CHINA'S INDUSTRY AND THE IMPACT

OF THE WAR UPON IT

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CHINA'S INDUSTRY AND THE IMPACT
OF THE WAR UPON IT

THESIS

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PREFACE

Chinese industrial development, like nearly everything else, in China, has developed on a pattern different from that of any other country. When the Western people forced open the doors of China, her industries were centered in the villages; they were complete units of economic production, the production of goods was a family affair, surplus goods were sold in markets, and trade was regulated by guilds. In the highly skilled crafts workers were trained as apprentices in the guild members' shops. The Imperial Government exercised no control over these industries.

As the treaty ports were opened, Westerners and Japanese built factories in these ports, used Chinese labor at very low wages, and successfully undersold the craft industries. All this occurred without any Chinese government supervision. It appeared as though all manufacturing would be centered in the coastal cities and that the village people would be left with nothing to take the place of their little industries which were being wiped out.

There was a change after 1912. Even though the Chinese Republic was not stable, and there was much danger from bandits, there were men in the government who had
been educated abroad and who recognized the importance of
decentralizing industry and keeping the foreign powers from
controlling Chinese economy. Social progress in China
has been retarded by having two sorts of control: the Chi-
inese Government and the foreign countries in their con-
cessions.

There had been decided progress up to 1936, when Japan
struck. It may well be considered that one reason for the
Japanese attack upon China at that time was that such
striking progress was being made that Japan realized that
with each passing month China was growing stronger: and
that her conquest would be unsuccessful if the attack were
delayed.

Japan quickly over-ran the coastal cities and con-
cluded that she had gained control of Chinese industry, but
she later realized that the Chinese workers managed to es-
cape and with them carried their skills and a good part of
their machinery. The war caused the decentralization of
Chinese industry, and the cooperatives, started as a war
emergency, succeeded beyond the hopes of their strongest
supporters.

Dr. Sun Yat-sen was a great student of economics, and
he left in his will a plan of industry in which he urged
his people to avoid the slums and other evils which are so
noticeable a part of the industrial revolution in the
Western World.
The leading men of China are convinced that the war has pointed the way to China's future and that with careful planning they can develop a China which will keep alive the old democratic ways of the early days, which will cause their great resources to be used for the benefit of all the Chinese, and which will admit the foreigners to partnership to use his capital and his technical "know-how," but will not allow him to exploit the Chinese workers.

In this thesis industry is taken to mean manufacturing. Transportation, agriculture, mining, banking, and trade are introduced only to the extent of showing their relation to manufacturing.
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CHAPTER I

VILLAGE INDUSTRIES

Chinese people lived in villages.\(^1\) The visitor to China was amazed that he saw no farm houses surrounded by green fields. He was more surprised to find that what he thought was a city was really just a cluster of villages. The tillers of the soil left their villages to tend their little farms and all of them had some occupation which could be carried on at home to supply the family's wants or to add to its income. All articles of apparel, including shoes, were made by hand; the bedding was wadded quilts which, like the waddied wedding garments, had to be ripped open from time to time to be cleaned and renewed.\(^2\) The farm implements were very primitive; any plows used were made at home. Itinerant blacksmiths were employed by the villagers to do such work as they could not turn out themselves.\(^3\) The farm houses were of local materials: in the north sun-dried brick; in the south bamboo, mud, and brick. In the loess regions people lived in caves in the hills.\(^4\)

\(^1\)Daniel Bergsmark, *Economic Geography of Asia*, p. 468.
Chinese industry was like this when the Western people forced open the doors of China. It had been like this for a long, long time, and still was to a surprisingly large extent when Japan invaded China in 1937. Chinese industries were centered in the villages; were largely family affairs; the surplus goods was sold in markets and any regulation of trade was carried out by the guilds. In the highly skilled crafts, for which China is so justly famous, the workers were trained as apprentices in the guild members' shops. There was practically no government control over these industries.

In 1935 Bergamark estimated that seventy-five per cent of the Chinese population was engaged in farming. There are no reliable statistics on farming in China, but in a study of 2,866 farms in seventeen different localities, Dr. John L. Buck found that in 1930 the farms averaged a little under five acres. The crop areas were still smaller, for part of the land was used for buildings, roads, dykes, and burial mounds. The northern farms were larger than the southern, but they could grow only one crop a year while the southern grew two and sometimes three. The size of the average farm family was 5.65 persons. Rents varied

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5Ibid., p. 467.

6John L. Buck, Chinese Farm Economy, p. 44.

7Ibid., p. 340.
from 2.16 to 17.18 per cent of the value of the property. When the farmers borrowed money they paid from twenty to thirty per cent interest. The lower rent was probably due to the facts that farm land was considered a good investment and that ownership of land brought prestige to a family. For the seven principal crops -- rice, wheat, millet, kaolin, corn, soybeans, and cotton -- more than four-fifths (83.7 per cent) of the year’s work came from May to October, the remaining 16.3 per cent being left to the six months, November to April. The seasonal factor is more significant when one considers the small amount of man labor performed on the farm in the year. According to Dr. Buck,

Man-work units vary from 112 on farms in the smallest size-group to 519 on farms in the largest size-group. The median shows an average per farm of 190 man-work units and this \[\text{work}\]\ is performed by an average of 2 man-equivalents per farm. When one considers that out of the total number of days in a year only this small amount of productive work is done, it becomes apparent that there \[\text{is}\] the equivalent of several idle months each year for every farm operator and each farm laborer.

The rural population cannot get its whole living from the soil. Manufacturing is necessary as a supplementary occupation.

The leading home industry is textiles. China is the only country in the world where hand-loom weaving still

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8 Ibid., p. 149. 9 Ibid., pp. 238-244. 10 Ibid., p. 231. 11 Shih Kuo-ling, China Enters the Machine Age, p. 171.
predominates over power-loom weaving. The proportion of power weaving to hand weaving was only one to four in terms of yarn consumption in 1930. Of a total consumption of 961,000,000 pounds of yarn for China, the power looms consumed only 207,000,000 pounds, leaving 754,000,000 pounds, or four-fifths of the yarn, for the hand looms.\textsuperscript{12} In 1930 in some regions every family had a loom, and it was not uncommon for the members of the family to take turns, the husband weaving until midnight, the wife taking up the task until daylight. Often this work was done in cellars two-thirds underground, damp, ill-ventilated, and unwholesome.\textsuperscript{13} Besides the weaving, the family might do the ginning of the cotton, separation of the fibers, spinning, carding, winding, and starching.

Silk weaving was carried on exclusively by hand looms, and was one of the leading industries in central and south China and even in such northern provinces as Honan and Shantung. The town of Shentseh on the boundary between Kiangen and Chekiang was well known as a center for silk textiles. There was not one weaver in the town. The supply of silk came from surrounding villages for which the town was only a collecting and distributing center. In the villages almost all families were silk weavers. Raw silk was not produced on the farms but was supplied by raw

\textsuperscript{12}H. D. Fong, Rural Industries in China, p. 20.

\textsuperscript{13}Smith, op. cit., p. 226.
silk firms. The looms and designs were also bought. If the workers needed any money to tide them over from the time of purchase of the raw materials and the sale of their products, the commission houses in the town advanced the money. The products were sold through the commission houses or brokers. A silk guild supplied standard weighing scales which were used for all transactions.\(^{14}\) According to the Encyclopaedia Britannica China's home consumption of raw silk was fifty-five per cent of her total production, which amounted to 9,924,000 kg., or one-sixth of the world's raw silk production.\(^{15}\) In recent years the average export figure for silk piece goods and pongees is 31,295 piculs.\(^{16}\)

The weaving of grass or ramie cloth was not so important as silk or cotton weaving, but was an important household occupation in the provinces where the raw fiber was produced. It supplied a foreign market as well as home needs. In a good year, such as 1928, the export reached 26,623 piculs. The provinces of Kiangsi, Kwantung, Hunan, Fuhien, and Szechuen were famous for the cloth. It was woven by country girls in off seasons. When a girl could handle a distaff or a spinning wheel, she was taught to spin yarn with ramie fiber. The spinning was usually done

\(^{14}\) Fong, op. cit., pp. 21-22.

\(^{15}\) Encyclopaedia Britannica, 14th ed., XX, 676.

\(^{16}\) Fong, op. cit., p. 21. (A picul is approximately 133.3 pounds, from the Chinese word meaning a man's burden.)
in a damp cellar, as the yarn was so fragile that it would break if exposed to light and wind.\(^{17}\)

Other rural industries which owed their existence to local materials were clay products, such as bricks and tiles; food products, such as wine, oil and flour; timber products, including agricultural implements and baskets made of willow and paper.\(^{18}\) The bricks were easily made, but a scarcity of fuel led to the almost universal practice of burning them too little and they frequently broke when handled and were full of air holes. They soaked up moisture from below.\(^{19}\) The preserving of fruits was a dovetailing industry. In the districts of Fenshan and Taishan of Chekiang are grown fine large plums. The supply is far greater than the community can consume; so they are preserved in syrup or salt for export. The total annual output of fresh plums in this district in 1929 was estimated to be 50,000 piculs with a value of $400,000.\(^{20}\)

The making of vermicelli was carried on as a home or workshop industry and was a seasonal job for the farmers. The flour from which vermicelli is made is composed of beans or a mixture of beans, haeling, and wheat. In Lunghow, Shantung, vermicelli making was a cottage or home industry.

\(^{17}\)Ibid., pp. 22-23. \(^{18}\)Ibid., p. 3.

\(^{19}\)Smith, op. cit., pp. 21-23.

The farmers made it during slack seasons, packed it in straw matting and sold it to dealers in Lunghow who imported beans from Darien for the flour. In Sarancheng, Ankewi, the making of vermicelli was a workshop industry, carried on by wealthy farmers. The plants consisted of an oven, a boiler, two earthen vessels, and a frame for drying. There were usually half a dozen workers, and the plants closed only when the farm work was heavy. About three hundred plants operated in this district. The output was sold to local wholesalers for export to neighboring districts.

Wine brewing, or distilling, was also a home and workshop industry. In Taihing, Kiangsu, it was carried on by almost every farmer, despite the high tax, for the residue of fermented grain is ideal for feeding and fattening pigs. In Shaoling, Chekiang, the industry had become a workshop and Shaoling wine was well known throughout the country.

Paper making, one of the earliest industries, was chiefly centered in the southern provinces because of the raw materials used, bamboo and rice stalks. The straw was soaked alternately in water and lime for 120 days, then dipped in a solution of soda ash and cooled for twenty-four hours. Then it was washed, made into patties, and dried in

21 Fong, op. cit., p. 28.  
22 Ibid., pp. 28-29.  
23 Ibid., p. 29.
the sun. It was then dipped in a solution of alkali and cooked for twenty-four hours. Bleaching was the next process; sun and dew are considered the best agents. This process produces a very fine paper but takes several months.24

There was a group of rural industries based on animal products, including skin curing, glue preparing, horse-hair sieve weaving, and brush making. In Taying, in Hopei, skin curing was done by farmers who went into neighboring districts in small groups to collect the skins.25 The bulk of the sheep and dog skins were cured in the village skin curers' establishments and were made into coatings or blankets which were disposed of at the local fairs. Glue making, which consisted in boiling the skin and hoofs of the cattle slaughtered locally, was a side line of the farmers in Chorotsun, Shantung. The glue was made into rectangular pieces of varying size and sold at the fairs, although special glue exporters frequently visited the town to purchase large quantities. The monthly production was estimated to be about 150 piculs. The making of horse-hair sieves was carried on by the women and children in Anying, Hopei. The horse hair was collected by dealers who supplied it to the home workers in the villages. The sieves were sold mainly in Hopei, Shantung, Shansi, and Honan provinces.

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24 Vaughn White, Our Neighbors, the Chinese, pp. 54-55.
and were used for the sifting of flour. Horse-hair nets and veils were manufactured in Anping for export to foreign countries. Huochow pens, or writing brushes, made from goat, skunk, and rabbit hair and chicken feathers, were made chiefly at Shanliuchen, a market town near Huochow. The inhabitants were all wholly or partly engaged in the pen making, farmers often neglecting their crops.\textsuperscript{26}

Much of the coal mining of China was carried on with very primitive methods by farmers who became interested after the discovery of coal on their own property.\textsuperscript{27} Iron smelting, a very old industry, was carried on as a small-scale industry, often part time, throughout China. Small deposits are widely scattered and the location of smelting was determined by the supply of fuel. Charcoal was long the only fuel used and the use of coal or coke came only when the woodlands disappeared. From the twelfth century on, the Shanai iron industry grew in importance. The pig iron was made into manufactured iron articles in the villages. There was considerable specialization: one village made scissors, another shovels, a third needles. In South China the iron market was supplied from several centers, each serving a well-defined region. Iron pans and kettles were almost the only iron goods in demand.\textsuperscript{28}

\textsuperscript{26}Fong, \textit{op. cit.}, pp. 37-38. \textsuperscript{27}Ibid., p. 36.

\textsuperscript{28}Wilfred Smith, \textit{A Geographical Study of Coal and Iron in China}, pp. 48-49.
In the large villages and towns the handicraft system, like that of medieval Europe, flourished. The shop was not only the place where items were sold but also where articles were made. If the buyer could furnish a model or description of the article he desired, clever Chinese fingers could produce a very satisfactory copy. The small groups of artisans worked along with their employers, whose meals they shared, and with whom, as apprentices, they lived. The work was carried on from dawn to dusk; there was little subdivision of labor or specialization and in a majority of cases no machinery or power. The work was heavy; the craftsmanship fastidious; the methods patient, laborious, and slow. Discipline was slack or absent altogether. The relations were human, not mechanical. There was much physical exertion but little nervous strain. Metal goods, whether iron, copper, tin, or silver, furniture making, painting, shoe making, tailoring, lacquer making, and tapestry making, were carried on much as they were five centuries ago. Carl Crow says that the silk and silver craftsmen were absolutely honest. The silk was sold by weights, and the silversmith would buy back, at a slight reduction, no matter what condition, any item he had sold.

\[29\] Tawney, op. cit., p. 114.
\[30\] Ibid., p. 11.
\[31\] Carl Crow, *Four Hundred Million Customers*, p. 268.
In a regular village shop was kept a strange mixture of goods. In Shantung a small amount of rice was usually carried, though rice was not a staple of diet there; it might be needed for a wedding or for a sick person. There was a good supply of red paper cards for invitations and white paper for funeral announcements. There was a large supply of firecrackers wanted for feast days, weddings, and funerals. Paper money was sold for idolatrous ceremonies. The largest profits were made from these items. If the shop was small it was only opened when occasion demanded, but if it was large, it required a staff, for goods were carried to rural fairs. Village shops kept different lines of weighing poles for buying and selling, and they tried to work off uncurrenent cash and bad bills on those who could be imposed upon.

Going to the fair was quite a job, for an accurate list had to be made, the goods packed carefully and wheeled in a barrow to the fair. The seller had no booth or stall, but simply paid ground rent, spent all day bickering over prices with all sorts of people and keeping a sharp eye out for thieves. Then at last the remaining goods had to be packed, wheeled home, sometimes over an unbelievably bad road, unpacked, checked, and the money accounted for. Some village shops sold meat. One sent four wheelbarrows daily

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32 Arthur Smith, Village Life in China, p. 49.
33 Ibid., p. 53.
to different village markets. The men who did this had to rise before daybreak to get the meat ready; it had to be cut from the bones, for bones sold at a different rate.\textsuperscript{34}

Local markets served for most trade. The people were so poor that they could not stock up on what they would need in the future. Most had so little land that they could not produce all that they needed, so the solution was to sell small surpluses at frequent intervals and to purchase small amounts.\textsuperscript{35}

Times for markets varied greatly. Cities had markets every day. Small places might have them every three or six days. Chinese thought nothing of walking six to ten miles to market, for not only could purchases be made but also friends could be met. Every village was surrounded by a ring of markets in other villages.

In farming areas where animals were used for farm work, markets had livestock fairs and multitudes of beasts changed hands. The manager frequently levied a tax of one per cent on sales. The local Committee of Education sometimes required a ten per cent tax, though little of the money was ever used for free schools.\textsuperscript{36}

The fairs were widely advertised by posters and usually lasted four days, though they might last a month. They were attended by as many as ten to twenty thousand persons when

\textsuperscript{34}\textit{Ibid.}, p. 49. \hspace{1cm} \textsuperscript{35}\textit{Ibid.}, p. 147. \hspace{1cm} \textsuperscript{36}\textit{Ibid.}
held in the cities. The managers of temples planned them to get revenue for the temples. They charged ground rent and a sales tax. Inhabitants made money renting buildings to those who came from a distance. Large fairs attracted merchants from hundreds of miles away who brought a great variety of merchandise to please their customers. If a fair lasted as long as four days it was sure to have a theatrical representation. 37

A final group of village manufacturing industries supplied the services needed in a farming community. In a study of the major by-employments of the farmers in the 453 villages in Tinghsien, Hopei, the farmers served as blacksmiths in one village, carpenters in ten, sawyers in twelve, masons in six, wagon makers in two, waterwheel makers in one, windlass makers in one, and well drillers in two. In Kucheng the farmers in slack seasons were village smiths. In a dozen shops they turned out cutlery, cooking utensils, and agricultural implements, chiefly from scrap iron, amounting to around 200,000 pieces a year. 38

The guilds were an outgrowth of an industrial system in which every shop made its own goods. They regulated apprenticeships; the exquisitely beautiful handiwork required years of service before the worker was considered proficient.

37 Ibid., p. 150.

The boy who wished to learn a skilled trade was bound to his master by a contract, usually for a three-year term, though it was only for one year in the confectionary and incense and cosmetic guilds. The term was eleven years in the jade guild. Boys usually entered training at the age of fourteen and unless they served out the full time the master was reimbursed for the room and board he had provided.39

During this time the boy was entirely under the master's control. He lived in the store, ate food provided by the master, and went home only on holidays or for weddings and funerals. He was supposed to sweep out the store, do the cooking, and other menial tasks and then work at his trade. In Peking there seemed to be no limit to the number of apprentices and no restrictions as to limiting apprentices to sons or relatives of the men already engaged in a particular trade.40 Tawney found that in Peking in 1920 out of twenty-five guilds with 90,000 members, 10,000 or 11.4 per cent, were masters, 58,000 or sixty-four per cent were journeymen, and 22,000 or 24.6 per cent were apprentices. The number of journeymen and apprentices per master ranged from 0.9 per cent in the case of shoe makers and 1.8 per cent in jade workers to 73.5 per cent among

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40 Ibid.
carpet makers and 106.6 per cent among silk dyers.\footnote{Tawney, \textit{op. cit.}, pp. 114-115.} \footnote{Gamble, \textit{op. cit.}, p. 189.}

When an apprentice had finished his years of service he was usually free to work wherever he wished, but he usually stayed right on in the same place. The close relationship which developed between the employer and employee made it possible for them to belong to the same organization and explained why the employer often raised wages, as the case of living increased, without any demand from his workers.\footnote{Frank George Carpenter, \textit{China}, p. 81.}

Guilds covered every possible occupation, from goldsmiths and doctors to slop carriers, beggars, and burglars.\footnote{Gamble, \textit{op. cit.}, p. 167.} Membership in a guild was usually limited to those who belonged to one craft or trade. Workers of two lines often united in one guild when the two types of work were similar. The bone and horn guild included the makers of tooth brushes, hairpins, combs, shoe horns, and tongue-scrapers.\footnote{Tbid., p. 168.}

In Peking the guilds divided the city into districts for administrative purposes, and the district guilds came together for one or two meetings per year.\footnote{Tbid., p. 168.} In the big cities there were provincial guilds. The Changch'uan Guild in Shanghai had one million dollars' worth of property. It maintained a school; pupils from the home province were
not charged; it served as a hotel, and helped out the merchants.46

Very little was said in guild rules about membership being compulsory, but all those connected with a trade were expected to join. A member was expected to obey the guild rules and make contributions, but the advantages outnumbered any responsibilities or expenses. The guild members did not allow their fellow members to have any relations with outsiders engaged in the same sort of work. The outsider was invited to join the guild; if he failed to do so, his tools might disappear, and he might even be taken to the guild hall and held prisoner until he decided to join.47

The officers of the guilds were elected and were almost always the heads of businesses. The ordinary workers lacked experience and education and did not have time, for the officers served without pay.48 The guild received its income from initiation fees, dues, rents on guild property, interest on surplus funds, and fines from those who broke the guild rules. The fines ranged all the way from $100 collected from gold-foil beaters who did not pay the wages fixed by the guild to eight cents collected from a contracting painter who allowed his men to work during their rest

46Lin Yutang, My Country and My People, p. 201.
47Gamble, op. cit., p. 169.
48Ibid., p. 178.
periods when there was a tea house nearby. If there was no tea house near, they might work and receive extra pay.\textsuperscript{49}

The guilds fixed the minimum prices which the merchant should charge and the wages he should pay. They punished any employer paying less than the established rate and any employee who accepted the lower wage. If the hours of work were definitely fixed, the men were paid extra for overtime. The ordinary worker in Peking in 1921 received approximately $6.00 per month. The workers in the incense and cosmetics guilds received the lowest, $2.50, and the workers in the gold-foil beaters' guild received the highest, $36.00.\textsuperscript{50}

In the Peking guilds the average working day was ten hours for those who were making goods and twelve to fourteen hours for those who were selling. The seven-day week was usual. The long hours were especially hard on the apprentices who had many tasks to perform.\textsuperscript{51}

Many guilds had special regulations for their members. The barbers' guild tried to protect the business of each of its members. When a regular customer left one shop and went to another, the barber gaining the customer had to charge ten per cent more than the first barber. Workers wishing to transfer from one shop to another had to give three days' notice. Barbers had to wear their hair short,

\textsuperscript{49}Ibid., p. 182. \textsuperscript{50}Ibid., p. 183. \textsuperscript{51}Ibid., p. 185.
not drink wine during the day, or eat onions or garlic. 52

Chinese guilds possessed many duties which were government functions in other countries. They established and maintained trade standards of weights and measures, though those of different guilds were not the same. A cattie might be twelve, fifteen, or sixteen ounces, and various tailors and carpenters did not measure the same. There were numerous tael$^{53}$ used in accounting and payments. In the past, monopolies or copyrights were granted by the guilds. 54

Chinese had a horror of lawsuits and counted on the guilds to keep them out of court. In past days the guild was often the only protection against autocratic government. An interesting but sad story is told of a merchant in Soochow who received an order from the Emperor for a large amount of gold leaf to be delivered in a hurry. He got permission from the authorities to take on more apprentices than the guild permitted. The other members called a meeting to decide what punishment should be given a member who broke guild regulations. They found that to bite a man to death was not a capital offense; so they attacked him. Each member was required to take a bite. The poor man died

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52 Ibid., p. 191.

53 Tael, a Chinese unit of money similar to a dollar and replaced by it.

54 Ibid., pp. 190-191.
a horrible death and all were arrested. The one who took
the first bite was executed, in spite of there being no le-
gal penalty, on what grounds we do not know.55

Many guilds were able to survive the changes in the na-
tional economy. Some were reorganized into chambers of com-
merce. Some have been discontinued when the articles they
manufactured were no longer in demand. The brass wash basin
guild disappeared with the coming of the enameled wash ba-
sin which is cheaper and lighter. The hat guild of Peking
which made the old-fashioned skull cap, is gone. Modern
factories made the end of the textile guild of Shanghai.56

The workers discussed in this chapter are not to be
compared with farm or factory workers in America. They
had little or no schooling, no experience with machinery.
All work on farms in China was done with sickles and hoes.
No motor truck or tractor had ever been used in farm work.
Axes, knives, tongs, scissors, and pokers were the only
tools likely to be used.57 Liberty of person and security
of property were well established. The masses were not ex-
plotted.58 Their poverty came from over-population. Every-
body's subsistence was assured by the family system and

55 Carpenter, op. cit., p. 81.
56 J. S. Burgess, "The Guilds and Trade Associations of
China," Annals of the American Academy of Political and So-
cial Science, CLII, 72.
57 Shih, op. cit., p. 15.
its extension into the guild system. None lived well, but all were assured of a living. China's economic structure seemed quite sound before the large-scale introduction of Western goods. In 1867 her tea for export amounted to sixty per cent of the total world tea trade; her silk for export in 1860 took half of the entire world trade in silk. Her sugar and porcelains were desired.


60 Wong Wen-Hao, "China's Economic Reform," China at War, X (June, 1943), 7.
CHAPTER II

INTRODUCTION OF WESTERN GOODS

The influx of Western goods broke down the old Chinese economy. The consequences of the industrial revolution were more serious than in England or in the United States. Before the foreign powers forced treaty privileges from the Manchu emperors, the country was self-sufficient. The Chinese had created their civilization and were serene in the idea that it was the best possible. There was no material thing they needed for their way of life.¹ The government was in theory an absolute monarchy but it interfered very little with the people. The viceroyes of the eighteen provinces collected the taxes and sent the proper revenues to Peking; they kept order so that nothing would disturb the quiet of the court. Trade was considered below the notice of the government. Such a system worked when industry was in the handicraft stage and a peasant family or workers in a shop concentrated on one thing for a limited market.

The Manchus refused to have any dealings with the foreign merchants. Co-hongs or consular agents dealt with

them. As the merchants desired to operate under treaty protection, their governments sent troops to enforce their demands. After the Chinese armies were defeated, the Manchus were forced to recognize the special rights of the British, French, Germans, Russians, and Japanese in certain ports. The foreigners secured the right to be tried in their own consular courts instead of in Chinese courts. The Manchus promised to pay indemnities. Their prestige was damaged by these humiliating terms, and the Chinese resented the increased taxes they paid because of the indemnities.2

Foreigners did not go inland to trade, as their extraterritoriality did not protect them there; they sent Chinese merchants who operated on an expense account and a commission. The indemnities were secured by a five per cent tax on imports and exports. Thus China got an irresponsible merchant group and a flood of foreign goods which poured in over the low tariff wall.3 The tariff rates could be changed only with the unanimous consent of thirteen countries. The matter appeared hopeless to the Chinese, and the rates remained fixed until 1929.4

2Ibid., pp. 36-66.

3Robert Burnett, China, America's Ally, Far Eastern Pamphlets No. 5, American Council Institute of Pacific Relations, p. 16.

The foreigners set up islands of self-governing areas over which the Chinese authorities had no control. These were trade areas until after the Sino-Japanese War of 1894-1895. Japan gained the right to build factories in the treaty ports. Other countries demanded the same privilege, and large-scale industry developed along the seaboard, particularly in Shanghai, where three-fourths of the factories were located in 1936.⁵

Lack of transportation limited the spread of the results of industrialization. Dr. Tawney wrote of three districts: the ports; the hinterland, served by railroads and rivers, where modern industry was still in its infancy; and the interior, which was much the largest, where, though impact from a distance was increasingly felt, it hardly existed as a localized force.⁶

Some rural industries were able to survive machine competition, some were able to make an adjustment, and some declined.

In Foochow twenty-four shops made lacquer ware. The most famous was two hundred years old, and its work, made by a secret process, took prizes at many international fairs. Fine articles had one hundred twenty coatings of lacquer and took eighteen months to produce. Foochow was

⁵*China's Relief Needs, American Council Data Paper No. 4, National Planning Association*, p. 36.

⁶*Tawney, op. cit., p. 127.
a leader in lacquer work because the humidity of the climate enabled the coatings to dry without cracking. Shops making lacquer ware, silver, jade, ivory, cloisonne, and porcelain, continued to prosper because these articles cannot be made by machines.

Some rural districts which had transportation were able to make an adjustment by developing a master-employer or a small-master system. Around Kayong, long a rural weaving center, near the Peiping-Hankow Railway and the River Tatsingho, which flows toward Tientsin, the workers turned to machine-spun cotton; this they now began to weave on Japanese-made iron looms. Production was greatly increased but the problems of capital for the yarn and markets for the finished goods arose. The merchant finally became an employer and the weaver became dependent on wages. A change in market conditions or new materials or styles caused a violent change in the workers' condition. A new material was the introduction of rayon and a change in style was the desire to get away from the traditional grey cotton cloth. Weaving under these conditions was a sweated industry, and many weavers were unemployed part of the time. They usually returned to farming. The decentralization of production relieved the merchant-employer from providing workshops and looms, but it also deprived him of the right to supervise

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7H. D. Pong, Rural Weaving and the Merchant Employers in a North China District, p. 5.
the work and enforce discipline. The cloth lacked uniformity, and some of the workers cheated by reducing the number of threads. The Hanyang weaving district covered an area of approximately five hundred square miles. In 1932 there were 16,931 looms scattered through 414 villages. The total sales turnover in that year was over ten million dollars.

In Hopei the tanning of skins was carried on in small workshops, the smallest a one-family affair. Two-fifths of the shops employed fewer than ten workers; the largest shop had one hundred. In the same province eighty-one potteries owned two hundred eleven kilns for the manufacture of bowls. They employed twenty to thirty workers each. Part of the work was done on commission for merchants who distributed the raw materials, supplied the credit, and marketed the product. The small master worked to the order of the merchant when business was brisk, and struggled by himself in time of depression.

The decline of rural industries is shown in cotton spinning, silk reeling, and tea preparing. Machine-spun yarn, which was first imported from England in 1821 to the amount of thirty-eight piculs, rose to 33,507 piculs in 1867; to 131,525 piculs in 1869; 593,728 piculs in 1887; and 2,748,644 piculs in 1889. After that, the peak year,
there was a decline in the importation of cotton yarn until the low point of 74,565 piculs in 1931. The decline in yarn import was not caused by a revival of hand spinning but by the growth of mills in China.\textsuperscript{12}

In 1895, the first year for which we have figures on the export of machine-reeled silk, hand-reeled silk was still 67,622 piculs or 71.4 per cent of the total export of silk. Since that year, the proportion of machine-reeled silk rose continuously to 45.1 per cent in 1900; 58.1 per cent in 1910; 67.9 per cent in 1920; and 83.1 per cent in 1930. The hand-reeled silk had declined eighty per cent in thirty-seven years.\textsuperscript{13}

Tea preparing has shown an equally rapid decline. In 1886, the year of the largest tea export, there were 2,217,295 piculs; in 1890 the amount had been reduced to 1,665,396 piculs or 75.1 per cent of the total tea export for 1886. In 1900 the amount was 1,384,324 piculs or 62.4 per cent of the export in 1886. There was a slight revival of tea export during the World War of 1914-1918, then a rapid decline until in 1932 when the total tea export was reduced to 653,556 piculs or 29.5 per cent of the peak year of 1886.\textsuperscript{14}

As shown in Table I, of the fourteen groups of products

\textsuperscript{12}Fong, \textit{Rural Industries in China}, p. 13.

\textsuperscript{13}Ibid., p. 15.

\textsuperscript{14}Ibid., pp. 15-16.
from China's principal rural industries exported from 1927 to 1932, eleven groups have shown a decline. Their order in relative importance of export value in 1932 was, beginning with the one of greatest volume, silk piece goods and pongees, wood oil, paper, straw braid, mats and matting, vermicelli and macaroni, lace and trimmings, fire-crackers and other fireworks, nankees, grass cloth, and Chinese wine.\textsuperscript{15}

Many rural workers were unable to find any other subsidiary occupation for their farming. On the cotton growing plains people had been able to make a scantly living by supplementing farming with cloth-weaving. A bolt of cloth fifteen inches wide took two days through hard labor. This combination employment brought in barely enough to stave off starvation and to purchase the cotton for the weaving which went on day and night. Many had no notion of what caused their suffering. Others knew that before foreign trade came in, there was enough to eat and wear.\textsuperscript{16}

Goods near the Yangtze and along the coast had been carried in Chinese junks. Foreign boats took over much of the transportation. The merchandise was safer, transportation was quicker, travel was easier; but many capitalists' boats were idle and many coolies were out of work. They

\textsuperscript{15}Ibid., p. 18.

\textsuperscript{16}Frank Brinkley, China, p. 180.
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<th>Products</th>
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<td>Silk piece goods</td>
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<td>Honan</td>
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<td>Other</td>
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<td>Nankeens</td>
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<td>Grasscloth</td>
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<td>Silk</td>
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<td>Lace and trimmings</td>
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<td>Total for 15 groups</td>
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*Fong, Rural Industries in China, p. 19.

**Means "thrice distilled" wine, generally produced in North China, especially Manchuria; kaoiang, chief source of raw material,
### TABLE 1 -- Continued

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became very bitter toward their government and of course toward the usurping foreigners.  

Chinese goods when shipped across the country paid tolls, while foreign goods, after paying the five per cent duty at the port of entrance, were duty free.  

Before foreign trade developed, the cities of China were market towns and government centers. The cities of Kaifing, Leyang, Sian, Soochow, and Hangchow fell behind with the growth of the newer cities, Shanghai, Tientsen, Darien, Canton, and Amoy. Shanghai became the most important of all, politically and economically. Its geographical advantages at the mouth of the Yangtze River and near large reservoirs of coal, its cheap electricity, its banks, and its cheap labor supply made it a great manufacturing center. By 1926 Shanghai had become one of the first eight ports of the world in tonnage entering it.  

There were two Shanghais, one the International Settlement and the other the native city. The International Settlement covered nearly nine square miles. A few thousand foreigners governed it through their Municipal Council. Chinese were permitted to live in the Settlement, and by 1918 there were nearly a million Chinese paying taxes amounting

18 *George E. Taylor*, *Changing China*, p. 58.  
19 *Condliffe*, *op. cit.*, p. 90.  
to $1,250,000. The foreigners paid $800,000. In 1936 the wealthy Chinese owned banks and pawn shops; of the 3,000 factories, eighty per cent were owned by Chinese. They owned, in round figures, thirty cotton mills, forty rubber shoe factories, forty canneries, sixty tobacco plants, ninety hat factories, and numerous department stores, restaurants, and theaters.

Though these wealthy Chinese had no part in the government of the Settlement, they were under its authority. They were free from any control by the Chinese Government. There were no floods, no famines, and no war lords in Shanghai. Because of these conditions in the back country, floods of cheap labor poured into the city. A worker lived in a one-room tenement, a mud hut, or a dormitory. In the dormitory the beds were occupied twenty-four hours a day. Workers ate machine-milled rice and vegetables that had been exposed in a dirty market. The factories were built as cheaply as possible. Much of the imported machinery had no safety guards, and children were engaged in dangerous work, such as putting chemicals on the outside of match boxes. Daily hours of work varied from eight to twelve, and wages were very low; for a man, from forty-seven cents to $1.65 a day; for a woman, from twenty-four to eighty-nine cents.

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21Ernest O. Hauser, Shanghai, City for Sale, p. 132.
22Ibid., p. 248.
23E. R. Hughes, The Invasion of China by the Western World, p. 276.
Labor contractors went into sections where there were floods or famines and bought girls for thirty or forty dollars. The contractor promised to feed, shelter, and clothe them until they worked off the price. The children were put in workshops where there was small machinery. They stood all day unrolling cocoons. The job was done over basins of hot water; their hands and eyes were ruined. Grown workers, who were waiting for the threads, would slap them if they were not quick enough. In the silk filatures the windows remained closed because the threads were so fragile. The contractor collected their wages and expected to make a profit of two hundred dollars on each slave. He kept them in crowded dormitories; fed them rotten food. He kept them from running away, for he had to pay the factory six dollars for each girl who left.24

Conditions were similar in other parts of China. Carpenter gives an illuminating account of a visit to Wusick, a silk center, in 1926. Wusick is near the southern end of the Grand Canal. He saw from the train a forest of smoke stacks of the silk, cotton, flour, rice, and bean mills. All of the factories had modern machinery and up-to-date methods. The silk farmers, near the city, raised mulberry trees. Women and girls gathered the leaves and fed the worms. The finest white silk in the world was made in eighteen factories. The cocoons were unwound into beautiful

24Hauser, op. cit., pp. 138-139.
skeins of silvery yarn used in American factories. The factory he visited covered eight acres and had several buildings. The work sometimes went on fourteen hours a day. The regular schedule was eleven hours a day, seven days a week. Many little girls were working for ten cents a day; the women, for seventeen.²⁵

Common labor in the steel mills received three dollars a month, and skilled mechanics sometimes got as much as twelve dollars a month. Miners got seven cents a day and one meal, a penny's worth of rice and meal. In any part of the Empire, willing labor might be had for pay ranging from eight to fifteen cents a day.²⁶

The capitalist had serious problems, too, for low wages did not always mean low production costs. The coolie needed industrial training and factory atmosphere before he could measure up to Western workmen. At a railway center in China there was a government establishment which imported bridge materials from Europe. It built the beams, fitted and punched holes in them, and sent them knocked down to the place where they were needed. Yet bridges prefabricated in Belgium could be imported cheaper even though wages were five times as high there.²⁷

Chinese cotton mills were over-expanded during World

²⁵Carpenter, op. cit., p. 128.
²⁶Ross, op. cit., pp. 117-118.
²⁷Taylor, op. cit., p. 119.
War I. Chinese capital owned one-half of the cotton mills in 1920. Many of the Chinese became bankrupt in competition with the Japanese mills in China. The Japanese mills used machinery made in Japan; the Chinese mills used imported machinery, usually paid for under adverse exchange. The Japanese mills borrowed money from banks in Japan at three or four per cent interest, while the Chinese mills paid from ten to fifteen per cent interest for borrowed capital. 28 The cheap labor and materials, low taxes and tariffs made huge profits for the Japanese. The crises brought about by too many mills were met by lowering wages and substituting the cheaper labor of women and children for the work of men. When the discharged men protested, the Japanese overseers retorted only with savage whippings. 29 In 1936 when large amounts of Japanese goods were smuggled in, six large Chinese-owned mills at Tientsen with a total of 128,000 spindles were forced into bankruptcy and were purchased by Japanese cotton mill interests. 30

Hauser says: "The Shanghai trade was the most profitable racket ever devised by man. The basic idea was the draining of half a continent with no more effort than


29 Harry Gannes, When China Unites, p. 82.

30 Abend and Billingham, op. cit., p. 72.
keeping up a single city.\textsuperscript{31} The silk trade was a good example, since silk formed one-third of Shanghai's export. Chinese farmers brought their cocoons to markets all over the countryside on the Shanghai delta. Here Chinese agents of the foreign firms met the farmers after the spring crop had been collected, usually between May 15 and June 5. The crop had to be sold within seven to ten days, else the moth would break through the cocoon and spoil the thread. The farmers could have got a better price if the crop had not been perishable. They could not afford to build the drying ovens. They were cheated by a monopoly which concentrated drying facilities in the hands of a few privileged brokers. The compradore was a Chinese gentleman in good standing in the community.\textsuperscript{32}

Of the 6,700 miles of railways in 1925, 5,700 miles had been built as concession lines or with foreign loans. Control consisted of supervision of construction, purchase of the materials of construction, audit of expenditures and receipts, and actual operation of the road. The important employees were foreigners and the lines were usually built in close cooperation with their home government.\textsuperscript{33} The foreign lines penetrated into China from the outside, usually in extraterritorial areas. The Chinese government

lines radiated out from Peking and connected with these lines. Mining was connected very closely with transportation. In Shantung and Manchuria the foreigners had exclusive mining rights within a certain zone on each side of their railway lines and their coal mines had no competition. Railroads and steamships served as consumers and distributors of coal, and by 1926 small mines worked by old-time methods had declined to a small number. The demand of the China Merchants Steam Navigation Company caused the introduction of large-scale mining in 1876 in the Kaiping coal fields near the shore line. The initiative in this first large-scale enterprise was Chinese. The Manchu opposition to the introduction of Western methods crippled the development of the mines.34

The government officials could not adopt a consistent view toward industrialization, for they were divided into two groups, the reformists and the conservatives. The former were represented by Tsing-Kuo-fan, Li Hung-chang, and Chih-tung, leading Chinese officials working under the Manchus. The latter were headed by Manchu dignitaries who placed one obstacle after another in the path of reform. Nevertheless by 1894 the reformers had created a number of modern factories. Among them were the Shanghai Arsenal, Tientsen Machine Works, Szechwan Machine Works, Mawei

34Wilfred Smith, op. cit., p. 49.
Shipbuilding Administration, and the China Merchants Steam Navigation Company. Mining enterprises included the Kuilan Mining Administration, the Taiyeh Iron and Steel Works, and the Hanyang Iron and Steel Works. 35

Li Hung-chang was the promoter of the China Merchants Steam Navigation Company, a private undertaking established in 1872. It prospered until 1960, when it began to suffer from seizure of its ships by military chiefs who wanted the ships to move troops. 36 Li established a cotton cloth factory, the first in China, in Shanghai in 1888. It was called Yang Fu Chou or "foreign cloth factory" because Li wished to make cloth like that which was being imported by the foreign merchants. 37

The Hanyang Steel Works planned in 1896 by Chang Chi-tung had an interesting history. Chang secured permission from the Emperor and ordered an English firm to send him a complete steel plant. The firm asked for samples of ore because they had different types of equipment for the different ores. His return message was that the company not waste time but send the plant. His real reason was that he made this answer because he had no ore. In the meantime he was moved to Hankow, so he ordered the plant sent there.

36 Grover Clark, Economic Rivalries in China, p. 36.
37 Ibid., p. 78.
Strangely enough, large amounts of ore and coal were found near Hankow. He spent huge sums building the steel plant, arsenals, and a powder factory, all of which operated at a loss. They were sold to Sheng Kung Pao, a Chinese millionaire, who placed in charge Chinese who had studied iron and steel making in Europe and the United States. By 1926 they were mortgaged to Japanese capitalists. The main purpose of these projects was to increase the nation's military strength and to reduce the inflow of foreign goods. As there was no government agency for handling economic affairs, the few enthusiastic officials achieved little.

From 1895 when China was defeated disastrously by Japan until 1899, the time of the Boxer Rebellion, there was no government activity toward promotion of industries. From 1899 until the Manchu rule was overthrown there was strong anti-foreign sentiment. The government recognized the need of internal economic reform. The Ministries of Communication and Industries and Commerce were created and the government promotion of industry caused many new private enterprises to be established. The Ministry of Communication was set up to supervise railways, post offices, telegraphs and telephone lines, and merchant vessels. It sought to coordinate them and plan extensions of government

38Carpenter, op. cit., p. 166.
39Wong Wen-hao, op. cit., p. 9.
ownership. The Ministry of Commerce made reports and surveys of agriculture, sugar and tea production, irrigation, reclaiming of wastelands, forests, fisheries, mining, registration of companies and trademarks, government subsidies, and labor conditions. A lack of funds and unsettled conditions hampered the work of both ministries.40

40Sih-gung Cheng, Modern China, pp. 84-85.
CHAPTER III

GOVERNMENT PROJECTS AFTER THE
REVOLUTION OF 1911

China’s political situation was confused during the first seventeen years of the Republic. For a time rival governments at Peking and Canton claimed authority in the country. Neither proved strong enough to hold the nation together, and it fell into sections under the rule of corrupt war lords who were constantly fighting among themselves. Dr. Sun Yat-sen, leader of the Canton government, had worked out a philosophy which he called the San Min Chu I, meaning Nationalism, Democracy, and the People’s Livelihood. When he failed to get help from the Western powers he turned to the newly created Soviet Union. The armies of the Kuomintang, or the Nationalist party, uprooted the decayed Peking government in 1928. Sun Yat-sen had chosen as his military aide and general of his armies Chiang Kai-shek. As the armies moved northward, Chiang had to choose between a popular army supported by the Communists and left wing radicals or the property owners and

1Paul M. A. Linebarger, Government in Republican China, pp. 40-43.
2Condliffe, op. cit., p. 109.
wealthy Chinese of the port cities. The Communists had broken their promise of no Marxist propaganda in China. One theory is that Chiang's power was threatened by them; the other is that he was influenced by the Soong family, especially by T. V., the banker. Dr. Sun had died in 1925. Chiang defeated the war lords and Communists, and the Kuomintang ruled China from 1927 through a one-party dictatorship.

China's economic progress in this period was remarkable. By 1920 the total capital of private enterprises reached $110,880,000; of this amount sixty-one per cent was industrial capital. By 1930 it was approximately $800,000,000, probably one-half owned by Chinese. Exact figures on factories are not available, but estimates enumerated 550 factories, employing five or more persons, in 1912; there were 2,100 in 1925. A conservative estimate would be 4,000 modern-style factories in 1930.

The textile mills were most advanced. In 1912 there were 836,826 cotton spindles; by 1919 the number had increased to 2,366,722. Though cotton goods were first

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3 Barnett, op. cit., p. 119.
4 White, op. cit., pp. 148-149.
5 Hauser, op. cit., pp. 176-177.
6 Barnett, op. cit., p. 20.
7 Wong Wen-hao, op. cit., p. 9.
8 Grover Clark, Economic Rivalries in China, p. 79.
9 Gannes, op. cit., p. 46.
imported into Europe from the East, Western machines soon made it possible for other countries to undersell the East. During the first World War Japan usurped the market. China's recovery was shown by her import of cotton goods. It was 31.1 per cent of her total imports in 1913; twenty per cent in 1920; 11.4 per cent in 1930; 4.3 per cent in 1933; 4.3 per cent in the first half of 1934. Within twenty-one years China ceased to be a market for manufactured cotton cloth from abroad.\(^{10}\)

The first World War stimulated Chinese mining. The coal output rose from 8,866,453 tons in 1912 to 20,054,513 tons in 1919.\(^{11}\) By 1928 China was producing the same amount of coal as Great Britain.\(^{12}\) Iron ore production was 721,280 tons in 1912; 1,861,230 tons in 1919.\(^{13}\) In 1928 the production was a little over 2,000,000 tons. Eighty per cent of the iron ore deposits belonged to the Japanese who consumed the output. In 1928 iron works in China made one million tons of pig iron and one hundred thousand tons of steel. America in the same period was producing eight hundred times as much.\(^{14}\) In 1924 China furnished sixty-three per cent of the world's output of tungsten.

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\(^{10}\)Grover Clark, *The Great Wall Crumbles*, p. 362.

\(^{11}\)Gannes, *op. cit.*, p. 46.

\(^{12}\)Taylor, *op. cit.*, p. 80.

\(^{13}\)Gannes, *op. cit.*, p. 46.

\(^{14}\)Taylor, *op. cit.*, p. 81.
The deposits were mostly in Hunan and were worked by simple methods with a low production cost. In the same year China mined nearly ninety per cent of the world's supply of antimony (with eighty per cent of that coming from Yunnan), six per cent of the world's tin (ninety per cent of that amount coming from Yunnan). Thirty thousand men were engaged in the tin mines.15

Transport improved very slowly. In 1927 the Ministry of Communication had 5,555 miles of railways in the country under its control. Progress of railway development was hindered by civil wars, unstable government, and foreign intrigues. The program for the Republic included extensive building of new lines and consolidation of the existing lines. A Commission of Railway Technics was established in 1917 to improve the service and secure standardization.16 In 1930 Julean Arnold reported that all of China had less than one twenty-fifth as much railway mileage as the United States and that the freight rates on some of the more poorly managed roads were eight times as high as in the United States. Millions of Chinese were still acting as pack animals at unit costs ten to fifteen times as great as freight rates in the United States.17

16Ming Ju Cheng, The Influence of Communications Internal and External upon the Economic Future of China, pp. 79-81.
Water transportation continued to be important. Of the ships registered with the Customs Administration for inland waterways in 1917, 1,258 were Chinese, 292 foreign; in 1930, 2,676 were Chinese, 544 foreign. The increase in Chinese boats was 113 per cent; in foreign boats, 86.3 per cent.\footnote{Clark, Economic Rivalries in China, p. 87.}

China's foreign trade increased enormously during these years. In 1911 her imports were 404,000,000 taels; in 1930 they had risen to 1,118,000,000 taels. During the same period her exports rose from 309,000,000 taels to 913,000,000 taels.\footnote{Concliffe, op. cit., Table 10, p. 201.} The increase in the importation of kerosene, rice, and cigarettes indicated prosperity and a better standard of living. The increase in value of imported cigarettes rose from 9,000,000 taels in 1910 to 41,000,000 taels in 1923. The importation of matches for the same period dropped from a value of 5,000,000 taels in 1910 to 1,000,000 in 1923, as China was making her own.\footnote{Julean Arnold, "China's Post War Trade," Annals of the American Academy of Political and Social Science, CXXII, 83.}

In 1930 beans and bean products had become the most important export item with a value of 185,330,337 taels or nearly twenty-one per cent of the whole export value. Silk and silk products of all kinds came next with 143,285,573 taels or sixteen per cent. Animal and vegetable products
(not including silk and wood) made up 62.5 per cent of all the exports. 21 The food products included eggs, nuts, frozen meats, wild game, lard, and pork. There were no large poultry farms in China. The eggs were collected in small numbers from market centers, to which they had been brought by farmers. 22

Most employers in China, or elsewhere, were not interested in improving the condition of their workers, raising their pay, or lessening their hours of labor. The income from the labor of women and children appeared to be necessary, for the cost of living had been steadily rising since 1900. Some government regulation had been undertaken but it was not very successful because of the political instability. The problem was also complicated by two controls. The Chinese government could not regulate an industry as long as the foreign mills in Shanghai were unregulated. The reverse was also true. The Shanghai Labor Commission in 1924, in framing recommendations for the consideration of the Municipal Council, reported that any action which would raise the cost of production within the settlement would be unfair to industries competing with those outside. 23

21 Clark, Economic Rivalries in China, p. 115.
22 Arnold, "China's Post War Trade," loc. cit., p. 87.
23 Vinacke, op. cit., p. 292.
The workers made some progress in protecting themselves through unions. The Mechanics Union in Hongkong started in 1909 as a working men's friendly society. The emphasis at first was on evening schools for the members and their children, relief for the poor, and assistance for the members in case of unemployment, sickness, or death. As the cost of living rose, the union demanded a pay increase in 1920. When it was refused, the mechanics, by striking, won the wage increase of 32.5 per cent over the prevailing wage in the colony. This was the first important strike in South China. Some members of the union returned to Canton during the interim and lived in a mat-shed which they had helped to build at the headquarters of the Mechanics Union. In 1922 and 1925 when the Canton workers quit, the Hongkong workers helped them. 24

The government of Sun Yat-sen was friendly to labor, and in Canton the unions became strong. In 1925 there was a labor demonstration of 200,000 workers representing one hundred different organizations: the seamen, the wharf hands, railway workers, employees of rice, lumber, and knitting mills, and machine workers. 25

A seamen's strike in Hongkong paralyzed the whole city for a month. Demanding higher wages, all the seamen and


25Carpenter, op. cit., pp. 82-83.
dock workers quit. The crews of incoming ships joined these men until there were two hundred ships lying idle. The whole city was in confusion, as every other class of labor joined in the work stoppage. There was no public transportation; servants and factory workers stayed away from their jobs. The seamen were victorious after a quarter of a million factory workers left their jobs.\textsuperscript{26}

Some of the strikes which started over economic grievances became political events of great significance. In 1925 in the International Settlement of Shanghai, 40,000 workers of the Naiga Wata Kaisa Japanese-owned textile company went on strike. They demanded the end of brutality of their overseers, a ten per cent wage increase, reinstatement of the dismissed, wages paid twice monthly, no dismissal of a worker without just cause, and wages to be paid for the duration of the strike. After two weeks, the owners gave in; but when it became obvious that they did not intend to live up to the terms, workers in other mills struck. Student sympathizers demonstrated in the streets of Shanghai. When the police interfered and arrested some students; the crowd increased; the police fired without warning, killing nine and wounding scores. This incident led to a general refusal to work for foreign

\textsuperscript{26}\textit{Ibid.}, p. 82.
employers. One hundred thousand sympathizers gathered in Shanghai and stated their conditions for the end of the strike. These included dismissal of the guilty police, pensions for the families of the slain, replacement of the British and Japanese consuls in Shanghai, dismissal of the head of the Shanghai Municipal Council, and liberation of those arrested. Two hundred twenty thousand workers organized seventy-two unions and the Shanghai Trades Council. After three months, the business men deserted the strikers. They were losing money. The Chamber of Commerce voted a return to work, and the Japanese owners offered conciliation. The general strike had started in June; it ended in September.\textsuperscript{27}

During the time the Kuomintang was availing itself of Communist aid some of the unions assumed political as well as economic functions, some of which afterwards proved difficult to control.\textsuperscript{28} In Wuhan, military authorities had suppressed the unions. Three months after the Kuomintang government was established there in September, 1926, radical unions sprang up. Many of their demands were excessive. They engaged in sabotage, intimidation, and violence. In Hankow the General Labor Union became the center for Communist ideas. There were thirty strikes between

\textsuperscript{27}Gennes, \textit{op. cit.}, pp. 82-89.

\textsuperscript{28}Condliffe, \textit{op. cit.}, p. 109.
September and December. They were mostly political. Management's side of the labor controversy was shown in a plant in Shanghai. This plant in 1930 employed 4,000 workers. It paid the highest wages in China, provided welfare measures, including sick benefits, maternity allowances, retirement bonuses, profit sharing, and group life insurance. The plant was threatened with a strike every spring and fall when the peaks of its business approached. The unions' demands ranged from wage increases to the election of a new general manager. Wages since 1925 had been raised over two hundred per cent, but production and efficiency had decreased. The company could not fill its orders on time or compete with independent open shops. The union members abused their over-time payment privileges by working during the working time and demanding pay for over-time in the evening. Management was deprived of disciplinary rights over the employees, but the union stopped its members from work.

The guilds were splitting up into unions. Of 180 labor unions in Canton in March, 1927, seventy-four were re-organized guilds. In some of the surviving guilds of Canton workers' organizations were formed, from which the employers were excluded. In Peiping, which had not become a

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29 Ta Chen, op. cit., p. 201.

factory city, guilds were being organized as late as 1930 by sellers of automobiles and bicycles. The electricians also formed a guild.31

The Chamber of Commerce movement was an outgrowth of the guild system. The new organizations settled disputes, secured immunity from bandits, and saw that bills were paid when due. There were eight hundred of them in China in 1926.32

The Nationalist government formed a definite policy toward labor. To cope with strikes it set up an Arbitration Act in 1928, the first national law regarding labor, providing for a Board of Arbitration and a Board of Conciliation. In the Labor Union Law of 1929 workers were permitted to join a union to promote skill, knowledge, productive power, or to improve their standard of living. Workers of the government, of utilities, and members of the Army and Navy were forbidden to join unions. Strikes were forbidden until after an attempt had been made to settle the dispute by arbitration.33 In 1927 the unions of China had over 3,000,000 members. After government controls were established, the revolutionary wing went underground, and by 1930 the number of members had declined to 576,250 in

32 Carpenter, op. cit., p. 84.
33 Ta Chen, op. cit., p. 204.
Important changes came about with the establishment of the National government and before the Japanese invasion. The new government won the cooperation of the bankers and was able to establish some regulation of banks; it achieved tariff autonomy and put into operation a tariff law; it abolished the likin (the internal transit revenue duties) and organized the National Economic Council in 1931.

In 1930 fifty foreign banks engaged in business in China and twenty-eight had their head offices in China. There were 161 modern-style Chinese banks with a capital of $287,187,000. The capital of the foreign banks with head offices in China was $43,206,000. In 1928 the Central Bank of China, a government undertaking, was established with a capital of $20,000,000. The Bank of China and the Bank of Communications were private institutions operating with some government funds and special functions. The Bank of China's aim was to encourage foreign trade; the Bank of Communications aimed to aid with the development of domestic industry and communications. China was becoming able to provide the capital for industrial projects. No complete data are available as to the total business of these banks, but the three in which the government had an interest had deposits of $642,952,000 in 1932. The total of

34 Condiffe, op. cit., p. 109.
deposits in modern-style banks was probably over one billion dollars. 35

The foreign post offices were suppressed by international agreement at the Washington Conference in 1921. The United States had one post office at Shanghai, Great Britain and France had several, and Japan had thirty scattered throughout the country. As long as they handled only legitimate business China did not object to them, but they had become centers for avoiding customs duties and for opium smuggling. 36 At the Washington Conference, plans were made for a conference in China to discuss tariffs. It met in October, 1925, but broke up without any formal agreement, though January 1, 1929, was tentatively set as the time for China to be given full tariff autonomy. 37

The tariff which went into effect January 1, 1931, provided for moderate protection. The tax on raw cotton and cotton yarn was unchanged; the duty was raised one-third on cotton cloth and doubled on silk. On artificial silk it was raised from ten per cent to fifty-eight per cent. The duty was lowered on raw wool but on woolen goods it was doubled. The tariff on tobacco leaf was unchanged, on cigarette paper it was lowered, but on finished tobacco and


36 Paul Monroe, China, a Nation in Evolution, p. 366.

37 Clark, Economic Rivalries in China, p. 121.
cigarettes the duty was multiplied seven times. Soap duty trebled; on chinaware and matches the duties were raised from 7.5 per cent to forty per cent. The duties on metals were lowered; on railway sleepers and on tools and machinery they were cut one-half.\footnote{38}

The National government had great difficulty in abolishing likin because it was one of the principal sources of revenue of the local districts. It was estimated that a farmer's crop price was terribly depressed because the merchant purchasing it faced twenty-two tolls, on the average, before he reached the export market with it. Likin was abolished on February 1, 1931.\footnote{39}

The functions of the National Economic Council included planning and promotion of roads, hydraulic engineering, public health, education, and rural reconstruction. Chiang Kai-shek served as chairman and T. V. Soong was very active in it. The offices in Nanking were crowded with Chinese engineers, many of them graduates of the Massachusetts Institute of Technology. China finally had a government which could and would go ahead with public works.\footnote{40}

The first work was a survey of what needed to be done. This was a great task, for China had few reliable statistics. The League of Nations lent to China a large staff of

\footnote{38}Condliffe, op. cit., p. 99.  
\footnote{39}Ibid., p. 63.  
\footnote{40}Carl Crow, China Takes Her Place, p. 97.
experts capable of advising on all sorts of problems from the building of hydro-electric plants to improving the breeds of silk worms. Representatives of the Council visited all parts of China and the published reports ran to many thousands of pages.\textsuperscript{41}

The first constructive task was the building of highways. In 1922 Dr. Sun in his plan for the development of China had recommended 1,000,000 miles of macadamized roads. "The Good Roads Movement" under the presidency of the Minister of Foreign Affairs, Dr. C. T. Wang, had given impetus to the highway project. In 1931 there were 35,000 miles of road capable of carrying automobile traffic.\textsuperscript{42} The Council laid out a complete road system for the whole country, coordinating within the plan all roads, rivers, canals, and railroads. Provinces were encouraged to construct the roads by offers of technical assistance and government loans. By 1937 there were more than 100,000 miles of motor highways, and the isolation of hundreds of villages was ended.\textsuperscript{43}

Flood control, irrigation, and water transportation were important. Ancient China had done wonders in hydraulic engineering. The Grand Canal had been neglected during three centuries of Manchu rule. In two years locks

\textsuperscript{41}Gendliffe, \textit{op. cit.}, pp. 140-141. \textsuperscript{42}\textit{Ibid.}, pp. 138-9.
\textsuperscript{43}\textit{Crow, China Takes Her Place}, pp. 99-100.
were constructed making the canal navigable by boats of nine hundred tons, and it was linked to the Yellow River.\footnote{Ibid., p. 102.}

The irrigation projects brought great benefit compared to the cost. In Shansi in a fertile valley some terrible famines had occurred because of the irregular rainfall. A small river provided a steady flow of water the year round. At a cost of $160,000 a dam was built across the stream; two canals, with a number of gates and locks, were constructed; and one hundred thousand mow (a mow is about one-sixth of an acre) of fertile land were irrigated. It was estimated that the irrigated mow produced twenty dollars more per year; so this one project brought to the farmers an annual increase of $2,000,000.\footnote{Ibid.}

Before the National Economic Council launched its program of rural reconstruction there were many scattered projects. Cooperatives were established in 1922 by the China International Famine Relief Commission as a method of preventing famines.\footnote{K. D. Fong, Rural Weaving and the Merchant Employers, p. 71.} The weavers of Kaoyang had made some simple beginnings of cooperatives. Some of these were workshops built underground at a cost of about forty dollars. These weavers had lost their jobs during a crisis and had put together their small savings to provide looms and a place to work. In some shops the workers received no
wages but shared in the profits according to a prearranged schedule; some of the cooperatives were for the purpose of securing marketing terms.\textsuperscript{47}

China had formerly led the world in the export of silk and tea, but she had lost leadership to the Japanese largely because of the defective grading by Chinese producers. Chinese silk had deteriorated because ninety percent of the cocoons used for breeding were diseased. In 1922 an international committee was formed for the improvement of sericulture by Chinese and foreign chambers of commerce. The services of an expert from Indo-China were secured, and schools were established at six stations in Kiangsu and Chekiang, the principal silk producing districts. One of these schools was attached to the University of Nanking.\textsuperscript{48}

The Council built on these foundations in several ways: by the organization of agricultural cooperatives through which the farmers would pool credits, by promoting scientific experiments to improve products, and by the establishment of government corporations which had a monopoly on the export of important products.

By June, 1934, the cooperative movement was spread to twenty-one provinces with 9,948 societies and 378,856 members.

\textsuperscript{47}Ibid., pp. 20-21.

\textsuperscript{48}Tyau Min-ch'ien, \textit{China Awakened}, pp. 204-205.
It was largely a cooperative credit movement, most valuable to the farmer who was used to high interest payments.\textsuperscript{49} The Council planned to establish a small bank in each of the two thousand hsien. Each bank had a capital of from $60,000 to $100,000, of which eighty per cent was provided by the National government and twenty per cent by the farmers. The local cooperative was to take over the shares when the bank was opened for business. Only a few of the banks were established before World War II started.\textsuperscript{50}

By 1936 the Council had organized 700 agricultural institutes throughout China. Special efforts were being made to increase cotton and tobacco production, and to revive the silk and tea industries.\textsuperscript{51} In 1937 five universities in North China and in Nanking formed the North China Council of Rural Reconstruction for concerted scientific study and effort.\textsuperscript{52}

The China Tea Corporation saw that only tea conforming to standard grades was exported. It also did promotion work.\textsuperscript{53} A superior grade of raw silk was increased from two per cent to twenty per cent of the total silk manufactured in the province of Chekiang, and also in Kiangsu. This enabled direct business arrangements to be made with

\textsuperscript{49}Fong, \textit{Rural Weaving and the Merchant Employers}, p. 71.
\textsuperscript{50}Crow, \textit{China Takes Her Place}, p. 108.
\textsuperscript{51}Abend and Billing, \textit{op. cit.}, p. 272.
\textsuperscript{52}Frank Wilson Price, "War and Rural Reconstruction," \textit{China at War}, XII (March, 1944), 20.
\textsuperscript{53}Crow, \textit{China Takes Her Place}, p. 105.
the silk weaving factories in the United States.\textsuperscript{54}

Abend andBillingham said in 1936,

More real, actual, and beneficial changes have occurred in the last five years than in the preceding fifty. These are due to the increased power and authority of the Central Government but also to a new vigor. General Chiang has had the courage to condemn publicly the good old days. In the May Conference with administrators of ten provinces, he declared that the time has come for "correction of long standing inveterate habits of hypocrisy, negligence, and delay." Under ten heads he publicly denounced graft, squeeze, embezzlement of public funds, entry of false accounts, acceptance of discounts in public purchases, false price quotations, acceptance of subsidies or double salaries for concurrent posts, receipt of unearned salaries, and private acceptance of interest due on public deposits. He sent out inspectors; and cases of delinquents, when discovered, began to clutter up the files of the Commission for Disciplinary Punishment of Public Functionaries.\textsuperscript{55}

The Chinese were shocked, then pleased. They were used to long documents of proposed improvements which never got beyond the paper stage; they were used to the thievery of officials. Finally it looked as though China would realize the benefits for which the Revolution was fought.

From 1931 to 1937 China cut down her excess of imports over exports. The export of wood oil rose from an annual export of seventy-three tons in 1935 to 102,000 tons in 1937. The export of fuel increased from $2,500,000 in value to $17,000,000 in value for the same year.\textsuperscript{56}

\textsuperscript{54}"An Army Attacks a Trade Rival," \textit{China at War}, II (April, 1939), p. 46.

\textsuperscript{55}Abend andBillingham, \textit{op. cit.}, p. 267.

\textsuperscript{56}"An Army Attacks a Trade Rival," \textit{China at War}, II (April, 1939), p. 47.
More than five hundred Chinese factories were established in the five years preceding the war. They made rubber goods, soap, toilet articles, glass, knitted goods, and electrical apparatus. Chinese merchandise was replacing Japanese. Japan struck because China was growing strong. The invasion of the coastal provinces caused many Chinese plans to be abandoned, but the government was provided with a blueprint for the development of the backward interior provinces called Free China.57

57 Ibid.
CHAPTER IV

THE JAPANESE INVASION AND CHINA'S RECOVERY

China's six coastal provinces were the first to suffer from the Japanese invasion. These provinces contained nearly all her foreign trade, half her railways, two-thirds of her iron output, nine-tenths of her textile mills and electric power capacity. The amount of China's natural resources controlled by Japan is given in Table 2, a rough balance between Free and Penetrated China drawn up in Chungking in 1940. It is based on figures of 1931. Within a few months after Japan's march into the Yangtze Valley in the fall of 1937, she had destroyed or taken possession of nine-tenths of China's industry and established a blockade which cut off most of China's foreign trade. Fifty million people fled to the interior, many to regions where they did not even understand the dialects. A double problem was created for the people of the interior who were cut off from their usual supplies and had the burden of caring for the refugees.¹

The interior became known as Free China, the vast hitherto inaccessible province of Szechwan became the

¹Crow, China Takes Her Place, p. 208.
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<th>Items of Comparison</th>
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<td></td>
<td>Free China</td>
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<td>Territory (11,599,855 square</td>
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<td></td>
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<tr>
<td>Rice</td>
<td>76.3</td>
<td>23.7</td>
</tr>
<tr>
<td>Barley</td>
<td>65.5</td>
<td>34.5</td>
</tr>
<tr>
<td>Sweet potatoes</td>
<td>57.8</td>
<td>42.2</td>
</tr>
<tr>
<td>Corn</td>
<td>52.6</td>
<td>47.4</td>
</tr>
<tr>
<td>Forest acreage</td>
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</tr>
<tr>
<td>Animals:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sheep</td>
<td>82.8</td>
<td>17.2</td>
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<tr>
<td>Camels</td>
<td>74.6</td>
<td>25.4</td>
</tr>
<tr>
<td>Oxen</td>
<td>59.5</td>
<td>40.5</td>
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<tr>
<td>Mules</td>
<td>55.5</td>
<td>44.5</td>
</tr>
<tr>
<td>Poultry</td>
<td>54.6</td>
<td>45.4</td>
</tr>
<tr>
<td>Mineral production:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coal</td>
<td>35.0</td>
<td>65.0</td>
</tr>
<tr>
<td>Iron</td>
<td>1.0</td>
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<td>71.7</td>
<td>28.3</td>
</tr>
<tr>
<td>Manganese</td>
<td>98.1</td>
<td>1.9</td>
</tr>
<tr>
<td>Tin, antimony, lead, nickel,</td>
<td>99.9</td>
<td>0.1</td>
</tr>
<tr>
<td>arsenic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alum.</td>
<td>86.4</td>
<td>13.6</td>
</tr>
<tr>
<td>Mineral reserves:</td>
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<tr>
<td>Coal</td>
<td>40.6</td>
<td>59.4</td>
</tr>
<tr>
<td>Iron</td>
<td>15.0</td>
<td>85.0</td>
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<td>Petroleum</td>
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<td>Antimony</td>
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<td>Slight</td>
</tr>
<tr>
<td>Tungsten</td>
<td>100.0</td>
<td>Slight</td>
</tr>
</tbody>
</table>

*Hubert Freyn, Free China's New Deal, pp. viii-ix.
country's war-time base and Chungking became its capital. The coastal cities went through the Industrial Revolution during the span of one generation. Free China was faced with the problem of doing it in even less time. The government faced its military problem by trading space for time and the scorched earth policy was practiced in the coastal regions.2 Realizing that its war problems could not be solved without modernizing the archaic economic structure of the hinterland, Generalissimo Chiang in 1941, addressing the Eighth Plenary Session of the Central Executive and Supervisory Committees of the Kuomintang, said:

A point to which I wish to call your closest attention is the fact that the victory of resistance cannot be won on the field of battle alone; there is also the issue of our economic warfare with the enemy to be considered. Such is the nature of modern warfare that one may safely say victory will be determined 70% by economic factors and only 30% by purely military ones. . . .

The issue of the war very largely depends on the way we handle those economic problems, upon our capacity for protracted economic resistance, and the removal of the remaining obstacles of this period of resistance. . . . If we can but free ourselves from the superficial and laissez-faire habits of the past and display a positive spirit of endeavour we shall certainly find in the rich economic resources of our country the wherewithal to break the obstructions in our course. On the contrary, if those habits prevail, the finest possible objective conditions will not serve to ward off a failure the gravity of which must far exceed that of any military reverse.3

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3 Hubert Freyn, Free China's New Deal, pp. 6-8.
The government helped industry in four ways: first, by official encouragement of cooperatives; second, by the movement of private industry; third, by sponsorship of new industries; and fourth, by state ownership-management of enterprises by either the provincial or the national government.  

The cooperatives were started as a relief measure among the refugees. A New Zealander took the lead. Rewi Alley, an engineer by profession, was factory inspector for the municipality of the Shanghai International Settlement and knew all the evils of industrial society in a city with one of the world's lowest wage scales. In New Zealand he had become acquainted with the workings of cooperatives and had seen a small farm cooperative established by Joseph Baillie, an American missionary, near Nanking. Alley's idea was of a new type of production suited to China's wartime needs and the social structure of China, small decentralized units of industry spread over the towns and villages instead of concentrated in the cities. The cooperatives could combine war-time reconstruction and productive refugee relief, could train the workers and open up the hinterland.  

A small committee of Chinese and foreigners discussed

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5Edgar Snow, "China's Blitzbuilder, Rewi Alley," Saturday Evening Post, CCXIII (February 8, 1941), 38.
methods of relief for the refugees. Sir Archibald Clark Kerr, Britism ambassador, carried the idea to the Generalissimo and Madame Chiang. They and Dr. Kung approved of it. The Ministry of Finance arranged an original loan of $500,000 and the first cooperatives were established in 1938 under the direction of Alley. The national organization was known as C. I. C. (Chinese Industrial Cooperatives), and Dr. Kung became the president.

Henry Ford had trained in his shops a number of Chinese engineers selected by Joseph Baillie, a missionary who thought that scientific knowledge combined with a new concept of industry would do more to bring about spiritual regeneration than preaching. Each year he picked one hundred Chinese graduates of American engineering colleges to enter the Ford school, where they got sound training in mechanical engineering. Back in China they found little opportunity to put their ideas into practice. The war gave them their chance to reach the people they wanted to help. Three of the "Baillie boys" as they were called helped draw up the original blueprints for the cooperatives in Shanghai, and they filled many of the administrative and technical positions.

---


These men went straight to the country and tackled the task of educating people to their ideas. They called meetings, preached their principles, hung up announcements and signs, promised technical help and loans to those who would organize. The trade mark adopted was the triangle and two simple Chinese characters which mean "work together."^9

They were organized according to good business principles. Seven members were required. They must be serious in intentions to work and repay the loan. Each member must own one share but might not own more than twenty shares. He had only one vote. Members were not required to pay cash; they might contribute tools or pay out of anticipated profits. Regular meetings were held to discuss plans, decide what hours to work, what the rate of pay should be and to elect chairmen. The profits must be used to repay the loan; the rest divided, twenty per cent to the reserve fund, ten per cent to the common fund, twenty per cent to the cooperative federation, and fifty per cent divided among the shareholders. ^10

The Chinese easily adapted themselves to the cooperatives for the workers were industrious, persevering, and used to working patiently with crude tools. The spirit of


^10Crow, China Takes Her Place, pp. 210-211.
the cooperative was like the spirit of the family. By January, 1939, four centers were established; from them radiated small thriving cooperatives. The oldest established in August, 1938, in three and one-half months had started forty cooperatives in which it had put $100,000 as loans. They made stockings, cloth, soap, candles, buttons, hats, pottery, kitchen utensils, swords, ran a print shop and made weapons for guerillas.\(^{11}\)

The spinning and weaving cooperatives were of the greatest importance. One of the early orders was for 400,000 woolen blankets for the army. Old looms were brought out but there were no spinning wheels for the Chinese were used to working in silk. Finally an American heirloom spinning wheel was found. A machine cooperative built 7,000 copies of it with some improvements on the original. There was plenty of wood for building looms and wheels, but no metal. Wrecked Japanese planes were stripped to provide the necessary metal. Ten thousand women carded the wool. The blankets were delivered on time.\(^{12}\) The next year, 1941, the cooperatives made one million army blankets and in 1942 they were making eighty thousand a month. There were seventy-eight workshops making uniforms for the army.\(^{13}\)


\(^{12}\) *Crow, China Takes Her Place*, p. 213.

\(^{13}\) Freyn, *op. cit.*, p. 55.
In six weeks the Northwest Headquarters turned out 30,000 pounds of surgical bandages and medical cotton. One cooperative in Hunan averaged daily 1,500 pounds of absorbent cotton and 1,000 pounds of gauze and supplied 10,000 first-aid bags in a few weeks.\textsuperscript{14}

One of the most important aspects of the cooperatives was the rehabilitation of the destitute. A cooperative started by eight refugees on a $3,000 loan in two years was providing a living for 1,000 persons and had a net worth of $229,000. The members erected six buildings and made their own neat blue cotton uniforms. For their children they established a primary school and a playground with a basketball court. At an old Taoist temple, 3,000 years old, thirty crippled soldiers had a weaving cooperative. Five recuperated sufficiently to go back into service; each departed with $10,000 as his share of the profits. At a spinning and weaving cooperative sponsored by Madame Chiang thirty-seven girls, war orphans, found security. One girl twelve years old was found wandering, half naked, diseased, and bewildered. She did not know her name or parents; she was fleeing from the war and poverty. At the age of fifteen she was chosen leader of her group; her mind was trained, her health restored, and she

\textsuperscript{14}\textit{Tbid.}
had become an expert weaver.\textsuperscript{15}

The common-good funds became an important agency for social work. In the schools the children were taught the principles of Dr. Sun Yat-sen, the party and national songs, and the principles of cooperation. Many cooperatives aided in the state program of adult education; they maintained reading rooms where magazines and papers were kept on file. Hospitals and clinics were maintained; members were treated free, and non-members paid a small fee.\textsuperscript{16}

Nine Baillie industrial schools were supported by the C. I. C. The training fitted the students to be leaders in the cooperative movement. The boys learned by doing, under the supervision of experts. Half the time was spent in shopwork, or visits to mines and factories. The schools did not accept boys who were anxious to make money for themselves -- they must wish to serve China.\textsuperscript{17}

It was impossible to send in machinery for the cooperatives, but blueprints and microfilm showed the engineers how to build better machines and improve their techniques. Water wheels were built for power, some of them entirely of bamboo; old automobile engines were equipped with charcoal generators to furnish power.\textsuperscript{18}

\textsuperscript{15}"China's Industrial Cooperatives," \textit{China at War}, IX (February, 1943), 54-56.

\textsuperscript{16}\textit{Crow, China Takes Her Place}, pp. 217-218.

\textsuperscript{17}\textit{Ibid.}, pp. 221-222. \textsuperscript{18}\textit{Ibid.}, p. 214.
Edgar Snow visited Paocbi, Northwest Headquarters of the C. I. C., one year after the office opened. At the beginning of the war it was a sleepy old town where camel drivers left their loads at the terminus of the Lunghai Railway. He found it a boom town of 70,000 under an enlightened magistrate, Wang Feng-jui, who helped the cooperative movement. The office operated wholesale and retail stores, schools and training classes and a club-house with the only shower baths in town. The cooperatives in the vicinity were making shoes, canvas bags, clothing, tools, electrical goods, candy, military uniforms, canvas cots, tents, and blankets. The cooperative retail store carried over two hundred different items made in sixty-three shops and factories. The Headquarters Staff helped manage the store, which averaged $5,000 in sales a day. The wholesale store did even more business, mostly in army supplies. None of these items had been made locally before the cooperatives were established. The rapid expansion had put a burden on the staff of forty-six. They were getting help through the training school, which had graduated seventy-one. The staff wore cotton shorts and skirts and straw sandals and lived like the workers among whom they were promoting cooperation. 19

The cooperatives organized banks which provided capital

for buying raw materials; time and money were saved and selling was made easier. They had a humble beginning but grew in strength. They will help finance purchases of machinery when it can be imported. Some factories were in caves, but the banks occupied imposing structures. 20

In June, 1941, there were 1,867 cooperatives registered with a membership of 29,284 and a monthly production valued at $14,246,595. By December in the interest of efficiency some were combined and a few were closed. In that month there were 1,737 societies, with 23,088 members and a monthly output valued at $14,500,000. Counting the preparatory members and apprentices, records show that there were probably 70,000 working. 21

The general price rise at first helped cooperatives, but as the rate increased the societies whose manufacturing process was a long one got into financial difficulties and some had to suspend operations. 22

Dr. Henry Carpenter, after visiting the cooperatives of the Northwest, reported to Dr. Kung, president of the C. I. C., that they had a remarkable production record in the face of most adverse circumstances, that they were a growing movement toward a sound basis of security and de-

20Craw, China Takes Her Place, p. 217.
21Freyn, op. cit., p. 34.
22Ibid., p. 37.
mocracy. In the machine shops he found expert engineers, college trained, directing refugees from the coast in making machines and tools for the cooperatives. One shop was making ten charcoal burners for the Bank of Communications. The materials used were old automobile fenders and sides and scrap pipes. The power to run the lathes and other machines came from an old Studebaker engine and a charcoal burner made in its own shop. 23

Dr. Carpenter also issued a warning:

There has been a growing concern over arrests, interferences by certain unfriendly officials or those who want to use the movement for their own ends, and also the centralization of appointments and the type of men appointed. In my humble opinion it is a most serious condition to thus hinder in any way this growing sound democratic movement. ... Under bureaucratic and dogmatic methods whether pursued in the regional centers or local cooperatives, the wealth of energy will dry up and freedom of the people -- the basic cooperative essential -- will be lost. 24

The overhead expenses of the C. I. C. were met jointly by the Chinese Government and contributions from overseas. It remained responsible to Dr. Kung only, though there was opposition from political groups connected with the bureaucracy, the gentry, and industrial capital. 25

23 Report by Dr. Henry J. Carpenter, Chairman of American Committee in Aid of Chinese Industrial Cooperatives, addressed to Dr. H. H. Kung. "China's Industrial Cooperatives," China at War, IX (February, 1943), 57.

24 Ibid., pp. 62-63.

Other war-time industrial production was placed in charge of the Ministry of Economic Affairs with several subsidiary commissions. The War Ministry's Ordnance Administration handled defense industries. The National Resources Commission took charge of the development of heavy industry and the Industrial and Mining Adjustment Administration directed the development of private industrial enterprises.\textsuperscript{26}

In 1940 a new economic ministry, of Agriculture and Forestry, was created. Industrialization's dependence on farm products made this an invaluable addition to the other ministries. The Chinese in many ways proceeded, during the war, from a pre-industrial to the latest chemico-industrial techniques, skipping the phase of reliance on subsoil minerals. Gasoline was mixed with alcohol made from grain; plastics from agricultural products appeared. Much of the agricultural reform was undertaken by the provincial governments, but the problems of farm prices, general farm planning, and utilization of agricultural products were handled by the new ministry.\textsuperscript{27}

The Minister of Economic Affairs was Dr. Wong Wen-hao, China's most distinguished geologist and former professor at National Tsing Hwa and Peking Universities. He had been

\textsuperscript{26} "War Time China's Production Machinery," China at War, XIV (January, 1945), 30.

\textsuperscript{27} Linebarger, The China of Chiang Kai-shek, p. 91.
director of the National Geological Survey of China since 1922 and of the National Resources Commission since 1936. His services were invaluable since the development of Free China required scientific as well as administrative ability. 28

Dr. Linebarger, visiting Free China in 1940, was amazed at the prosperity and progress. Prices were high, wages and farm prices were up, and there was no unemployment. He found cities near Tibet with underground electric and telephone systems. The primitive salt-drying areas were modernized; in one case where steel pipe was unavailable bamboo pipe lines cemented for reinforcement were used. He felt, on returning to the United States, that he was coming from a new country, because of the hope and high spirits of the Chinese frontier. . . . Filthy tax-ridden vicious little Chinese cities which have been the haunts of opium-sodden militarists are now given the double blessing of fair government and a business boom. 29

Before the Japanese invasion Western China had only 279 factories. 30 It had 2,854 privately owned factories by the end of 1942. 31 Many of these factories were moved from the coastal regions with government assistance. More than 120,000 tons of manufacturing materials were transferred. One hundred thousand skilled workers transported

28 Chu Fu-sung, "Wong Wen-hao," China at War, XIV (January, 1945), 21-23.
31 Wong Wen-hao, "China's Industry -- Past and Present," China at War, XI (October, 1943), 27.
their machinery on wheel-barrows, and man-drawn carts, by junk and river steamers. One group of seventy machine workers carried 200 tons of machinery and essential materials from Ningpo over the steep hills of Chekiang during a three-months' summer trip. Raiding Japanese planes flew over them, and they had to lie in the fields and camouflage their cart loads with brush. Finally they and their families reached Free China where they could set up their machine shop once more. 32

Of the 2,854 private factories in 1942, 847 were in the chemical industry, 812 in machinery, 231 in food, 172 in metallurgy, eighty-two in electrical appliances, and sixty-seven in printing. 33

The government's promotion of these private industries, under the Industrial and Mining Administration, included financial and technical assistance. Up to the end of 1940 it had lent $27,000,000 to private factories for removal expenses, construction of new plants, purchase of equipment, and recruitment of workers. The administration also aided factory owners in securing loans from the four government banks. The loans amounted to $27,000,000 in May, 1940, and $150,000,000 in October, 1941. 34


33Wong Wen-hao, "China's Industry -- Past and Present," China at War, XI (October, 1943), 27.

34Freyn, op. cit., p. 40.
The National Government promoted scientific and technical improvement by giving cash awards to persons who contributed toward industrial development by new inventions, or by modifying machinery or apparatus in such a way as to make possible its production in China. A patent law was adopted in 1943 granting rights to Chinese citizens only. In that year the Council for the Promotion of Science and Technology set aside $1,000,000 for prizes to scientists whose researches aided in meeting national defense needs and solving certain difficult technical problems. The ten problems for which the Council sought solutions were: direct nickel-plating method on iron and steel, retreading of used rubber tires, synthetic rubber and rubber substitutes, manufacture of wheel tires for railway engines, superheated cylinder oil, extraction of urea, lead compound gasoline mixture for the compounding of high octane aviation gasoline, fire resistant liquid coating, alcohol resistant liquid coating, and welding sticks.\textsuperscript{35}

The factory owner in Free China received high prices for his goods, for the supply never equaled the demand; but he had grave difficulties: the danger of bombings, the scarcities of raw materials, and skilled labor. He was dependent on the government for fuel and transportation.\textsuperscript{36}

\textsuperscript{35}"A New Emphasis on Science and Industry," \textit{China at War}, XI (September, 1943), 70-73.

\textsuperscript{36}\textit{Freyn, op. cit.}, pp. 41-42.
Both the National Government and the provincial governments engaged in government control and ownership. The National Government kept in its hands the ownership of railways, the development of air transport, telegraph communication, the heavy war industries, and much of the mining.

Seventeen development corporations were established by provincial governments to promote the industries for which they were particularly suited. The province of Kwangsi may be studied, as somewhat similar conditions existed in the others. In 1942 it had twenty-one provincial industrial units and thirty-five private factories, using modern machinery and employing more than thirty workers each. These were three provincial machine shops, making among other things water pumps, generators, stoves for charcoal-burning cars, farm implements, automobile parts, spinning and weaving machinery, vegetable oil lamps, tools, and ice for commercial use.

The four provincial cotton mills had both electric weaving machines and old-type looms. They did spinning, weaving, and dyeing and maintained a model hand-spinning and weaving factory to show the people that the work could be done on a small capital.

In the province's sugar-cane producing district the province established the Kwangsi Sugar Refinery in 1936. Equipped with $780,000 worth of machinery, the factory
produced 16,000 piculs of sugar in the first three months of its operation. The Kwangsi Alcohol Distillery, using molasses from the provincial refinery and from private sugar factories, produced 400,000 catties of ninety-five per cent pure alcohol in 1941. A pharmaceutical factory with a capital of $200,000 produced vaccines and antitoxins from native materials.

The Kwangsi Flour Mill capitalized at $300,000, produced in 1941, 126,000 bags of flour with forty-eight pounds to the bag. Cooperating with the China National Tea Corporation, the province established a tea plantation and a tea processing factory. In the first year of the factory more than 30,000 piculs of tea were produced.

The provinces owned eight power stations and four water works. The province bought the Chienkiang-Hoshan Coal Mine. With the help of the Bank of China its capital was increased to $4,400,000 and its daily output reached 200 tons, enough to supply the Kwangsi Railway and Liuchow factories. The Pingkwei Mining Administration in cooperation with the National Resources Commission operated coal, tin, gold, and antimony mines. The other provincial enterprises consisted of a paper mill, a print shop, a leather tannery, and a match factory.37

As has been shown in Table 2, Japan took over a large

37"March of Industrialization," China at War, IX (August, 1942), 21-23.
part of China's resources of coal and iron; she also
gained possession of the government arsenals. Before the
war there had been no large-scale iron smelting plant. The
National Resources Commission spent five years in project-
ing and designing such a plant, though the beginning of the
war found only a plan on paper and a site leveled off for
building. 38

The iron and steel industries were nationalized by
the government on January 24, 1940, and an Iron and Steel
Commission was established in February with the aim of as-
sisting China to become self-sufficient in these two
metals. 39 In 1935 pig iron production was slightly above
155,000 tons, of which 135,000 tons was made in native fur-
naces, the remainder being made in twenty small modern
smelters. Most of these were lost during the war and pro-
duction dropped to 31,000 tons. In 1940 the re-created
iron industry in the West made 100,200 tons of pig iron,
of which 34,000 tons were made in Szechwan, the remainder
in Shensi, Yunnan, and Runan. Fifteen thousand tons were
produced by twelve newly installed blast furnaces. 40 The
Resources Commission set up three in Szechwan and two
steel making plants, one in Chungking and one in Kunming.

38 Sun Fo, China Looks Forward, p. 142.
39 David N. Rowe, China Among the Powers, p. 67.
40 Freyn, op. cit., pp. 44-45.
Before the outbreak of the war the Commission was building an iron and steel plant in Hunan but work was suspended. Forty thousand and more tons of machinery and materials were removed to Szechwan and set up at Chungking, where the plant produced pig iron, iron castings and steel for the use of government arsenals.\footnote{41} All iron or steel, whether produced by the government or by private organizations, was offered to the Ministry of War. The Iron and Steel Commission fixed prices and divided the surplus among the industrial plants.\footnote{42}

To supply the smelters, the National Resources Commission was operating in 1943 nineteen coal mines in Free China. Two of the coal mines were producing metallurgical coke or semi-coke for industrial users.\footnote{43}

In 1940 the power plants of Free China, numbered 159 with a capacity of 61,327 kilowatts. Eleven of them were established or enlarged by the government to furnish the rising industries with cheap power.\footnote{44}

The National Resources Commission has developed the liquid fuel industry, particularly petroleum and petroleum products. Oil fields in Kansu were geologically surveyed

\footnote{41}"Metallurgical and Power Industries," \textit{China at War}, X (April, 1943), 76.

\footnote{42}Freyn, \textit{op. cit.}, p. 45.

\footnote{43}"Metallurgical and Power Industries," \textit{loc. cit.}, p. 76.

\footnote{44}Freyn, \textit{op. cit.}, p. 46.
in 1934 and in 1937. Drilling was started in 1939 and fourteen wells were producing oil in 1943; three in great quantities. Two refineries were established. One with three shelf-stills to produce straight distillates was located at the field, the other a "semi-cracking" one, was located some distance from the field. Both produced gasoline with some kerosene and Diesel oil. A plant capable of producing sixty-four per cent gasoline was lost because of the Burma campaign, but native-made equipment was used to produce a lesser percentage of gasoline, about twenty per cent of the crude. The Commission also undertook the production of alcohol and other gasoline substitutes. It operated ten alcohol plants with an output of more than 3,000,000 gallons of ethyl alcohol a year. It set up a vegetable-oil-cracking plant in Chungking in which tung oil was treated for the production of a gasoline substitute and Diesel oil.\footnote{"Development of Liquid Fuel Industry," China at War, X (May, 1943), 63-64.}

As machine making is the foundation of all other industries, the government paid particular attention to machine shops which occupied first place among removed factories. The Central Machine Shop, the biggest in prewar China, was removed from Hunan to Yunnan, where it manufactured turbogenerator sets, boilers, spinning sets, and gas producers, besides filling orders of the Ordnance Department.
Water wheel made entirely of bamboo, near Kunming.
and the Ministry of War. Other machine shops numbering 311 made motors, generators, implements, tools, and carts. A river steamer was built entirely of native materials except for the boilers which came from England.\footnote{Freyn, op. cit., p. 47.}

In 1940 there were forty-seven electrical equipment factories making iron wire, vacuum and gas-filled bulbs, radio receiving sets, telephones, switch boards, motors, generators, transformers, dry cells, and batteries for the army and the Ministry of Communications.\footnote{Ibid.}

As shown in Table 3, there were 1,354 industrial plants in Free China in 1940. They were not adequate to supply the war needs but they were a very remarkable accomplishment and will serve as a basis for China's post-war development. Their output is shown in Table 4 and their investment value in Table 5.

These plants had grave problems as shown by a seven-months' study of a government factory near Kunming. For safety's sake the factory was built in the country and the workers were housed in government-owned apartments and dormitories. The skilled workers were recruited from Shanghai and had their own and their families' transportation paid. They lived in apartments if they had families. Those who lived in dormitories had sheets, blankets, pillows, suit cases and wash basins. The unskilled workers'
### TABLE 3

**DISTRIBUTION OF INDUSTRIAL PLANTS IN FREE CHINA, DECEMBER 31, 1940**

<table>
<thead>
<tr>
<th>Industry</th>
<th>Plants**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical</td>
<td>361</td>
</tr>
<tr>
<td>Mechanical</td>
<td>312</td>
</tr>
<tr>
<td>Textile</td>
<td>282</td>
</tr>
<tr>
<td>Mining and metallurgical</td>
<td>93</td>
</tr>
<tr>
<td>Electrical</td>
<td>47</td>
</tr>
<tr>
<td>Sundry</td>
<td>259</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1354</strong></td>
</tr>
</tbody>
</table>

*Freyn, op. cit., p. 268.

**With more than $10,000 capital, employing thirty or more workers and electric power.

### TABLE 4

**OUTPUT OF 1,354 INDUSTRIAL PLANTS IN FREE CHINA, DECEMBER 31, 1940**

<table>
<thead>
<tr>
<th>Industry</th>
<th>Value of Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textile</td>
<td>$1,763,000,000</td>
</tr>
<tr>
<td>Chemical</td>
<td>1,438,000,000</td>
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<tr>
<td>Electrical</td>
<td>181,000,000</td>
</tr>
<tr>
<td>Iron and steel</td>
<td>127,000,000</td>
</tr>
<tr>
<td>Power</td>
<td>99,000,000</td>
</tr>
<tr>
<td>Machine</td>
<td>67,000,000</td>
</tr>
<tr>
<td>Food</td>
<td>32,000,000</td>
</tr>
<tr>
<td>Sundry</td>
<td>342,000,000</td>
</tr>
</tbody>
</table>

*Freyn, op. cit., p. 268.
TABLE 5
INVESTMENT DISTRIBUTION OF MILLION-DOLLAR
MANUFACTURING CONCERNS IN FREE CHINA,
DECEMBER 31, 1940*

<table>
<thead>
<tr>
<th>Industry</th>
<th>Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textile</td>
<td>$114,000,000</td>
</tr>
<tr>
<td>Chemical</td>
<td>79,600,000</td>
</tr>
<tr>
<td>Food</td>
<td>69,800,000</td>
</tr>
<tr>
<td>Metallurgical</td>
<td>66,200,000</td>
</tr>
<tr>
<td>Mechanical</td>
<td>31,900,000</td>
</tr>
<tr>
<td>Electrical</td>
<td>8,700,000</td>
</tr>
<tr>
<td>Sundry</td>
<td>6,600,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$376,800,000</strong></td>
</tr>
</tbody>
</table>

*Freyen, op. cit., p. 269.

dormitories were like an army barracks; they could not have any personal possessions because of thieves. In cold weather they slept two to a bed because of insufficient cover. 48

The skilled workers from Shanghai were called "masters" and the local unskilled workers were called "small workers" as a term of contempt. 49 The Shanghai workers were contemptuous of those below them and antagonistic toward management. None of the managers had come up from the labor group and some took pleasure in asserting their authority, in giving orders in a blustering rude way as if talking to slaves. 50 The labor turnover was large -- eighteen per

48 Shih, China Enters the Machine Age, p. 112.
49 Ibid., p. 9.
50 Ibid., p. 118.
cent per month for unskilled, ten per cent per month for skilled laborers.51

China's transportation system proved grossly insufficient for her war needs, but she made a heroic effort. The retreating Chinese armies tore up the rails and ties and transported them westward. In the first six months of the war 47,000 tons of material was salvaged. Seventy per cent of the skilled railway workers migrated to Free China.52 The short stretches of railways were used to bring material from the occupied zone and roadbeds were constructed in anticipation of production of steel rails.53 Every type of transportation was enlisted: boatmen's guilds, unions of transportation coolies, muleteers, and camel drivers. Heavy machinery was carried through mountains traversable only by stone-flagged footpaths or torrential streams. Pneumatic-tired carts, which resembled American trailers, were dragged by eight men forty miles a day, often over rough country.54 Travel by air showed enormous progress during the war under government ownership; the China National Aviation Company joined with Pan-

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54Ibid., p. 94.
American Airways and the Eurasia Company with German interests.55

By 1942 six thousand miles of new highways were completed in Free China and many miles of old roads were improved. In that year 30,000 trucks were traveling on 50,000 miles of highways. The best known highways were the two "back doors," the Burma Road and the Northwest Highway. The 960-mile road from Kunming to Lashio was a great engineering feat and after the blockade of the coast China's main hope for obtaining armaments. In the last month before it was closed in 1942, it carried 30,000 tons of supplies. The Russians sent aid over the 2,800-mile Northwest Highway but after Germany's attack on the Soviet Union, this aid dwindled.56

The blockade of the China coast which Japan established in 1937 was a limited one. Foreign shipping was not affected. Vessels under foreign flags continued to carry goods to and from Chinese ports until the outbreak of our Pacific war. China's principal war exports were of four kinds: (1) agricultural and forestry products -- silk, tea, and wood oil; (2) animal products -- wool, hides, and bristles; (3) minerals -- tin, tungsten, antimony; and (4) handicraft goods -- knitted goods, embroideries, silk

55 Ibid., p. 93.
goods. The government, anxious to maintain exports to pay for imports, employed three methods to encourage them: improvement of production methods, loans to producers, and direct control. Items under direct control were tea, wool, tin, antimony, tungsten, mercury, wood oil, and bristles.\textsuperscript{57}

After the outbreak of hostilities between Japan and China, the Export-Import Bank of the United States Government made four loans to China which totaled $120,000,000 for the purpose of purchasing non-military supplies in the United States. The loans were to be paid by Chinese delivery of tung oil, tin, tungsten, and antimony, and the payments were made promptly.\textsuperscript{58}

Encouragement of the importation of machinery and weapons and restriction of the importation of non-necessities featured China's war-time import policy. In October, 1938, the importation of all enemy goods, with the exception of rice, grain, cotton yarn and flour, was forbidden. In July, 1939, the Ministry of Finance placed 168 imported articles on the forbidden list. They included rayon goods, sea products, wines, tobacco, cosmetics, jewelry and other luxuries. Gasoline, petrol, and sugar could be imported

\textsuperscript{57}Ibid., p. 70.

\textsuperscript{58}Shirley Jenkins, \textit{Trading with China}, p. 21.
only under government permit. 59

To encourage the importation of goods for war and reconstruction, the Ministry of Finance had a special committee for granting foreign exchange required by importers. The importers bought approved amounts of foreign exchange at official rates after paying an equalization charge based upon the differences between official and bank rates. A general reduction of import duties was made on iron, steel, metals, machinery, tools, and communication supplies. After 1941 these articles were put on the free list together with food stuffs, cotton, cotton yarn, cement, gasoline, lubricating oils, medical supplies, table salt, alcohol, and chemical raw materials. 60

By 1944 China was in her blackest days of the war. Her army lacked rifles and bullets. On some fronts there were only five shells to one rifle and one rifle to each three soldiers. She had only 6,000 trucks which would run, the youngest of which were 1941 models. The army lacked food and transportation and so lacked mobility. Steel production was dropping. The National Resources Commission chairman could not produce steel because he could not get customers at prevailing prices. The Director of Ordnance was operating the arsenals at fifty per cent


60 Ibid., p. 68.
capacity because inflation had driven the price of steel and copper above his budget. Because of an unwise tax the Minister of Food was not getting enough alcohol for the trucks that could run. Private manufacturers were blocked from working capital by inflationary interest rates of sixty-five to 150 per cent per year.\(^{61}\)

During this period Donald Nelson was sent to China as Mr. Roosevelt's personal representative. The former head of the War Production Board of the United States became an economic advisor to the Chinese Government and he and a staff of American experts assisted in the organization of China's War Production Board. Dr. Wong Wen-hao, Minister of Economic Affairs, became the head of the board and formed five industry advisory committees to consult with it on the following: iron and steel, coke and coal, liquid fuel, electric power, and locomotive parts.\(^{62}\)

Nelson found that inflation was one of the worst troubles. Selling prices could not catch up with faster rises in raw materials. Nelson was told that to attempt to get Chinese industry to produce more would create more inflation. His answer: "We'll cure inflation in a hurry, then. All we have to do is stop all Chinese industrial


production." Dr. Wong and Nelson brought the bankers and industrialists together on what Randall Gould thought was a modified cost-plus plan to make capital available for twenty per cent interest a year. This in a period of inflation formed a major subsidy to industry, but it was necessary to get the goods to flow. By May, 1945, production of twenty basic raw materials was up twenty-eight per cent as against November, 1944.63

By February, 1945, contracts were signed for the manufacture of 680,000 entrenching tools with four companies. The government advanced the capital for several months' production costs. The Board's supervisors were on duty to see that the machinery used, the specifications, and the designs were up to required standards.64

The Board consulted with managers of six mining companies on ways to increase the production of coal and coke. The American experts found the Chinese making coke by a method used in Europe three hundred years ago. It took seven tons of coal to make one ton of coke. When asked why they did not use beehive ovens, the Chinese replied that they had used them and that they did not work. A member of the mission found that Chinese coal had a twenty per

63Randall Gould, China in the Sun, pp. 279-280.

64"W. P. B. Progress," China at War, XIV (February, 1945), 30.
cent ash content. He produced a simple washer which reduced the ash content ten per cent. Then in a beehive oven three tons of coal made one ton of coke. This simple improvement brought about great transportation and production savings. The Board allotted three boilers to one company to replace existing ones badly in need of repair. American specialists visited arsenals and conferred on the production of trench mortars, shells, and land mines.

To improve transportation, the distillers were aided in the production of alcohol and in finding safe containers. The China South Seas Rubber Works, established in 1941, was assisted in its plans to make new motor car tires. The company had a good record in spite of the difficulty of getting raw rubber. It made 2,600 tires for government organizations; retread 50,000 used tires; made high pressure tire hose and rubber parts for paper mills, cotton mills, and other factories. With W. P. B. aid it planned to make rain coats and rubber-soled shoes and 2,000 tires a month from raw rubber provided by the Board.

The Chinese people and their army were given new hope and confidence by their War Production Board. For the first time they had an integrated program of raw materials,

65"China's Race Against Time," Fortune, XXXII (August, 1945), 120.
66"W. P. B. Progress," China at War, XIV (February, 1945), 31.
67Ibid., p. 32.
68"Rubber Manufacture in China," China at War, XIV (February, 1945), 43.
production, and transportation. In the Board's first five months iron and steel production increased twenty-five per cent; alcohol, thirty per cent; coal and coke, twenty per cent; and electric power, ten per cent. The size of the army was in the meantime reduced, better food was provided, the troops were well equipped, and they began winning victories in the first half of 1945.69

During the eight bitter years of war the Chinese did succeed in reorganizing their industrial life, by creating a new industrial area in the hinterland. Natural resources were discovered and developed and human resources were trained. With peace many plants and people will return to the coastal regions, but the interior will keep many factories, the people will maintain their broader outlook, and will maintain the self-confidence they have gained from their part in preserving the nation.

CHAPTER V

THE FUTURE OF CHINESE INDUSTRY

The Chinese recognize that many of their difficulties have resulted from an unbalanced economy, and in overcoming the hard problems thrust on them by the war they have developed plans and vision which will help carry them through the post-war period.

The three characteristics of pre-war industrial development were: (1) light industries were better developed than heavy industries, (2) industrial establishments were concentrated along the sea coast and rivers, and (3) corporation enterprise was not well developed.¹

The war helped remedy some of these conditions. There was a rapid growth of factories in the interior including machine works, paper mills, electrical appliance factories, alcohol distilleries, oil refineries, spinning and weaving mills, chemical plants, and cement factories. In a cave in Chungking, a natural bombproof shelter, was published an emigree edition of the Shanghai Evening Post and Mercury. The electric lights, the wooden type cases, type, the ink, the press, were all made by Chinese labor. A chinese

¹Wong Wen-hao, "China's Industry -- Past and Present," China at War, XI (October, 1943), 28.
leather belt led to an electric motor made by a Chinese plant in Shanghai. The current for the motor came through wires made in Szechwan Province. The power house for Chung-king used imported German generators; all else connected with the printing of the paper was Chinese.²

The war destroyed much that was corrupt, unfit to endure: the dreadful factories of Shanghai, and the unsanitary homes of the workers.³ In the bombed cities of Free China the rebuilding of the cities brought wide streets and better houses. Sloth, filth, and indifference disappeared. Public health work caused better health habits and kept Free China free of any major epidemic.⁴

More factories were engaged in heavy industries. There was a great increase in the factories under government management. There were in 1942 nearly one hundred units under the National Resources Commission and there were many more under the seventeen development corporations directly controlled by the provincial governments.⁵

There was a large increase in total production, especially in silicon, iron, copper, power engines, motors, and gasoline. There was great technical progress. Cash

³Ibid., pp. 243-244.
⁴Freyn, op. cit., p. 232.
⁵Wong Wen-hao, "China's Industry -- Past and Present," China at War, XI (October, 1943), 28.
awards were given to those who contributed toward industrial development by new inventions or modifying machinery so it could be made in China. Patents were granted to Chinese citizens. Foreign trade was directed by the government because of the war-time pressure on transportation and the difficulties of foreign exchange.

The end of hostilities created new problems and intensified some old ones. Many Chinese wished to return to their homes in the coastal cities and the lower Yangtze Valley; for years these liberated areas will be liabilities, for the Japanese looted them of their industries. In returning these people the government faces a problem similar to their transfer to the interior during the war. The people who remained in the occupied zones were crushed by taxation and poisoned by drugs. The old struggle between the Nationalist Government and the Communist, checked by a truce during the war, broke out again despite the efforts of the United States to mediate.

China considers Manchuria as absolutely necessary for her recovery. Only in that area does she have rich resources. The coal is better in quality than anywhere else in the world. Manchuria's iron is the best in Asia, and

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6 Ibid., p. 28.


8 Freyn, op. cit., pp. 228-229.
it is rich in gold, copper, silver, mercury, and magnesiam. It has the only vast and usable forests of China and a vast plain suitable for scientific agriculture and animal husbandry. There are many water-power sites which can be developed, with a small expenditure of money, to produce low-cost electricity and low-cost industrial production.

Fu Ssu-nien, a historian who has distinguished himself as an outstanding critic of national affairs, and who is now acting Chancellor of National Peking University, says that

With the Northeast, China is India; without it she is but Italy. Do not believe those fools who talk highly of the exploitation of the Northwest and say that "when we lose it in the east, we may get it in the west." ... 9

If the Northeast be lost or if it exists nominally and is lost actually, the problem of Chinese national economy can never be solved and China will ever be a "slum," a country of poverty, disease and ignorance.10

It was stated in the Cairo Declaration that the Northeast should be returned to China, but a secret agreement resulted from the Yalta Conference. The agreement published in May conceded Russia an interest in two railways and two harbors. The Sino-Soviet Treaty of Friendship and Alliance was a result of the Yalta Conference.11 As the Russians withdrew, troops of the National Government were

10Ibid., p. 9.
11Ibid., p. 10.
not allowed to land in Darien and Port Arthur -- a violation of the Sino-Soviet Treaty.\textsuperscript{12} The "Democratic Government" set up in Manchuria by the "Democratic Allied Army" was created by troops which had retreated into Soviet territory when defeated by Japan in the early days of the war. They were trained by the Soviets and resided in Russia for more than ten years, before returning to the Northeast. Their democracy and their nationality are both open to question.\textsuperscript{13}

The Communists not only control Manchuria but their rebel bands have gained footholds on China's main communications lines. They plundered water traffic on the Yangtze and the Grand Canal and roved near the rail arteries connecting Tientsin, Tsingtao, and other ports with the inland. Red troops cut off Nanking and Shanghai from western China.\textsuperscript{14} The Communists offered to relax their control in return for admission to the government but responsible leaders, including some moderates, saw no alternative to prying them off except a continued stalemate, accompanied by further economic stagnation or a coalition which would mean postponing the war until the Communists were stronger. The Communists did not want war. Their position appeared excellent.

\textsuperscript{12}ibid., p. 11. \hspace{1cm} \textsuperscript{13}ibid., p. 12.
\textsuperscript{14}"Stranglehold," \textit{Time}, XLVIII (August 12, 1946), 29.
They blocked recovery, and the government was blamed. If the government admitted them, their military power and political prestige increased. A limited civil war seemed in the making because Generalissimo Chiang and his closest advisers know that a divided China can not endure.\(^\text{15}\)

With the end of the war with Japan inflation increased. "The desire to grab and run is almost universal in Shanghai today and transcends racial and national lines; the faith that prompts long-term investments is lacking."\(^\text{16}\) The government cornered the cotton market by nationalizing the cotton mills taken over from the Japanese. It tied up the market for trucks by halting importation of new trucks until it sells 15,000 trucks designed for the Burma and Ledo roads and capable of making only four miles to the gallon of gasoline. The liberal elements of the Kuomintang have demanded changes. Sun Fo sent China's respected economist, Ma Yin, to Shanghai to carry on an attack on bureaucratic capitalism. Before the Chinese Institute of Banking Studies and the Chinese Institute of Agrarian Economics he spoke of the concentration of capital in the government and the use of public funds for private speculation in commodities and gold.\(^\text{17}\)

\(^{15}\)Ibid.

\(^{16}\)"Bad Government," \textit{Time.} XLVII (June 10, 1946), 32.

\(^{17}\)Ibid.
Shanghai's new mayor, K. C. Wu, in his program to cut rice prices, brought the price down in two days from 60,000 to 51,000 dollars and caused in the meantime the arrest of Jen Hsin-ya, of the Shanghai Food Commissioner's Office, on charges of irregularities in the discharge of his duties as administrator of the billion dollar government rice loan. 18

The Generalissimo took a realistic view of China's situation. At the first meeting of the newly inaugurated Supreme Economic Council, November 26, 1945, he said that most of China's industries were at a standstill and that there was widespread distress among industrial workers, that the problem of getting them back to work was complicated by inadequate railroad facilities and lack of adequate highways, and a lack of trained industrialists to take over the businesses the Japanese had been operating.

He recognized that many of the farmers were paying excessive land rents, taxes, and interest rates and that the laws to protect them were not enforced during the war. He charged the Council with the responsibility of strengthening these laws and making sure that they were promptly and vigorously enforced. 19

He stated that he considered the strengthening of

18 Ibid., p. 35.

transportation to be the foundation of all China's efforts toward economic reconstruction and progress, that existing facilities should be put into good operating condition at once, and that a new program of road building be instituted.

He desired that the Council take prompt action in stabilizing Chinese currency relative to foreign currencies and that government controls imposed on industry during the war should be removed except in such cases as would impair the national economy. He promised the people local administrators who were able and honest and that he would remove those who were not and replace them with dependable men.20

Foreigners and Chinese who have studied China's earlier industrial development hope that in the future industry will not blindly imitate some of the worst features of Western industry, but will grow on a uniquely Chinese pattern conserving old values and supplementing rather than supplanting the main reliance on agriculture.21 John Earl Baker, who went to China in 1912 after railroading experience in the United States, as adviser to the Chinese Government on communications and railways, has remained there ever since, serving as chairman of almost all important famine and relief projects. He thinks that modern corporations would

20Ibid., pp. 14-16.

have a very difficult time in China as corporations depend on recognition of contracts and the honesty of officials. In China equality and custom rather than law are the basis of business. If conditions change from those under which the contract was made, a Chinese visits the other person interested and expects a revision. In 1920 an iron works near Hankow was driven into bankruptcy, according to the owner, by the theft of small castings by the workers who sold the castings on the junk market. When a thief was brought to trial the judge took the view that a rich man was being fussy over a few pennies' worth of iron. When the prosecutor insisted on a conviction, the culprit was sent to prison for a minimum term and the complainant was ordered to pay for the prisoner's food.\(^\text{22}\)

Shih Kuo-heng recommended nationalization of the heavy industries and power plants and scattering the manufacturing industries in towns and villages. They should be organized on a cooperative basis with cheap power supplied by national plants and capital by national banks. The principle of national capital has never been questioned in China for there has always been an inadequate supply of private capital for large-scale enterprise. The small cooperative factories bring quick returns and a better distribution of profits. Their weakness is low efficiency and high

\(^{22}\text{John Earl Baker, "Industrializing the Good Earth," Fortune, XXXII (November, 1945), 150-154.}\)
cost of production. In the cost must be included the total cost borne by society. If China can avoid pain and disaster to its people by producing fewer goods at lower prices, Shih thinks she will choose that course.23

The Supreme National Defense Council meeting in Chungking in December, 1944, laid down seven guiding principles for China's economic reconstruction. They planned to develop China's economy in accordance with Dr. Sun Yat-sen’s teachings in the "Three Principles of the People." In substance the guiding principles provide both for state enterprises and private enterprises; the state monopolies should not be too numerous, should include postal service and tele-communications, arsenals, mints, principle railroads and large-scale hydro-electric plants; the government would engage in enterprises which private capital is incapable of developing or which the government considers to be of special importance, such as large-scale petroleum fields or steel plants; no restrictions would be placed on the percentage of foreign capital and state enterprises might contract foreign loans.24

Wu Ching-chao, Senior Secretary of the Ministry of Economic Affairs, worked out a plan in which he suggested

23Shih, China Enters the Machine Age, pp. 174-176.

24"Principles for China's Economic Development," China at War, XIV (February, 1945), 20.
the development of seven great industrial areas. Each area was surveyed for its natural resources and population and he suggested wholesale planning and development for the creation of a set of industries based on ten sorts: metallurgy, machinery, power, chemicals, war supplies, food, clothing, construction, communications, and printing. His program did not call for regional self-sufficiency but for cooperation. 25

The most breathtaking proposal for industrialization is the dam in the Yangtze gorge. This site was first inspected by Dr. Lucien Savage of the United States Bureau of Reclamation, who had gone to China at Generalissimo Chiang's invitation to study potential hydro-electric power sites. The Chinese National Resources Commission with technical help from the United States Reclamation proposed a dam which would be the greatest water-power project in the world. It would take six years to build, cost one billion dollars, be seven hundred feet tall, make a lake four hundred miles long, and produce ten million kilowatts of electric power. The dam would control the floods that have devastated central China, irrigate sixty million acres, and provide jobs for thousands of people. 26

China needs foreign capital. The days of extraterri-

25 Wu Ching-chao, "Industrial Areas in Post-war China," China at War, XI (October, 1943), 30-33.
26 "For the Lamps of China," Time, XLV (June 4, 1945), 80.
toriality are gone and the government has been drafting laws in regard to foreign business. The government recognized the hesitancy of some foreign business people and proposed steps to remove its causes. It promised an arbitration board to enforce the borrowers to live up to their obligations, a board that could use moral persuasion and legal procedure; and a sound and simple taxation system which would treat foreign investors exactly the same as Chinese businessmen.27

The future of China's industry depends on a settlement of the Communist problem and the development of a strong democratic China. General Marshall has been in China since December, 1945, working on these two problems.28 He has won the confidence of both groups and although the situation appears very gloomy at present, there is some chance of an agreement. The Chinese people do not want war and they may be able to bring pressure to bear on their leaders.

China has a capacity for democracy. It has been working in small local units for centuries. China has been in a cruel war, fighting for survival; half her country has been occupied by the enemy. During 4,000 years of her history she has never had an election; eighty per cent of her people can not read and write.29 China needs time to


29Walter Judd, "Our Ally China," Time, XLV (June 18, 1945), 27.
recover from her wounds; she needs schools, technical assistance, capital supplies, and understanding. She has been mistreated for many decades. In the 1930's when Japan launched her attacks on a large scale, China received nothing but fair words from the League of Nations and the great powers. When resistance broke in 1936 Great Britain and the United States continued to sell to Japan war supplies which were used against China. After Pearl Harbor China gained allies but her position grew worse in the years following the blockade. The Hitler-first strategy led to a defeatist attitude among many Chinese.\footnote{Lawrence K. Rosinger, \textit{China's Crisis}, pp. 223-224.}

The United States has been most closely associated with China of any of the great powers. We have a grave responsibility in the question of what social and economic system prevails there. What prevails in China may prevail all over Asia and ultimately all over the world.\footnote{Max Eastman and J. B. Powell, "The Fate of the World Is at Stake in China," \textit{Reader's Digest}, XLVI (June, 1945), 22.}

The United Nations program for peace in the world depends on peace in China. If we can continue to give China wise help, one-fourth of mankind can have a decent living and the world another great democracy. We can say then that we won the war.
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