialization, are none too good in China; but encouraging signs of improvement and development are not lacking.

8. While Government assistance and support are what the home industries eagerly need, peace and national solidity are perhaps of prime concern.

9. World finance and exchange affect the home industries considerably, both in a favorable and an unfavorable manner. Whereas no one country could possibly expect to prosper at the expense of others, a re-adjustment of general world economic structure is earnestly desired.

Before concluding, it may be repeated that, strictly speaking, China has been industrialized on modern lines only to an insignificant extent. However, on the other hand, the colossal number of population invariably represents a large purchasing power. For instance, despite the growing cotton industry in China, the demand for cotton piece goods has been so great that the following comparative table of the importations of the principal groups of piece goods for the last five years deserves special attention:

TABLE V. IMPORTS OF COTTON PIECE GOODS, 1928-32.¹
(Value in thousands of Hk. Taels)

	1928	1929	1930	1931	1932
Cotton piece goods, grey	30,122	26,127	21,434	10,827	9,136
Ditto, white and dyed	99,612	106,105	77,832	59,181	35,414
Ditto, printed	28,686	25,631	24,438	20,060	14,142
Miscellaneous cotton piece goods	4,908	6,747	6,054	6,681	7,645
Total	163,329	164,611	129,759	96,752	66,338

This comparative table showing a decrease in value of imports reflects a twofold significance. On the one hand, it shows that the growing activities of the home cotton industry have effectively lessened the imports of cotton piece goods; whereas on the other it enables us to see to what extent has China's commerce suffered in consequence of the world depression and other causes. It should be noted, however, that although China, being a silver-using country, was spared the hardships from which many gold standard countries suffered, her people are nevertheless much impoverished and the

¹ *The China Year Book*, 1932, p. 233 and *Finance and Commerce*, Vol. 21, No. 4, p. 90.

country is facing severe economic hardships. With the tremendous annual excess of imports over exports, it is no wonder that the potential buying power of this huge population has been diminished, considerably; but to what extent has this purchasing power decreased is very hard to say.

While factors that are unfavourable to China's industrialization are present, hopeful features are nevertheless not lacking. And these are features the importance of which cannot well be exaggerated. For instance, nearly every province in China is experiencing radical changes through the rapid construction of roads and the introduction of motors. Again, it is noteworthy that our Government is giving close attention to the formidable problems of speeding up industrial development in this country and on the part of the National Ministry of Industry efforts to establish state-owned industries of major class are not invisible. The proposed plans for the erection of large modern state steel works, the construction of a central machine shop, the establishment of an ammonium sulphate factory, as well as other projects to develop coal and petroleum fields and to establish hydro-electric plants and automobile factories, deserve particular notice.¹ The orders by the Ministry of Industry to the effect of the establishment of model silk filatures in each silk producing province,² and the effort of the Government to establish a farm bank for Hunan, Hupeh, Anhwei and Kiangsi with the object to assist the farmers in these bandit-devastated areas in the rehabilitation of their farms and to develop agricultural production,³ are both features of inspiration.

Owing to the increase in the silver cost of imported goods, resulting from lower silver and higher import duties, our people have in recent years shown a growing inclination to buy goods produced in China, with the result that existing industries have received valuable encouragement, while new factories have been established and have been successful in securing an increasing share of the home market.⁴ Thus the very low level of silver values,

¹ Kann: *China in 1932*, pp. 24-25; *Finance and Commerce*, Vol. 21, No. 5, p. 134; No. 10, pp. 278-79; No. 14, p. 402.

² *Finance and Commerce*, Vol. 21, No. 5, p. 134.

³ *Ibid.*, Vol. 21, No. 11, p. 310; No. 13, p. 374.

⁴ "China and Silver" in *Finance and Commerce*, Vol. 21, No. 14, p. 401.

coupled with the enhanced import tariff rates form levers for the promotion of industries in China. The "buy native goods" movement and the boycott of Japanese goods also have had some favorable effect, though not very conspicuous. It is found that as a whole industries in China generally were fairly active during last year in spite of the calamitous conditions in some areas and the world-wide depression affecting adversely the exports of some factory products. Numerous new industrial enterprises were started last year, which with few exceptions were on rather an elementary scale. Undoubtedly progress is being made all the time, but admittedly not at the pace which would appear to be logical.

It will be said, then, that probably every industry in China has a brilliant prospect in view in face of the enormous masses and their potential buying power, if political and economic conditions are favorable to its growth. China is admittedly still faced with many serious political problems, the final solution of which it is impossible to forecast, but while political troubles may retard progress they cannot postpone it indefinitely. However dull business may appear at the moment, however difficult present trading conditions may be, it is impossible to take a pessimistic view of the openings for industrial expansion offered by a country of this size which is on the threshold of industrialization and where steadily increasing facilities of transportation are now bringing this large population within easy reach of the great trading centers.

In the process of industrial development, however, it is suggested that the following points should receive serious consideration from the Government and the people:

1. Above any other industry, the chief heavy industries such as heavy metals and chemicals need immediate development. It is thought advisable that they should be developed under Government auspices with the coöperation of foreign capital and the service of foreign experts whenever necessary. It is known that our Government have set their face towards a policy of industrializing China. But instead of mere gestures on paper or in words, it is recommended that the fundamental requisite is action, and effective action.

2. In the industrialization of China, not only the investment from and the employment of the over-seas Chinese are to be encouraged, but little or no restraint should be placed upon the admission of foreign coöperation in capital investment or in expert talent, provided this coöperation is constituted under fair conditions and reasonable terms. America owes much of its progress in building up a vast network of railways and certain other means of communications and in its industrial advancement to the assistance of foreign capital and technical skill. Would not our people be wise to take advantage of the capital and brains of the West in our efforts to develop our economic resources?

3. In regard to the raw material,¹ it is suggested that, to remedy the insufficient supply and the lack of uniformity in quality, the people and the Government should combine to improve the quality of the seeds used and to encourage production. Uneven distribution could be remedied if the central and provincial authorities could coöperate and work out plans for better coördination. As regards difficulties of delivery, better and more transportation facilities are needed, combined with unrestricted movement and adequate protection during transit.

4. In respect of the industrial development in this country, peace and transportation facilities are perhaps the first requisites. With the unstable political conditions existent, it is but logical that there will be little prospect of an increase in foreign investments in China. And the above-mentioned demand for adequate protection whilst products are being sent to the consuming markets goes to the root of many of the evils which China has to face even in normal times. Unless the Government show clearly that they accept this responsibility of protection, industrial development in China must be seriously retarded. The extension of Government authority, the prevention of illegal imposts and the suppression of banditry would mean a steady revival in trade and a favorable

¹ According to Mr. Chang Kia-ngau, the General Manager of the Bank of China, in his report presented at the annual meeting of shareholders, "the principal reasons for the continued large import into China of foreign agricultural products were given as (1) insufficient supply of Chinese agricultural products; (2) uneven distribution; (3) difference in price; (3) lack of uniformity in quality; (5) uncertainty as to delivery."—See *Finance and Commerce*, Vol. 21, No. 14, p. 399.

stimulus to industry in all parts of China despite the unfavorable commercial conditions in the outside world.

5. There are a number of factors that weaken the foundation of Chinese industries, the principal being:—1. Shortage of capital; 2, necessity of procuring raw materials from abroad; 3, increase of small factories with inadequate equipment, and 4, competition of foreign manufactures. In order to overcome these difficulties it is strongly urged that the Chinese public should encourage the use of native-made goods, provide all the factories with a substantial capital, and improve the technical knowledge of manufacture. In addition, steps should be taken towards the consolidation of the factories, thereby eliminating competition among them.¹ The suggestion is also made that in order to meet increasing competition from abroad, the Chinese industries should get together and coöperate in order to reduce the cost of production rather than compete with one another. It is also urged that the Government should assist the home industry by carefully planned schemes of development and by the promotion of coöperation between capital and labour. The workmen should be clearly convinced that it is their duty to increase the production of their respective industries, whereas both capitalists and labour should coöperate with a view to strengthening the foundation of the home industry.

6. The low price of silver has provided a definite stimulus to industrialization in China. The continued depreciation of the value of silver has reduced enormously the purchasing power of our people, and if it continues will hasten the growth of industries in this country. But China has long been a victim of the adverse balance of foreign trade. If conditions fail to improve, there will be no other way to balance her foreign trade than to reduce the volume of imports. The people must realize the seriousness of the situation. There is an urgent need, therefore, to reduce the excessive volume of imports and to encourage the export of native products. Unless foreign nations increase their purchases of our produce, there will be no way to justify an increase of their sales to us. The purchasing power of the mass of the people will be

¹ "Report of the General Manager, for the year of 1931, Bank of China," p. 36.

bound to diminish, and world trade depression will become more acute.¹ It is thus suggested that in the course of China's industrial development foreign help in one way or another is needed, and the very essence of future success for foreign traders in China will be coöperation, and not competition, with the Chinese,—foreigners and Chinese each fulfilling the functions in the grand scheme of international commerce for which they are most fitted.

“Cognizance must be taken of the fact that irrespective of the social or political system which a country may adopt, it must develop its economic resources if it is to thrive and prosper. Thus whether a people favour a capitalistic, a socialistic, or any other social or political custom, they cannot neglect their economic development without injury to themselves.”² Should satisfactory solutions and effective measures be accorded the above problems, China's industrial future will be unquestionably bright.

In conclusion, it may be said that, given peaceful conditions in the country, a normal rate of exchange and a settled policy of taxation, China will be rapidly industrialized in the coming few decades. This is so especially because her economic organization to-day is essentially agrarian and the industrial development that has now been brought about in a few of her large ports or cities counts very little in her national economic life at large.

But how far will China be industrialized in the future is problematical, inasmuch as she “will be rapidly industrialized only from an *oriental*, not from an *occidental* viewpoint, for she can scarcely aspire to the degree of industrialization that has already been realized in the industrialized nations of the West.”³ “To raise China's present standard of living two or three times by means of industrialization, for instance, is feasible, but to raise it to the same level as that which prevails in England or the United States to-day is questionable.”⁴ China is basically agrarian, and she will remain so even if industrialized to the full extent. Nevertheless,

¹ *Ibid.*, p. 31.

² Arnold: *China Through The American Window*, p. 11.

³ Fong: *China's Industrialization*, p. 45.

⁴ *Ibid.*, pp. 45-46.

may we hope that our industrialists will never be disillusioned nor discouraged. A true devout is he—

“—who, rowing hard against the stream,
Saw the distant gate of Eden gleam
And did not dream it was a dream!”