HISTORY OF RAILWAY DEVELOPMENT IN CHINA

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HISTORY OF RAILWAY DEVELOPMENT IN CHINA

THESIS

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MASTER OF SCIENCE

By

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PREFACE

The history of the development of railroads in China is far more than merely a recital of the number of miles built, and the cost of construction. It is the story of the awakening of an old land; of the cupidity and greed of foreign nations, and of far-reaching economic, social and political changes. It involves the whole history of the country, its status as an independent country in the world. Although the history of railway building in China dates back little more than fifty years, profound changes have occurred that have been more marked than in perhaps any other country during the penetration of the railroads.

This study, written as one of the requirements for completion of the graduate course of North Texas State Teacher's College, has not been able to comprehend to any extent the wide range or scope of the entire subject. Rather the limitations imposed by time and requirements of the subject-matter have limited the work more to a detailed analysis of material gathered from various sources and to an orderly presentation of facts and figures regarding railway construction in China. Fundamental causes underlying many present-
day conditions have been briefly noted, and it is hoped that a sufficiently broad outline of the work has been laid down to inspire others to work out specific problems along the many different lines indicated.

The Library of the College has accumulated some materials dealing with various phases of the life of these countries, and it is this material which has been used in this work. Due to the comparatively recent development of the railroads in China and to the lack of any authoritative statistics on that country there is much conflict in data, but as far as possible, every effort has been made to use only the most authoritative sources.

It is hoped that the study will serve as a ready reference for those who are interested in the problem of Chinese railways.

H. W. D.

Denton, Texas
May 1939
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</tbody>
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CHAPTER I

HISTORICAL BACKGROUND OF RAILWAY DEVELOPMENT IN CHINA

A nation of more than four hundred million inhabitants, an enormous area of land, untold natural resources still untapped, but with no adequate system of railroads connecting the different parts of the country together is an anomaly in these modern times of highly industrialized civilization. Its very presence presents a challenge to civilization. Shut off from the world by natural barriers for centuries, its very name, China, denoting isolation, the country has lain dormant while other nations have forged ahead in industrialism and progress. Untold millions of people have died in this land from famine because of the lack of means for carrying food from one portion of the country to another in time of need; millions of tons of coal remain in the ground while the Chinese denude plain and mountain of forests and even grass for fuel because no adequate transportation is available to bring the coal from the mountains to them; and great flour mills along the eastern coast buy wheat in the Dakotas, freight it to the coast, and then ship it across the Pacific Ocean more cheaply

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than it can be transported from within China itself. Just how and why such a situation can exist in a time like the present offers and interesting question for the present-day student of history and forms the basis of this study.

Even a cursory examination of the subject will reveal that the physical geography of China has contributed a great deal to the country's isolation and lack of transportation which, in turn, has hindered the development of the country to no small degree.

Situated in the southeastern quarter of Asia, China comprises an enormous area of land which is contiguous to other countries much more highly developed. But tropical jungles, great mountains, desert plains, and wide oceans have united to form great barriers that for centuries isolated the land and people. Unlike the Norsemen and the adventurous Spaniards, the Chinese people did not venture out on the ocean directly east of the country, and there is no record of Chinese explorations. Their small boats could not have withstood a long ocean voyage, and they seem to have been content to remain a continental rather than a maritime race. No invasion of an army or even of ideas ever came to the country in ancient days, and China for a long period of time lived very much to herself.

Although China adjoined the other countries by land on

\[2\] Daniel R. Bergsman, Economic Geography of Asia, p. 457.
\[3\] Cressey, op. cit., p. 6.
three sides, contact with them was equally difficult. In the
southwest, the country touches the peninsula of Indo-China,
but the border is a tropical jungle, sparsely populated, and
partially unexplored. Little trade or intercourse has ever
passed through this portion of the country. Further on China
has a common boundary with India for hundreds of miles but
high and rugged mountains cut off all communication. The
plateau of Tibet is the largest high plateau in the world and
north of this are other extensive mountains, Kunlun and Altyn
Tagh. North of China the Gobi desert stretches its wide ex-
panse of sand and here the ancient Emperors of China built a
great wall to cut the country off from the nomadic barbarians
who occasionally invade. Thus, shut off from the world on
every side, the Chinese people for hundreds of years maintained
but little intercourse with the outside world and developed
their own culture and civilization without hindrance or help
from other countries.

Within China itself, geography has hindered the develop-
ment of modern methods of transportation. Although China is
known as essentially agricultural in nature, the greater por-
tion of it is mountainous. Three great river systems cut
across the country from west to east and present many engi-
neering problems. In their upper reaches, the rivers cut
deep narrow gorges but they widen out and build great alluvial

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4 Cresssey, op. cit., p. 462.
plains before they reach the Pacific Ocean. In these latter stages, the rivers sometimes meander and often in the flood season change their courses overnight. Railroads that span them will require a great deal of capital to construct. Northeastern China, particularly Manchuria, is more level, more fertile, and here a great deal more railroad building has been done than in any other portion of the country.

Economically speaking, China is barely self-sufficing. Although the country fundamentally is agricultural in nature, it is always confronted with a potential shortage of food. The pressure of population is so great that only a few acres may be cultivated by each family, and the low income resulting keeps the standard of living barely at the self-sufficiency level. The vast majority of the people are so poor that their chief aim is not the acquisition of luxuries, nor even of what we Americans would regard as necessities. Their principal concern is merely to obtain sufficient food to maintain life.

The exact population of China has never been authoritatively ascertained. Statistics of all kinds are unreliable. No precise census enumeration has ever been taken, and many of the published figures are based on such generalizations as the average consumption of salt, the circulation of mail matter, or estimates of the number of families. In most cases these

estimates are taken from the eighteen provinces, and no one universal method of tabulation is used. Population figures are sometimes the basis of taxation, and herein is an incentive for underestimation. In many cases, children under one year of age are omitted, and occasionally all girls under five are not counted.\(^6\)

The Post Office estimate for the year 1926 is considered the most authoritative. It places the Chinese population at 485,508,838, and is based on the reports of the various hsien, local political subdivisions.\(^7\) This does not include the people of Outer Mongolia or Farther Tibet.

When this large number of people is compared with the area of the country it is at once seen that the population density is very great. The area of the country is estimated to be approximately four and one-half million square miles,\(^8\) but this includes the countries or provinces of Tibet and Mongolia which are not included in the population estimate. In China proper only seventeen to eighteen per cent of the land may be considered as crop land, upon which the greater part of the people are directly dependent for a living.

According to the Directorate of Statistics of the Nanking Government in 1932, there are approximately 208,000,000 acres

\(^6\) Cressey, op. cit., p. 18.
\(^7\) Bergmark, op. cit., p. 474.
of cultivated land in China (325,000 square miles), which means a population density of 1,446 per square mile if the total population is estimated at 470,000,000. This estimate would place more than two people per acre of cultivated ground were the population divided equally over the entire area. But the density of population is even greater than this along the fertile river valleys and plains of Southern China. The great plain of North China probably contains approximately 650 people per square mile of land, and in the Chengtu Plain of Szechwan the density increases to more than 2,000 per square mile. The 58,000,000 agricultural households of China show an average of approximately 3.5 acres of crop land per farm, but in the river valleys this is much less. Statistical tables indicate that the farm land per capita in Liangkwang is but 0.18 acres, and that there is the amazing total of 3,495 people to each square mile of cultivated land.  

The inevitable result is a very low standard of living. The man subsisting on a farm that is too small for an adequate support of his family is limited by many things. His house is small and too often uncomfortable and unsanitary. He has no funds other than for the bare necessities of life. More than fifty per cent of the farmers have never attended any kind of a school. Add to these difficulties, the lack of any organized

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## TABLE 1

**STATISTICAL SUMMARY OF THE GEOGRAPHIC REGIONS OF CHINA**

<table>
<thead>
<tr>
<th>Region</th>
<th>Area (Square Miles)</th>
<th>Population (Post Office Estimates 1926)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North China Plain...........................................</td>
<td>125,078</td>
<td>80,979,025</td>
</tr>
<tr>
<td>Loess Highlands.............................................</td>
<td>202,516</td>
<td>43,923,104</td>
</tr>
<tr>
<td>Mountains of Shantung, Liaotung, and Jehol..................</td>
<td>90,761</td>
<td>25,961,742</td>
</tr>
<tr>
<td>Manchurian Plain............................................</td>
<td>137,637</td>
<td>12,101,709</td>
</tr>
<tr>
<td>Manchuria....................................................</td>
<td>100,060</td>
<td>4,692,805</td>
</tr>
<tr>
<td>Khingan Mountains...........................................</td>
<td>166,408</td>
<td>2,061,927</td>
</tr>
<tr>
<td>Central Asiatic Steppes and Deserts........................</td>
<td>982,500</td>
<td>5,000,000</td>
</tr>
<tr>
<td>Central Mountain Belt........................................</td>
<td>128,236</td>
<td>37,282,237</td>
</tr>
<tr>
<td>Yangtze Plain...............................................</td>
<td>75,752</td>
<td>67,943,471</td>
</tr>
<tr>
<td>Red Basin of Szashwan.......................................</td>
<td>75,418</td>
<td>43,860,118</td>
</tr>
<tr>
<td>South Yangtze Hills.........................................</td>
<td>155,428</td>
<td>65,452,369</td>
</tr>
<tr>
<td>Southeastern Coast..........................................</td>
<td>70,909</td>
<td>29,585,155</td>
</tr>
<tr>
<td>Hills of Liangkwang..........................................</td>
<td>144,086</td>
<td>41,050,849</td>
</tr>
<tr>
<td>Southwestern Tableland......................................</td>
<td>156,800</td>
<td>24,641,065</td>
</tr>
<tr>
<td>Tibetan Borderland..........................................</td>
<td>290,000</td>
<td>4,000,000</td>
</tr>
<tr>
<td>Agricultural China (omitting Khingan Mountains, Central Asiatic Steppes and Deserts, and Tibetan Borderland)</td>
<td>1,462,682</td>
<td>477,474,149</td>
</tr>
<tr>
<td>Political China (26 provinces, but omitting Outer Mongolia and Farther Tibet)</td>
<td>3,097,597</td>
<td>485,508,838</td>
</tr>
<tr>
<td>Density of Population Per Square Mile</td>
<td>Cultivated Land, 1915 (Square Miles)</td>
<td>Per Cent of Total Area in Cultivated Land</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>--------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>647</td>
<td>82,812</td>
<td>63</td>
</tr>
<tr>
<td>211</td>
<td>35,373</td>
<td>17</td>
</tr>
<tr>
<td>286</td>
<td>18,178</td>
<td>20</td>
</tr>
<tr>
<td>69</td>
<td>20,117</td>
<td>15</td>
</tr>
<tr>
<td>47</td>
<td>5,903</td>
<td>5</td>
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<tr>
<td>12</td>
<td>.. . .</td>
<td>..</td>
</tr>
<tr>
<td>5</td>
<td>.. . .</td>
<td>..</td>
</tr>
<tr>
<td>290</td>
<td>19,319</td>
<td>15</td>
</tr>
<tr>
<td>269</td>
<td>53,189</td>
<td>71</td>
</tr>
<tr>
<td>381</td>
<td>29,948</td>
<td>39</td>
</tr>
<tr>
<td>421</td>
<td>29,168</td>
<td>19</td>
</tr>
<tr>
<td>417</td>
<td>11,026</td>
<td>15</td>
</tr>
<tr>
<td>285</td>
<td>12,029</td>
<td>8</td>
</tr>
<tr>
<td>157</td>
<td>5,881</td>
<td>4</td>
</tr>
<tr>
<td>14</td>
<td>.. . .</td>
<td>..</td>
</tr>
<tr>
<td>326</td>
<td>322,943</td>
<td>22</td>
</tr>
<tr>
<td>156</td>
<td>328,125</td>
<td>11</td>
</tr>
</tbody>
</table>
system of transportation or roads, and it is easy to see that the Chinese farmer is limited almost to what he can raise off his tiny plot of ground for his living.

On the basis of the present standard of living of her inhabitants, China is not overpopulated and is self-sufficient. But when some emergency arises like a drought, or the overflow of one of the great rivers and the land is taken out of cultivation for a short while or refuses to yield a harvest, the Chinese have no reserve and a famine results. This is made much more serious by the lack of transportation facilities. In almost any other country, supplies could be rushed from one part of the country to another, but the lack of transportation in China dooms the isolated portions of the country to starvation.

As late as 1929 it is reported that two million people died in China from starvation and the ratio continues from year to year. Historians report that the country has been subject to serious famines since long before the Christian era. In the records of the province of Shensi, the region where the original Chinese culture developed, it is stated that 162 famines occurred between 1390 and 1920. The students of Nanking University have made a study embracing the whole country which shows that in the period between 108 B.C. and 1911 A.D. there were 1828 years when severe food shortage was felt in some section of the country. In the drought years
of 1877-1879, it is recorded that nine to thirteen millions of Chinese people died from starvation.

Twenty years ago an International Commission was formed for the relief of famines in China. In seeking for the cause of the famines, the Commission made a survey of rural conditions. Two hundred and forty villages were visited by University students in eastern and northern China, and many thousands of families were questioned about their usual income and manner of living. The survey was carefully organized and supervised by economists and sociologists of recognized standing, Chinese as well as foreigners.

The study, which was the first scientific one ever attempted in the country, brought out some astounding figures concerning the low standard of living of the Chinese people. It was found that in the villages of north China more than half of the families questioned reported a total income from all sources of less than $25. per year, American currency. In the same survey, the average number of people in each family was found to be about 5.2. That would mean something like $5.00 per capita per year for food, clothes, fuel, shelter, and all other needs.

Of course these statistics are not absolutely accurate, and the editors of the final report said they might be off as

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11. Ibid., p. 91.
much as twenty or thirty per cent. Even with this discount, and allowing for the higher purchasing value of the dollar in China, the picture of abject poverty which the figures give is astonishingly illuminating. When it is considered that eighty per cent of the population is rural, some idea may be gained of the widespread economic privations of the Chinese people.

The natural resources of China have as yet not been adequately surveyed, but investigations show that there has been a wide misconception regarding these over a long period of years. Rumors have been circulated that the mountains of China were full of silver and gold, but that the Chinese refused to mine these minerals because people might be drawn away from agriculture to mining and prospecting. In 1795 this quotation was found in a book regarding China's mineral industry and resources:

The Mountains of China are so numerous and situated under so various climates, that they must contain minerals of every species. There are indeed found there in great abundance, mines of silver, gold, iron, copper, tin, lead, mercury, marble, crystal, cinnabar, lapis-lazuli, etc. Gold and silver would be more common in this empire did the Chinese policy permit the mines which contain these metals to be opened; but the Emperors have always feared that if the people should be exposed to the temptation of these artificial riches, they would be induced to for-sake the more useful labors of agriculture.

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Almost one hundred years after this, Baron Von Richthoven, a German traveler and observer, visited China and wrote extensively of his observations. In his letters he enthusiastically described the vast deposits of coal and iron, particularly in Shansi, which he declared were enough to supply the entire world for many centuries. He was widely quoted and the impression gained ground that China was immensely rich in natural resources.

Despite the fact that Richthoven was a geologist of renown, he overestimated some of the mineral resources; he mistook widespread occurrence for abundance. Recent investigations and experiments have shown how far wrong he was in many of his estimates.

However, Richthoven rightly estimated that China was rich in her coal reserve. Systematic geological surveys conducted since 1911 have revealed that coal fields are found in all parts of China with the largest fields in Shansi and Shensi.¹³ These provinces, being high and mountainous, are outside the plains where the greater part of China's millions live and the lack of transportation has hindered the use of the coal by the people.

Various estimates have been made of the coal reserves of China in comparison with the rest of the world. In

1913 the Twelfth International Geological Congress meeting at Toronto, Canada, published information as to the coal reserves of the entire world. Table II lists this information, and while it can not hope to be scientifically accurate in every detail, it does make a forecast that indicates the potential amounts in the different countries.

Prior to the contact of China with Western civilization there were only two important uses for coal -- domestic heating and metallurgy. In the regions easily accessible to coal, the fuel has been in use for perhaps two thousand years, but the lack of transportation limited its use to the regions where it was found. As noted before, the great coal fields of China lie in the midst of mountains in the northwestern and southwestern corners of the country, remote from water transportation and far from the centers of population. Over wide areas in central and southern China, the plains and hills are annually denuded of any tree growth in an attempt to keep enough fuel. All brushy growth is cut with a sickle to supplement the stalks, the stems, and the roots of plants from the fields. Of the immense amounts available, it is estimated that only fourteen million tons of coal were mined in China in 1913; ten years later a little more than twenty-four million tons were taken; and in 1924 the production was

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TABLE 2

COAL RESERVES OF THE WORLD *

<table>
<thead>
<tr>
<th>Country</th>
<th>Millions of metric tons (000,000 omitted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>3,838,657</td>
</tr>
<tr>
<td>Canada</td>
<td>1,234,269</td>
</tr>
<tr>
<td>China</td>
<td>996,613</td>
</tr>
<tr>
<td>Siberia</td>
<td>173,879</td>
</tr>
<tr>
<td>Australia</td>
<td>165,572</td>
</tr>
<tr>
<td>Japan</td>
<td>7,970</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>185,533</td>
</tr>
<tr>
<td>Germany</td>
<td>146,217</td>
</tr>
<tr>
<td>France</td>
<td>18,573</td>
</tr>
<tr>
<td>All Others</td>
<td>624,270</td>
</tr>
<tr>
<td>World Total</td>
<td>7,379,553</td>
</tr>
</tbody>
</table>

* George Babcock Cressey, China's Geographic Foundations, p. 110.
25.75 million tons.\textsuperscript{15} The present per capita output amounts to about one hundred pounds per year. This compares with approximately 1,000 pounds per person in Japan, 10,000 pounds per person in the United States, and 12,000 pounds in the United Kingdom.

Fabulous stories have also been related about the enormous amount of iron ore in China. In reality, China has a high rank in its total reserve of iron ore and authentic sources estimate its reserve to be 212,000,000 metric tons. But most of the ore has a metallic content of less than thirty-five per cent. Table III illustrates the different varieties of iron ore found in China, and it bears out the contention that Archean type of ore, one that is low in iron content and high in silica, comprises by far the greater portion of the iron ore in the country. Pig iron, the most valuable iron ore product, made directly from such low-grade, high-silicate content ore is generally unsatisfactory. Then, too, a modern iron plant with its high daily production would soon exhaust such an ore reserve, and the ore would have to be concentrated before use. Ordinarily the iron plants in the United States use about sixty-three million tons of iron per year, and at this rate would consume all of China's iron in fifteen years.\textsuperscript{16} An evaluation of the Chinese iron ore

\textsuperscript{15} Frey, \textit{op. cit.}, p. 119.
\textsuperscript{16} John E. Orchard, \textit{Japan's Economic Conditions}, p. 316.
### TABLE 3

**IRON ORE RESERVES**

<table>
<thead>
<tr>
<th>Type</th>
<th>Iron percentage</th>
<th>Actual reserves tons</th>
<th>Potential reserves tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archean ores</td>
<td>34.9</td>
<td>295,000,000</td>
<td>447,000,000</td>
</tr>
<tr>
<td>Colitic (sedimentary)</td>
<td>50.4</td>
<td>28,000,000</td>
<td>64,000,000</td>
</tr>
<tr>
<td>Contact (metamorphic ore)</td>
<td>55.3</td>
<td>73,000,000</td>
<td>9,600,000</td>
</tr>
<tr>
<td>Other types</td>
<td>.....</td>
<td>.....</td>
<td>5,100,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>.....</td>
<td><strong>396,000,000</strong></td>
<td><strong>555,700,000</strong></td>
</tr>
</tbody>
</table>

*Cressey, Geographic Foundations of China, p. 118.

As a natural resource must lead to the conclusion that China, contrary to general belief, is poorly supplied with this mineral.

Commercially, tin is a more important mineral than iron in China. It is principally found in southern Yunnan where about thirty thousand miners are employed. The production within recent years has been about six per cent of the world's total. In 1929 the estimated production of tin was 6,500 tons. Native mining conditions prevail, and the load ore is carried a long distance up the steep slopes of the
mine shafts on the backs of men. In recent years, modern machinery is being installed. Since this part of the country is yet unexplored to a large extent, the tin reserves cannot be accurately estimated.

China has a unique mineral wealth in antimony. Nearly ninety per cent of the world's total production is mined in China, and as it is used for industries not yet established in China, almost all the metal is shipped abroad. Tungsten is another peculiar mineral that comes principally from China, sixty-three per cent of the world's output being produced there in 1924. There is no definite information with regard to the extent of China's deposits of this valuable mineral. Contrary to the old rumors, China's gold resources have not proved to be very valuable. Gold is found in the streams to some extent, but as yet has not been discovered in veins like it has in some countries. Copper has been mined in China for a period of at least a thousand years, but the mines are small, the ore is of low grade, and China appears to lack large reserves. Small quantities of lead, mica, and zinc are obtained from widely scattered deposits worked mainly by the natives. Oil prospectors have been disappointed in the search for petroleum, and no significant

18 Bergsmark, op. cit., p. 523.
fields have yet been discovered. The Chinese Geological Survey states that the rock structures of the country do not indicate the presence of any large oil fields.

Overbalancing all the mineral resources of China is the natural resource of the soil which has made agriculture possible for so many centuries. It has furnished the means of livelihood for millions of people who would otherwise have perished. In spite of the most intense cultivation, it has managed to retain its fertility and it offers a challenge to western civilization today as the principal resource of a country that is backward in development.

Next to the land, the most valuable of the non-metallic resources are the materials used for structural purposes, such as building stone, gravel, sand, and clay. All parts of China except the great plains are well supplied with stone, and deposits of pottery clay are widespread. Salt is such an important product that the government maintains a monopoly on its production. It is produced in great quantities from brine along the northern sea coast and from brine wells far back in the hills of Szechwan.

All statistics of mineral production are incomplete, so the present production offers little indication of what may be secured in the future. Inadequate methods of production,

19 Bergsmark, op. cit., p. 521.
expensive transportation, lack of a greater demand, and political unrest, all have aided in curtailing the development of China's natural resources, but enough has been done to ascertain that outside of the land, China's greatest resource is its enormous coal reserves.

Compared with other nations of its size, China is woefully lagging in her trade relations with the world. Although the country has traded with other nations since antiquity, when her silks traveled by caravan, her imports for home use were few. Due to the comparative isolation of the country, and the self-satisfied attitude of the people, there was little interest displayed by the Chinese in the goods that other nations had to offer. When the first British ambassador sought to open trade relations with China in 1793, he was told that the Chinese were not interested in "strange and costly objects". It is only since 1877 that the import trade of China has shown an excess of purchases over sales. Since that time, however, the imports of the country have expanded and at the present time exceed the exports. In 1870 China's entire foreign trade amounted to only 130,000,000 haikwan taels, but in 1900 it reached the total of 370,000,000. In 1911 over eight million haikwan taels was spent in foreign trade, and in 1931 exceeded two billion mark. This is nearly a threefold increase in twenty

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20 Cressey, op. cit., p. 134.
years, but the per capita total is still probably the smallest of any important country in the world. The average for the years 1924-1928 being only about three dollars in United States Currency, as compared with seven dollars and one-half for India, thirty-seven dollars and fifty cents for Japan, eighty dollars for the United States, and two hundred and thirty dollars for the United Kingdom. In Table IV the amount of foreign trade is listed from the years 1913 to 1926.22 This table shows the enormous gain in the imports of the country. Of late years a large part of the imports have consisted of food supplies. Since 1928 the importation of wheat has risen from the value of 3,339,000 haikwan taels to that of 87,639,000.23 Rice, flour, and sugar have increased in like proportions. When it is considered that China is essentially an agricultural country, this importation of food seems strange. Usually an agricultural nation exports food and imports other materials. The figures, however, indicate that China's food resources, under present conditions, hardly reach the self-sufficiency status.

This is caused by the lack of transportation. Before 1876 there was not a railway in the country and the total length of the railways in 1930 amounted to only 10,867 miles.24

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TABLE 4
FOREIGN TRADE OF CHINA IN HAIXWAN TAELS* (EXCLUSIVE OF BULLION)

<table>
<thead>
<tr>
<th>Year</th>
<th>Imports</th>
<th>Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1913</td>
<td>586,290,431</td>
<td>403,305,546</td>
</tr>
<tr>
<td>1923</td>
<td>943,633,920</td>
<td>752,917,416</td>
</tr>
<tr>
<td>1924</td>
<td>1,039,103,156</td>
<td>771,784,468</td>
</tr>
<tr>
<td>1925</td>
<td>965,090,595</td>
<td>776,352,937</td>
</tr>
<tr>
<td>1926</td>
<td>1,144,646,971</td>
<td>864,294,771</td>
</tr>
</tbody>
</table>

When this small percentage of mileage is considered in terms of a country with over four hundred million people and an area of approximately four and one half million square miles, the inescapable conclusion is that the country has, as yet, little adequate transportation.

From ancient times, China has adjusted her modes of transportation to the geographic setting. Three great rivers systems traverse the country from west to east, and though too shallow or too rapid for the passage of deep ship, the streams have been used by junks and small steamers for centuries. Since the greater portion of the cultivated areas is in the east and southeastern parts of China, these rivers have afforded transportation to products moving towards the coast all along the river fronts. But most of the famines occur in western China

* The abbreviation for Haikwan Taels is HK. Taels.
where the land is mountainous or subject to drouth, and food-
stuffs, moving up the rivers, against the currents, are slow
in meeting the demands.

There are three of these great rivers, the Yangtze, the
Hwang Ho, or Yellow River, and the Si Kiang. The Yangtze is
more than 3,200 miles in length, but only 1,000 miles are
navigable to large steamers. The upper reaches of the river,
however, have been used by junks and small sailing vessels.
The Yellow River is flat in its course and accumulates great
sandbars which prevents vessels of any great size navigating
it. The Si Kiang, at the mouth of which is the city of Canton,
is navigable to some extent. Lands in proximity to these
rivers have been afforded some degree of transportation since
the country has been in existence, but it has been limited to
these areas.

Near the mouths of these rivers and along their sandy
plains in eastern and southern China a network of canals has
been built by the Chinese which date back to antiquity. Along
the Yangtze basin canals take the place of roads and there are
few villages which are not on a navigable canal. It is esti-
mated that there are 40,000 miles of canals in the southern
and southeastern part of China along the river deltas. 26 These

25 Bergsmark, op. cit., p. 531.
canals were constructed for irrigation purposes as well as means of transportation. They are still in use at the present time, and Chinese laborers pull the cargoes by hand by long ropes from the bank. Sometimes a very heavy load requires the work of twenty men.

Farther inland and away from the rivers, transportation is mostly carried on by human porters. Over large sections of hill country, commerce is carried on the backs of men, the strongest of whom can carry a hundred pounds between fifteen and twenty miles per day. The cost of such transportation, besides the slowness of it, is often as high as twenty-five cents per ton mile, or about ten times the rate of American railroads.27

Where pack transportation is available, ponies and mules are used in the rough country. Their use is limited, however, by the cost of food for the animal. Shortage of grass often prevents use of animals; the dire need for raising food on every bit of the cultivated ground prevents the growing of pasture crops. In Northern China wheelbarrows are used extensively, and a man pushing one of these carries a much heavier load than a donkey can.

In the deserts of Mongolia and of Chinese Turkestan, 28

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camel and horse caravans are the most important means of over-
land transport. A camel when well fed and supplied with water
at the start, can go long distances without stopping for food or water. In some cases, a camel can carry nearly one thou-
sand pounds and travels from fifteen to twenty miles per day.
In northern China and Manchuria where the land is more level,
horse carts are the most common means of land transport where
there are no railways. In the winter time when the roads are
frozen, large loads may be moved, but in the rainy season
pack horses have to be resorted to. Sedan chairs and rickshas
are used for passenger transportation to a large extent in the
cities. 28

Prior to 1920 there was less than one hundred miles of
improved roads suitable for motor traffic in the entire area
of China. 29 During 1920 the province of Shansi, being dis-
appointed in securing a railroad, built a highway approxi-
mately along the projected railway route. In the famine
periods of 1920-1921, the Famine Relief Commission built a
total of 850 miles of motor roads in the provinces of Shantung,
Honan, and Chihli. Other provinces have built roads, and
recent estimates place mileage at approximately forty thousand. 30

But the motor roads have failed to solve China's trans-
port problems to a large extent. So far, motor cars have been

29 *Baker, op. cit.*, p. 162.
used in China principally for passenger transportation. Motor freight bears a heavy tax that adds perhaps fifty per cent to operating costs. Rates are not standardized and vary from thirty-five to fifty-five cents a ton mile. The capacity of the motor truck is limited, too, and the carrying of bulky articles like coal and ore is almost out of the question.

Railway development in China has been slow and has been retarded to a large extent by physical, economic, and political factors. This will be discussed in detail in the following chapters, but the need for this form of transportation may be stressed here in the discussion of means of transport.

An examination of China itself will reveal that the means of transport or the lack of it have, to a large extent, determined the economic condition of the country. Take the sections of the country that lie along the great rivers, for example. The Yangtze Plain is the political, cultural, industrial, and commercial center of the country. No other part has so many important cities. The standards of living here are higher; at least there are more people of comparative wealth and culture. Canton, situated on the Si Kiang River,

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31 Baker, op. cit., p. 165.
32 Cresssey, op. cit., p. 308.
contains approximately one and a half million people, has well-established trade contacts, wide, well-paved streets, motor busses, large buildings, and other features of a modern city. Manchuria, where the most extensive railway development has been made, shows a rapid rise in her trade statistics. Within recent years it has become the boom land of the Orient. Modern farm machinery is used, and the average area of cultivated land per person is 1.07 acres which is three times the average per capita in the Yangtze Valley and more than six times that for the country around Canton. Travelers in the country find a difference in the spirit and living conditions of the people.

Contrast these portions of the country where transportation is available by water and by railroads with Szechwan, a province walled in by mountains and without a mile of railway. Located in western China, it has only one trade outlet to the other portion of China, the Yangtze River, but it is one of the most fruitful and attractive regions in China. The climate is favorable, the soil productive, and the natural resources abundant. But communication with the outside world is limited. Commerce must move out through the rapids of the upper reaches of the Yangtze River. This, in turn, must come down from the country sides of Szechwan which comprises a

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Cressey, op. cit., p. 213.
territory larger than the combined area of Maine, New Hampshire, Vermont, Rhode Island, Connecticut, Massachusetts, New York, New Jersey, Pennsylvania, Delaware and Virginia. Within this area live more than seventy-six million people, more than half the total population of the United States. An American business man, traveling in this province in 1919, reported that wheat sold as low as twelve cents a bushel at a time when the market quotation in Shanghai was one dollar per bushel. If the people of the interior had a way to carry their products, they could probably send this wheat to Shanghai and other cities at a cost of not over twenty-six cents per bushel. The increased price would improve economic conditions and help raise the standard of living. The pithead price of coal per ton in Shansi is only $1.75, while in Shanghai, five hundred miles away, it brings $30.00 per ton.

Some students of social economics maintain that China has too many people to ever raise her standard of living to any extent regardless of the industrialization of the country. This may be true, but China's experience so far does not bear this out. Wherever adequate transportation has been available, the country has increased its trade, improved its culture, and raised its standard of living. Transportation is the life

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34 Baker, op. cit., p. 92.
blood of any nation, and once China has this, it will have solved one of its major problems in furthering its welfare and progress.
CHAPTER II

RAILWAY DEVELOPMENT BEFORE 1900

The history of railroad development in China is tightly bound up with many other questions that vitally concern the life of that country. No understanding of the railway situation is possible without an accurate and extensive knowledge of the country, its government, the attitude of its people, and the interests that other nations of the world have taken in China. Briefly, these will be touched upon here as a foundation study for the railroad question.

Mention has been made in the preceding chapter of the physical geography of China and its natural resources. Its natural isolation has been stressed and the lack of needed communication lines has been noted. But little attention has been given to the part other nations have played in the railroad drama.

Until the middle of the nineteenth century, China's foreign trade was negligible. There were few foreigners in the country. But with the signing of trade treaties between China and the Western nations in 1842 and 1843 certain designated ports were formally opened to foreign trade and an influx of foreigners began. These visitors brought the ideas

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and customs of the Western world with them, and they saw great possibilities in the hitherto undeveloped trade relations of the country. They gained a foothold in the open ports and began to establish businesses of their own.

Naturally they were not long in realizing the great need for railway transportation to bring the products of the interior to the coast where they could be either manufactured or exported.

Important forces were at work in the country laying a foundation for many changes both in political and economic policies. Emissaries of foreign governments began to take an undue interest in China. This interest heightened at the close of the Chinese-Japanese War in 1895. Previous to this, Japan had been considered a second-rate power and when war broke out between her and China in 1894 the general opinion was that China would be an easy victor. Contrary to this belief, Japan emerged from the war as a victorious nation and imposed her own terms on China in the peace treaty. The terms were:


3. Chinese war indemnity of 200,000,000 taels to be paid over a period of seven years, and drawing five per cent interest.

4. Opening of four additional treaty ports in China to Japanese trade and residence.
5. Negotiation of new treaty of commerce and navigation.

When the news of the terms of the treaty reached the other powers, a general feeling of alarm was created. Russia was especially interested; she wanted to keep Japanese expansion out of Asia and she was especially interested in Port Arthur at the tip of the ceded peninsula. France, at that time was the staunch ally of Russia, and as such, interested herself in the treaty negotiations. In the meantime, Germany, anxious for more trade privileges and a foothold in China, joined forces with Russia. The result was that eight days after the signing of the Japanese-Chinese treaty the ministers of Russia, France, and Germany called at the Japanese foreign office in Tokio and "recommended" that the Liaotung peninsula be restored to China on the ground that "its possession by Japan would be a menace to Peking, and render illusory the independence of Korea." Japan, although she had won the war with China and was the victor entitled to the spoils, was in no position to oppose the armed strength of three of the great powers in Europe. She had to yield to the requests but required that China pay an additional 30,000,000 taels.

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3 H. B. Morse and H. F. McNair, Far Eastern International Relations, p. 408.
4 Treat, op. cit., p. 304.
5 Ibid.
China, on the other hand, did not have the money to pay the war indemnity. She turned to the powers, who were instrumental in compelling modification of Japan's Treaty terms. England, under the guidance of Sir R. Hart proffered assistance, but Russia and France were anxious to be of still further use and an agreement was signed between them and the Chinese government on July 6, 1896, whereby French and Russian banks loaned four hundred million francs for thirty-six years to China. The British envoy protested the loan, and Germany, left out by France and Russia, now joined England in protest. Loans were then made by these countries in 1896 and 1897 aggregating thirty-two million pounds to run over a long period of time. All three of these loans were secured by the customs revenue, but the third was additionally guaranteed by the revenues from salt and likin in six collectorates in the Yangtze basin.

In this way the great powers of Europe made China their debtor. Because of these claims they were to ask the country, which they considered ripe for dismemberment, for concessions later on—concessions that vitally affected the railway development in China. These demands and controversies will be taken up in detail a little later.

As stated before, foreign merchants in the large cities

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\[ \text{Morse and MacNair, op. cit., p. 410.} \]
of China realized the imperative need for railways. A petition presented to the Viceroy, Li-Hang-Chang, in 1863 was refused on the grounds "the Railway would only be beneficial to China when undertaken by the Chinese themselves and conducted under their own management." The proposers of the scheme, realizing the difficulty of the situation, abandoned it for awhile. Obviously the Chinese were not very enthusiastic over the idea of a railroad.

This attitude of the Chinese people was due, to a great extent, to the religion, philosophy, and patterns of behavior that characterized Chinese life. China's philosophy was a passive acceptance of fate. The family was the keynote of China society. It was the imperative duty of the children to make the parents happy and allow no hint of sorrow to ever cross their life. This feeling extended to those who had died; heads of the families were revered and their last resting places held to be sacred ground. All over the country are conical mounds of earth which mark the graves of past generations. If these graves are disturbed the spirits of the ancestors would be angry, and visit their wrath on the living descendants. What was good enough for the fathers

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7 Morse and MacNair, op. cit., p. 412.
9 Cressey, op. cit., p. 83.
was good enough for the sons and the Chinese wanted no change. Hence the antagonism with which they regarded proposed railway building.

The American and English merchants in Shanghai were well aware of this attitude of the Chinese people, but they wanted a railway from Shanghai to Woosung, ten miles away, in a territory that was dotted with graves and cemeteries. They knew any proposal would be refused so to build the railway resorted to subterfuge to gain their end. They obtained permission to reconstruct the military carriage road from Woosung to Shanghai and to acquire land necessary to widen and straighten it. When the announcement was made that rails would be laid for a "tramway" by promoters, indignation was aroused. On February 23, 1876 the Chinese "taotai" enjoined the company from further construction. The promoters continued with their work anyway and by June 30, 1876, five miles of the road was complete to Kiangwan. Six passenger trains were run daily over this road until August 3, when a train ran over a man walking on the line and killed him. The Chinese, aroused by the accident, threatened the railroad and the British envoy, Sir T. Wade, suspended operation of the road. On October 24, the road was sold to

10 Morse and MacNair, op. cit., p. 412.
11 Chinese Official
the Chinese government for 285,000 taels, actual cost of building, and the rails were torn up and sent to Formosa where they rusted on the beach.

The next attempt at railway building was in the northern part of China in the region of the coal fields. Tong King-Sing, head of the China Merchant’s Steam Navigation Company, had in 1878 opened the Kaiping coal mine to obtain native coal for his steamers. The main shaft of the coal mine was seven miles from the nearest spot to which a canal could be dug. The coal had to be transported from the mine to this canal by men or small carts. In spite of an imperial prohibition against the building of railways, Tong King-Sing secretly built a line connecting the mine with the canal, in 1880 and 1881. Under the original plan, mules were to draw small cars on the tracks. Shares in the venture were all held by Chinese merchants.

The mechanical engineer connected with the mine, Mr. George Kinder, before coming to China had had considerable experience on the Japanese railway system. He secretly built a locomotive at a cost of 520 Mexican dollars, and June 8, 1881

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put it into operation on the lines and it was christened the "Rocket of China". Its success was soon demonstrated, its sponsors succeeded in getting the railroad prohibition removed, and in 1882 two tank engines were bought to work the railway to the canal, which had been dug to Jutai on the Pehtang River.

The next venture in building railways was in Formosa. Plans were considered by the Governor to connect Taipohfu and Kelung, eighteen miles apart, with a carriage road. Liu, an army commander, was persuaded to build a railroad instead and assent of the government was obtained in 1886. The line to Kelung was completed in 1891 and extended thirty miles south by 1893. Chinese mismanagement prevented efficient operation, and the road, little better than fifty miles of badly laid track, was taken over in 1895 by the Japanese.

The success of the railroad line between the Kaiping coal mines and Jutai called attention to the need for more railways. Prince Ch'um, father of the Emperor, became interested and memorialized the throne for permission to extend the line eastward to Shanhaikwan, westward to Tientsin, and then on to Peking, the capital. The request was granted and the China Railway Company was then formed. The road was

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15 Cheng, op. cit., p. 75.
16 Morse and MacNair, op. cit., p. 413.
completed to Tientsin, eighty miles, by 1888. The western section, Tientsin to Peking, was to be eighty miles, and the eastern section, Tongshan to Shanhaikwan, also eighty miles. When construction was ready to start on the western section opposition developed and permission to continue was denied by the Grand Council. Hung Chang then decided to build the eastern section which was completed in 1894. He set up a government bureau for the work entitled "The Imperial Railways of North China" and this took over the China Railway Company. Russia, on the north, was feared by the Chinese and a line was now proposed which would run east of Shanhaikwan towards Vladivostok. Russia objected strenuously, but permission was granted and when the Sino-Japanese War broke out in 1895 the line had been constructed as far as Chunghowso, forty miles east of Shanhaikwan. The railway was used extensively for the transport of soldiers and munitions during the war, and its strategic value as a weapon of defense was impressed on the Chinese. Much of the opposition to the building of railways was thus dissipated.

After the war a new era of railroad development in China got under way, but this was independent of the Chinese government. The foreign nations that had forced Japan to

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17 Ibid., p. 414.
18 Ibid., p. 414.
reduce her treaty demands at the close of the war now asked favors from China in return for the help given. These favors took the form of concessions and permission for building railways by different European powers.

Russia was the most interested party in this demand for concessions. In 1895 she had chartered the Russo-Chinese Bank, a corporation comprising both French and Russian bankers, to finance railway building in China. Li Hung Chang, Chinese official, had feared Russia previous to the Sino-Japanese War, but the rise of Japan brought a new much-more to be feared enemy. In March, 1896, Li Hung Chang was appointed to represent China at the coronation of the Czar in Moscow. While he was there, a secret treaty of alliance was concluded between him and Prince Lebanelov aimed at mutual defense against Japan should this nation pursue an aggressive policy in China, Korea, or Manchuria. Previous to this, Czar Nicholas, anxious to spread Russia’s influence in the Far East, had undertaken to build a railroad more than five thousand miles long across the territory of Siberia to Vladivostok. This railroad circled China on the north and the route to Vladivostok could be shortened by about five hundred miles if it could be routed across to the sea through Chinese territory. Russia very much desired this shortened route, and while Li Hung Chang was in
Moscow, the treaty of alliance was made, and Li was persuaded to grant Russia the right to build the railway. The Russo-Chinese Bank was organized and China granted the bank the concession for the construction and operation of the Chinese Eastern Railway, which connects the Trans-Siberian Railway at Manchuli on the west and links up with the Oussuri Railway on the east. A separate stock company the "Chinese Eastern" was to be organized for the construction and operation of the railway. Under the terms of the agreement, the president of the company was to be a Chinese; shareholders were to be limited to Russians and Chinese; and on the expiration of eighty years the whole railway should revert, without payment, to the Chinese Government.

Construction of the Chinese Eastern Railway was begun in 1897 and was pushed with unusual speed. With the exception of the tunnel under the Hingan Mountains and the bridge over the Sungari at Harbin, the road runs through very level country. But the expense of constructing the road was a great deal more than that of the Chinese Government Railway in the coal region of China. Partly on account of the introduction of Russian civil and military administration. The agreement between the two countries specified that Russia was to acquire free any

land needed to widen or improve the road. Under this pretext, large areas of land were taken and mapped out for cities, towns and villages for the settlement of Russian immigrants. These municipalities were all under Russian administration, law, and police. 20 Enormous sums were spent for the erection of magnificent residences, club-houses, soldiers barracks, and schools in an effort to encourage Russians to settle along the Chinese Eastern right-of-way. All these expenditures were charged to construction and the actual cost of building the railroad amounted to something near $200,000 of gold per mile. 21 The average cost per mile of building the Chinese Government Railways approximated $63,000 per mile, and the engineering features of this cost materially more than that of the Chinese Eastern. Russia, it appeared from her activities, was desirous of gaining control of Manchuria more than building an efficient, revenue-paying railroad. In the twelve years of operation from 1905 until 1917, a net less of about 450,000,000 rubles was incurred, and at the end of the Tsar reign in Russia, the total liability of the Chinese Eastern Railway was about 850,000,000 rubles. 22 The future development of this railroad will be noted later.

20 Ibid., p. 61.
21 Ibid., p. 63.
22 Ibid., p. 63.
China, in the meantime, had made some attempts to consolidate her control over railway construction in the country. In May, 1896, Sheng Hsuan-huai was appointed director in chief of all construction. A connection between Peking and Hankow was desired. The rivers of the country flow west to east and Hankow, being south of Peking, had no direct communication. The road was to have been built with Chinese capital out of Chinese material. Chang Chih-tung endeavored to meet this last need by opening a coal mine at Pingshan and an iron mine at Fayeh, but, owing to the lack of capital caused by the large war indemnity, financing the undertaking was impossible. Permission was given to obtain a foreign loan in 1896, and negotiations were opened with the American-China Development Company. While the bargaining was going on between China and America, Belgian made counter-offers which gave better terms than the Americans offered. An interesting sidelight on this transaction is offered by Gibson in his book on Forces Mining and Undermining China. According to his observations, the Chinamen like to "drive a good bargain". The Chinese, he says, are not a military people, they are a mercantile people from the beginning of their history; trading instincts are deeply ingrained, and every

23 Morse and MacNair, op. cit., p. 417.
24 Rowland R. Gibson, Forces Mining and Undermining China, p. 10.
transaction that passes through their hands must leave some personal profit. They also have a peculiar sensitiveness to “saving their face”, and if a Chinese Minister of State can appear to have made a good bargain he need have no fear of meeting opposition from the country or the National Assembly. This attitude has greatly influenced the Chinese dealings with other nations, especially in the matter of concessions and permits for building railroad lines. Gibson says that once a contract or concession is granted it is simply a question of getting its conditions altered. Diplomatic pressure is applied, and the contract is changed.

Mr. Gibson was speaking here from his own opinion of the Chinese method of doing business. Whether his opinion was authoritative or not, the way in which the loan was obtained for the building of the railroad from Peking to Hankow, would seem to bear out the assertion. As previously stated, an American syndicate was approached for a loan. This syndicate had been formed in 1895 by an influential group of Americans, among whom Senators Washburn, Cary, and Brice were the most prominent. Representatives were sent to China and an attempt was made to get the concession to build the entire line from Peking to Canton. The American business men did not

25 Ibid., p. 21.
understand the Chinese psychology of business, and the Chinese refused to treat with them. Belgium offered to make the loan on far more advantageous terms and in June, 1898, a final contract was signed, but the concession was for building only the line from Peking to Hankow. Construction was begun in 1898, and the British engineers (who had started a branch line for the Imperial Chinese Railways) had to hand over their work to the Belgium syndicate. The British objected strenuously but ineffectively.

The capital of the Belgium Company was fixed at 4,500,000 pounds sterling, which was to be in the nature of a loan bearing five per cent interest. The line was to be almost 800 miles long and interest was to be paid from capital account until railway receipts allowed it to be taken from working account profits. In recommending Belgian interests for the loan Chinese officials pointed out that Belgium was a country of insignificant size, had no entangling alliances, and that its legal tender was the best that could be found.

Construction began, but it had not progressed far when the Boxer rebellion broke out. Portions of the completed track were ripped out. Belgium filed a claim for thirty million francs although the actual damage was assessed by

\[27\text{Ibid., p. 180.}\]
competent authorities at only three million francs. In the meantime publication of the agreements had disclosed that three-fifths of the money loaned by Belgium had been French, that the Belgium syndicate had been controlled in Paris, and that the Russo-Chinese Bank was the bankers of the whole business. After the Boxer rebellion, it was stated that it was impossible to build the line on the terms agreed upon, and consequently new contracts were necessary. Belgian capital was increased to eight million pounds sterling, the Belgian syndicate was to receive a definite percentage of the net earnings, and if the Chinese Government decided to buy back the line after 1907, as it had the power to do, it must reimburse the Belgian syndicate for all its expenses. These were far more favorable terms than the original ones in which the American firm competed, and, on the surface, it would appear that Mr. Gibson's theory was correct.

A contract to build the railroad from Hankow to Canton was finally given the American syndicate in 1898 on the same terms as those offered by the Belgians, when it became clear the major powers asking concessions in China were financing the Belgian undertaking. China feared the nations asking for territory, and since the United States had asked for none,

28 Morse and MacFair, op. cit., p. 416.
gave her the new contract. Surveys made indicated the engineering difficulties would require more money, and a supplemental agreement increased the amount of the loan. To prevent the Belgians getting control of this line, the agreement provided that "the Americans could not transfer the rights to other nations or the people of other nationality". Notwithstanding this precaution, the Belgians managed to purchase a majority of the stock in the American Company. China protested, and the American company rebought the stock. China canceled the contract, and the American Company finally sold the concession and the railroad to the Chinese government for $6,750,000.29

In 1897 Germany, which had not received any material reward for its help to China at the close of the Sino-Japanese War, decided it was time for her to have concessions such as China was granting other nations. Sometime before this, Baron von Richtofen, a learned German geologist, had visited China and declared Kiaochow to be the best seaport in northern China. When Li Hung Chang visited Berlin on his way home from Moscow, where he had entered into an agreement for the Chinese Eastern Railway, the Kaiser personally asked for the grant of a naval base in China. China hesitated to grant this request

29Ibid., p. 419.
30Treat, op. cit., p. 326.
for every time she granted a concession to one nation, another asked for more territory. A German squadron examined the Chinese coast seeking a favorable location. On November first, 1897, a Chinese mob attacked the German mission at Kiaochow in the province of Shantung and killed two German priests. The German Catholic missionaries asked for the protection of the German government, and the German fleet nearby answered the call. Kiaochow, the best harbor in Shantung, was taken, soldiers and marines landed, and demands made on the Chinese government, among which were lease of Kiaochow and permission to build two railways. A treaty was signed March 6, 1898. Kiaochow, with a tract of land of about 200 square miles, was leased to Germany for ninety-nine years. A neutral zone, thirty miles wide, was established around the bay, and Germany was given the right to construct fortifications and maintain troops. A Sino-German company was given the right to construct two railways in Shantung, from Kiaochow to Tsinan and the frontier, and from Kiaochow via Ichow to Tsinan. German manufacturers and merchants were to provide any foreign assistance needed in supplying materials for this railroad building. This agreement was supplemented by another made in 1900 whereby Germany acquired the land on which the railway was built and took its protection. Under

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2 Ibid., p. 328.
this charter the line from Tsingtau to Tsinanfu 245 miles, with a branch to the Poshan coal fields, thirty-six miles, 281 miles in all, was completed in 1904 at a cost of 32,000,000 marks of German capital.

South of China lies the peninsula of Indo-China which both English and French had explored and claimed portions for their countries. Tonking was a kingdom in this country. A French missionary was instrumental in aiding the leader of another province, Cochin-China, and was rewarded with permission to carry on missionary work unmolested in Tongking. Later these missionaries were persecuted, whereupon the French government sent gunboats to Indo-China ports. A treaty was signed in 1862 by which three provinces of Cochin-China were ceded to France. Later, France annexed other provinces and disturbances continued until an agreement was reached in 1895 between China and France. By the terms of this treaty, France received some territory which directly joined China on the south. A sphere of French influence in the southern part of China was thus created. Great Britain, after the Tongking treaty, demanded compensation for territory given France, and secured a new Burmese boundary treaty which gave her four small areas. France then demanded further compensation from China in respect to water and rail communication.

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32 Morse and MacNair, op. cit., p. 418.
with Yunnan as well as a railway in Kwangsi. China agreed in principle to the plan, but tried to reject the Yunnan proposal. France, in 1898, told China that, in view of the help China had recently received from France, she must have a concession for the Yunnan railway line. China agreed to this. A line was built from the frontier to Yunnanfu, in continuation of a line from Tongking from Hanoi up the Red River to Laokai. The road was not opened until 1910. Cressey has this to say about this road:

The chief outlet from the Southwestern Tableland (Yunnan) is by way of the Yunnan railway to Hanoi and Haiphong in French Indo-China. The line has a length of 289 miles within China and represents a remarkable feat of engineering. In this distance there are no less than 152 tunnels and 5,422 bridges, and the railway climbs from near sea level to a height of 8,000 feet. As it climbs to the plateau, the railroad winds along the face of the cliffs, plunges into tunnel after tunnel, often emerging for only an instant to jump across bridges that span deep chasms. The million and one-half passengers carried each year are an indication of how railways are breaking down the natural isolation of remote sections.

As soon as the French railway and lease demands had been granted, Great Britain demanded "further assurances" from China. This included the lease of Kowloon which was granted. Then an agreement was reached whereby England took over Weihaiwei.

33 Treat., op. cit., p. 131.
34 Ibid., p. 330.
35 Morse and MacNair, op. cit., p. 418.
When England established herself at Weihaiwei, she made a statement that she had no intention of contesting or injuring Germany's rights in Shantung, and agreed not to construct a railway from Weihaiwei into the interior of Shantung. In 1898 Great Britain gained the right to construct a railroad in the Yangtze Basin from Shanghai to Nanking. In subsequent railroad construction, England has regarded this portion of China as her sphere of influence.

The Province of Shanxi is one of the richest coal fields in the world, and it has especially needed railroad lines. On May 21, 1898, an agreement was made with the Shanxi Board of Trade, giving the Peking Syndicate, Anglo-Italian in composition, but English in its capital the sole right to open and develop coal and iron mines and build roads and railways in the districts of Yuhien and Pingtingehow, and the prefectures of Luanfu, Tschehowfu, and Pingwangfu for sixty years. 

On June 21, 1898, a similar agreement was made with the officials of Honan according to the same mining and railway rights in Hualien and in the hill country north of the Yellow River in Honan province. Each of these agreements carried the right to use foreign capital to the extent of 10,000,000 taels. These developments had barely gotten under way when the Boxer

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37 Morse and MacNair, op. cit., p. 420.
38 Ibid., p. 420.
rebellion began. Further study of this phase of the Chinese railways will be taken up in the chapter immediately following which deals with the growth of railways in China after 1900.

Thus the major part of the railway development in China prior to 1900 came through the intervention of other powers. This intervention was not beneficent in its nature toward China nor was it actuated by any desire to be of any help to her. Foreign powers were interested in gaining a foothold in the country for the benefit of their own particular nation. China, weakened by her low standard of living, her lack of capital, and her defeat in the Sino-Japanese War was helpless before the progressive, well-fortified powers. The greater part of the railway development of this period came without her actual consent or desire.
CHAPTER III

RAILWAY DEVELOPMENT IN CHINA AFTER 1900

The scramble for concessions by the different powers and the elements of control demanded by these powers met with little favor from the Chinese people. In 1900 it appeared that China as a separate state was about to pass into history, and the Chinese rebelled. The Boxer uprising in the summer of that year was a direct result of this feeling.

Much of this ill feeling had been caused by the foreign administration of the railroads. When the foreign loans and concessions had been negotiated, the foreign nation invariably stipulated that it would have control of the enterprise sought. Some of the nations, as Germany, demanded a sphere of interest or a sphere of control. In the matter of railroads it has been found that, that "control" extended to the following matters: the supervision and construction of the railway; the purchase of materials for construction, rolling stock, and other equipment; the audit or other supervision of expenditures and receipts; and the actual operation of the roads. Germany demanded an area on each side of the railroad as well which included valuable mining territory. She was to have the sole

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right to develop the mines. France demanded similar privileges in building a railroad to Yunnan, another rich mining section.

The loan was usually made

... a first charge upon the security of the permanent way, rolling stock, and the entire property, with the freight and earnings of the new lines.

The principal and interest of the loans were to be a direct obligation of the government—the three early loans obtained by China were secured by the customs receipts and likin, inter-province taxes,—no further loan could be secured upon a road until this loan was redeemed. Chief engineers of the road were to be subjects of the power making the loan; principal members of the staff were to be Europeans, and a capable and efficient European accountant was to have full charge of the finances of the road. In this way, foreign powers building railroads in the country took on extra-territorial powers.

However, various students of the Chinese question state that there was need for these safeguards. A company loaning its money could not do so until there was some reasonable belief that it, together with some profit, would be returned. Reference has already been made to Gibson's analysis of the Chinese character—he will make use of a foreigner when he

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can, and he can not operate a foreign enterprise at a profit because he keeps the profit himself. Dr. Lee, in his article on the significance of foreign financial control of China quotes from Willoughby regarding the collection of customs duties by the Chinese:

Owing, however, to the incompetence and still more to the venality of these officials, many evils arose. Smuggling was carried on in a wholesale manner, and corrupt bargains between the Chinese officials and merchants as to the amounts of duties to be paid became common.

These statements indicate that there was some reason, at least, for the demands made by foreign governments in making loans to China.

The Boxer Rebellion in China in 1900 resulted in a quick suppression of the rebellious activities by foreign troops. China was humiliated and forced to pay an indemnity of 450,000,000 taels. This sum became a levy upon the balance of the foreign-controlled customs revenues, and was secured in addition by the Native Customs Revenues at the open ports of China, and by the revenues of the Salt Gabelle.

This indemnity, coupled with the amounts previously borrowed by the Government, constituted a severe drain upon

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4 Gibson, op. cit., p. 20.
5 Lee, op. cit., p. 137.
6 Ibid., p. 137.
Chinese finances, and left practically no income for development of the country and building roads and railroads. The necessity for this kind of transportation had at last been realized by Chinese officials, but the terms imposed by foreign financiers of railroads had discouraged the Chinese from further help along these lines. The Chinese now determined to build entirely Chinese lines. After 1900 through the Central Government, through provincial administrations, and in private groups, the Chinese began to build railroads. One main line, the Peking-Kalgan Railway (now extended to form the Peking-Suiyan line) running north and west from Peking, was built by the Government. Several small lines were undertaken by the provinces or by private merchant groups.

America had not taken part in the "battle for concessions" in China from 1895 to 1900 except in an effort to finance the building of the Peking-Canton Railway. Belgium underbid the United States and received the contract to build the first half of the line from Peking to Hankow. A company formed in the United States secured the right to build the remainder of the line, but, as heretofore mentioned, Belgium bought out most of the stockholders and in the friction that resulted, China purchased the American interests. After 1900, an American

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7Clark, op. cit., p. 24.
syndicate, working on a business rather than a semi-political basis, became active in the railway field in China. Americans built a short line connecting the Pingsiang mines in Kiangsi Province with water transportation in Hunan Province. Work was begun on the Canton line, but China borrowed money from British sources and bought out the enterprise.

Another effort by the Chinese Government to take over the control and management of its railroads was the Peking-Hankow Railway redemption. Under the terms of the agreement signed in 1898, the French, under the guise of Belgian loans, had built this line chiefly with money which they advanced as a loan against the security of the line itself. In 1908 arrangements were made with the Anglo-French syndicate for a loan of five million pounds with which Chinese bought out the French and Belgian controlling interest in the railway. This new loan was secured not on the railway property or earnings, but on the income of the salt taxes supplemented by certain provincial revenues. Although the line thus passed entirely into Chinese control, the railway has continued to be operated along French lines, with a number of French technical experts employed in various capacities.

Work was suspended on the line between Canton and Hankow

8 Ibid., p. 24.
9 Ibid., p. 24.
in 1906, but this did not end the plans for building a line in this territory. The rich province of Szechuan lay just west of this proposed line, and a railroad to connect with it was very much desired. There was considerable talk of these lines being built by private Chinese, and some money was raised for the purpose. Foreigners continued to be interested in the project, and in 1911, realizing the futility of Chinese efforts, China negotiated a loan of six million pounds with British, American, French and German interests. The money was advanced against bonds and was to be used, presumably, for constructing railways southward from Hankow to Canton and westward into Szechuan. The interested powers agreed among themselves as to how the work was to be divided, but not long after this the government in China was overthrown and, in the resulting confusion, the original plans had not been carried out. The money that was advanced for the project remains unpaid.

While it is not directly concerned with the railroads of China, some attention should be given to the so-called "Big Loan" that was obtained by China in 1913. The story of how it was secured is another illustration of how the majority of the foreign powers regarded China. Directly after the overthrow of the Manchu dynasty, two powerful factions got control of the country -- the revolutionists
and the loyalist forces. The treasury of the country was empty, partly owing to wasteful extravagance under Manchu rule; partly owing to China's credit having been pledged to foreign financiers; partly owing to officials who had been robbing the government. Money was an absolute necessity, and the side that received it first would be the victor in the struggle for direction of the government. Dr. Sun Yat Sen, a foreign-educated official was elected President of the Republic, but he resigned in favor of Yuan Shih Kai, an able Chinese schooled in the arts of foreign contact. He approached the four great Powers, Great Britain, Germany, France, and America, who had financed the Huai-huang railway-lines, and this group began making him small advances contingent upon being given the option on furnishing the Big Reorganization Loan, which everybody believed inevitable.11 In the meantime it was discovered that another Chinese official, Tang Shou Yi, had negotiated a separate loan of $1,000,000 from Belgium. The four great Powers withdrew their help, and then Russia demanded a share in any proposed loan under the following conditions:

1. China must state for what purpose she required the money.

2. She was asked to submit to representatives of

10 Gibson, op. cit., p. 142.
11 Ibid., p. 145.
the Group seeing that the money was spent in the way specified.

3. The Salt Gabelle, upon which the loan would be secured, must either be administered by the Maritime Customs service or by a new service to be established on similar lines.

American refused to have anything further to do with the loan after these requirements were set up. In a public pronouncement on March 13, 1913, President Wilson said, in part:

The conditions of the loan seem to us to touch very nearly the administrative independence of China itself, and this Administration does not feel that it ought, even by implication, to be a party to those conditions. The responsibility on its part which would be implied in requesting the bankers to undertake the loan might conceivably go to the length in some unhappy contingency of forceful interference in the financial, and even the political, affairs of that Great Oriental State just now awakening to a consciousness of its power and of its obligations to its people. The conditions include not only the pledging of particular taxes, some of them antiquated and burdensome, to secure the loan but also the administration of those taxes by foreign agents. The responsibility on the part of our government implied in the encouragement of a loan thus secured and administered is plain enough and is obnoxious to the principles upon which the government of our people rest.

After months of delay and bickering, the loan £5,000,000 pounds, was finally secured. Evidence of the financial shrewdness of the loaning powers is evidenced by their demands for officials to supervise collection of Chinese revenues.

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Lee, op. cit., pp. 138-139.
England wanted an Englishman to look after the collections of the Salt Gabelle, and Germany offered her consent on the terms that she be given control of both sections of the Tientsin-Pukow Railway. Finances of the country and the railroads were inseparably intertwined.

The railway map of China as it was laid out in the rush of foreign interests to secure a hold on a share in the Chinese markets has remained essentially unchanged since 1912 except in Manchuria. Considerable mileage has been built, but this has taken the form of branch railroads and no great new trunk lines have been undertaken. Clark gives this picture of the railroads of China in 1932:

In what ordinarily is called "China Proper", the French and Belgians, with some Dutch cooperation, have extended the east-west line in which they are interested (Pienlo-Lunghai) across the center of North China, for example, so that it reaches from the sea on the east well into the interior on the west. The British have added a few kilometers of supplementary tracks to the line (Canton-Kowloon) with which they are concerned in the south, and branches, double-tracks, etc., have been built which add considerably to the total trackage of the Peiping-Liaoning (formerly Peking-Mudjen) Railway in the northeast. Similar, but not so extensive, additions have been made to the Shanghai-Nanking and Shanghai-Hangchow-Ningpo lines, in which the British have an interest. The Chinese have extended the former Peking-Kalgan Railway into the northwest and made it the Peiping-Suiyuan Railway, which meets the Yellow River near the western borders of Suiyuan Province. Private Chinese interests have pushed the southern part of the Hankow-Canton line (Canton-Suichow) a little farther north. The Hukwang loan and agreement resulted in construction
of part of the northern section of the Hankow-
Canton line (Hupeh-Hunan). No essentially new
line, such as the proposed one into Szechuan,
has been built since 1912, in China Proper. In
Manchuria a number of new lines have been built,
which will be discussed later. 13

When Russia secured the concession to build the Chinese
Eastern Railway it not only secured permission to build the
road but acquired valuable mineral rights, permission to ad-
minister sections of Chinese territory, the legal right to
despatch its troops through the Chinese territory, and under
cover of the provision concerning police protection for the
railway, the right to occupy Chinese areas with troops under
the name of "railway guards". 14 By these methods Russia
succeeded in gaining the virtual control of a railroad
through Chinese territory and began a "peaceful penetration"
of Manchuria which Russia greatly desired.

Russia now settled down to building this railroad and
waiting for another opportunity to obtain a firmer hold on
Manchuria. When the trouble arose between Germany and China
over the slaying of two German missionaries in Shantung,
Russia pretended to offer help to China. She sent out a
fleet, but, instead of seizing the German ships at Kiaochow
Bay, it appeared off Port Arthur and the Russians made demands

14 George E. Sokolsky, The Tinder Box of Asia, p. 126/.
on China. The latter, helpless, had to accede and on March 27, 1898, Russia and China signed an agreement by which Port Arthur and Dalny was leased to Russia together with adjacent territory comprising almost 1,300 square miles. In addition the Chinese Eastern Railway was extended to Port Arthur and Dalny, the additional line to be known as the South Manchurian Branch of the Chinese Eastern Railway. During the Boxer Rebellion Russia stationed so many troops along the railway and in Manchuria that the annexation of the country to Russia was expected by other powers.

In 1904 friction arose between Russia and Japan over Russia's occupation and absorption of Manchuria and war was the result. Russia was defeated, and in a peace treaty Japan secured from Russia the leasehold on the Kwangtung Leased Territory at the end of the Liaotung Peninsula in Manchuria (which Russia had secured from China in 1898) and part of that section of the Chinese Eastern Railway which ran southward from Harbin. Even though Japan had taken this railroad by force it went through the formalities of securing China's consent to the transfer.

The South Manchuria Company was formed by Imperial ordinance in 1906, and the properties of the railroad were taken over. The principal changes which differentiated

15 **Ibid.**, pp. 126-127-128.
16 **Manchuria**, p. 74.
it from the Chinese Eastern Railway were new equipment, efficiency in operation, other enterprises, and the exclusion altogether of Chinese from any share in the management. Under Russian ownership, some attempt had been made to include the Chinese in the management of the railroad. However, the Japanese did not police the railroad right-of-way, nor did they attempt any control over the soldiers stationed in its vicinity.

The South Manchuria Railway, as originally built by the Russians, was a cheaply-constructed, poorly-equipped railway of strategic military value, but altogether inadequate for the commercial development for a growing country. The main line from Port Arthur to Changchun was originally 436 miles long and had a five-foot gauge. The Japanese immediately began a broad program of reconstruction. The lines were rebuilt and double-tracked on the standard gauge used in America, curves were straightened, grades lowered, tunnels and modern steel bridges built, and heavy rails, locomotives, freight and passenger cars were brought from the United States. The number of stations was increased from 54 to 114, and modern buildings were placed at all important points. New workshops, roundhouses and warehouses were also erected. Thus a modern efficient railway replaced the old Russian line.

17 Ibid., p. 75.
18 Ibid., p. 75.
Large sums of money have been spent by Japan in railroad building. On the Mudjen-Antung line, for example, $12,000,000 was expended. Two tunnels were bored which were 4,884 feet and 3,254 feet respectively in length. The bridges over the River Taitze extended for 1,779 feet. The whole work, inclusive of 24 tunnels, 305 bridges and 213 culverts was completed in twenty-six months.

The South Manchuria Railroad Company did not confine its activities to the improvement and extension of the railway which bore its name, but endeavored to bring civilization to this part of China. In 1922 the principal enterprises fostered by the Railway were:

**Railways.** The company owned and operated 686 miles of railway lines in South Manchuria, and also operated the Chosen State Railway with a mileage of 1153. The railway properties include modern car shops and locomotive repair shops, modern terminals and an extensive system of warehouses on the seacoast and along the lines.

**Shipping.** An ocean service between Dairen and Shanghai. (Sold to Dairen Steamship Company).

**Harbors.** Docks, wharves, warehouses at Dairen, Yingkou, Antung, and Shanghai. Dairen became the best equipped harbor in the Far East, with a capacity for docking at one time fifty vessels of 85,000 tons.

**Coal mines.** Bituminous mines at Fushun and Yentai, with modern American equipment, and with reserves of 1,200,000,000 tons.

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19 Ibid., p. 75.
Steel works. A modern steel plant at Anshan, with an ultimate annual capacity of 1,000,000 tons of steel, to utilize the ore of the Anshan mines, the reserves of which are estimated at several hundred million tons.

Electricity and gas. Electric light and power plants in Dairen, Antung, Fushun, Mudken and Changchun, and electric street railways in Dairen and Fushun, the total amount reaching 20,000,000 kilowatts; a large gas plant in Dairen, with a production of 215,000,000 feet a year, and a smaller plant at Anshan.

Hotels. A chain of modern hotels along the line of the railway, including Dairen, Port Arthur, Mudken, Changchun, and the seaside resorts, Ogondai and Hoshigaura.

Research bureaus. The Central Laboratory in Dairen is charged with the study of the utilization of agricultural and other products, and the study of public health problems. The Geological Institute in Dairen makes mineral and soil surveys and analyses. Agricultural Experiment Stations are operated at Kungshuling and Hsiungyocheng, and in addition there are sixteen nurseries and experimental farms at Telissu and Chengchiatan.

Civic planning and administrations. Under directions of the Japanese government, the railway undertakes town planning, organizes sanitation, conducts schools, hospitals, and lends its aid to civic betterment.

The capital expenditures made by the South Manchuria Railway in these various enterprises is shown in the table that follows. For fifteen years ending March 31, 1922, these investments, including the appraised value of the properties taken over by the company in 1906, totaled $237,000,000. When

Ibid., pp. 70-71-72.
the cost of the enterprise is compared with any similar undertaking, there would be a marked difference because labor cost was only a fraction of what it would be in the United States. Including the value of the properties taken over in 1907, which were appraised at 92,780,978 yen, the total investment at the end of 1921 was as follows:

TABLE 5

EXPENDITURES OF SOUTH MANCHURIAN RAILWAY

<table>
<thead>
<tr>
<th>Enterprise</th>
<th>Yen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Railways</td>
<td>166,225,463</td>
</tr>
<tr>
<td>Mines</td>
<td>94,076,277</td>
</tr>
<tr>
<td>Buildings</td>
<td>37,648,697</td>
</tr>
<tr>
<td>Steel Works</td>
<td>32,647,334</td>
</tr>
<tr>
<td>Harbors</td>
<td>30,692,418</td>
</tr>
<tr>
<td>Lands</td>
<td>13,752,159</td>
</tr>
<tr>
<td>Industries</td>
<td>11,580,578</td>
</tr>
<tr>
<td>Local Institutions</td>
<td>11,347,116</td>
</tr>
<tr>
<td>Electricity</td>
<td>10,302,118</td>
</tr>
<tr>
<td>Workshops</td>
<td>9,795,220</td>
</tr>
<tr>
<td>Gas</td>
<td>2,942,984</td>
</tr>
<tr>
<td>Steamships</td>
<td>2,392,002</td>
</tr>
<tr>
<td>Hotels</td>
<td>2,280,532</td>
</tr>
</tbody>
</table>

A yen, in American money, is approximately fifty cents, so if these figures are halved, some idea may be gained of the amount of money expended by the railroad. An examination of the table reveals the varied and extensive work that the railway has undertaken aside from the normal function of operating expenses.

Ibid., p. 72.
In spite of all this development, Manchuria remained a part of China. Japan was merely exercising the functions ordinarily performed by Russia when she operated the South Manchuria Railway as a part of the Chinese Eastern Railroad. The Chinese were still free to build roads in the country or settle there. However, in a secret protocol to the treaty which was signed on December 22, 1905, China agreed not to construct any railroad line in the vicinity or parallel to the South Manchuria Railway, or any branch line prejudicial to its interest. By the terms of the treaty, China could build a railway from Changchun to Kirin, using joint capital. She would buy from Japan, and reconstruct, the military line from Hsimintun to Mudken, again using joint capital.

It was very natural that China, under the circumstances, should fear that Manchuria would pass under the control of Russia and Japan. Unable to prevent this herself, China tried to interest the other powers in order to checkmate the rivals already established there. She gave a British firm, in 1907, a concession for a short railway, forty-seven miles long, Hsimiminum to Pakumen, but it looked to an eventual extension to Tsiitsihar, 400 miles farther. Japan at once protested saying that this was a violation of the treaty provision.

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22 Treat., op. cit., pp. 398-399.
23 Ibid., pp. 398-399.
24 Ibid., p. 402.
forbidding China to build railroads near the South Manchuria line. England upheld Japan's protest, and the road was not built. China next tried to enlist the aid of both British and American capital. Willard Straight, a representative of an American banking group under the direction of William P. Harriman, secured a preliminary concession to build a railway from Chinohow, on the gulf of Chili, to Aigun, on the Amur. The road, about 700 miles long, was to be built with British capital. The road bisected that of the South Manchuria Railway, and determined opposition was offered by Japan. The death of Mr. Harriman put an end to the dispute and the road was not built.

Secretary of State Knox of the United States then made a proposal. According to his plan the United States, Great Britain, France, Germany, Russia and Japan were to loan China the money so that she could buy back the Japanese and Russian railways, or else they would all finance the Chinohow-Aigun line. The roads would then be operated by an international board of management. Japan refused on the grounds that she was doing the same thing as Germany in Shantung and the French in the Yunnan area--operating a railroad in China with extra-

25 Ibid., p. 403.
26 Ibid., p. 404.
territorial privileges. Russia said that the Chinese Eastern Railway was an integral part of the Trans-Siberian, and could not be transferred to international control without a sacrifice. Japan and Russia in order to resist any more proposals, signed a treaty in 1910, in which they agreed to maintain the status quo in Manchuria.

Another difficulty arose over the building of the Antung-Mudken Railway. During the Russo-Japanese War the Japanese had built a military narrow gauge railway from Antung to Mudken. After the war they made an agreement to rebuild the road, but it was not finished when the concession time elapsed. China refused to renew the concession. Japan presented an ultimatum, and China capitulated. The next railway agreement was made in 1913. Japanese capitalists received loan concessions for three railways in Manchuria and the right to supply the money if China desired to build any more lines herself. In 1915 Japan made the famous "twenty-one demands" upon China, and in the final treaty settling the matter the lease to the South Manchurian Railway and Antung-Mudken concession was extended to ninety-nine years. In 1918 China borrowed money from Japan to build three railway lines in Manchuria, but after the money was received, construction work was not started. In 1925 the South Manchuria Company undertook to

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\[27\] Ibid., p. 409.
build a line from Kirin to Tunhua, which was to be continued to the Korean border. In the next five or six years, though, the Chinese aggressively began to build railroads. From 1925 until 1930, 1,455 kilometers of main railway lines were constructed. For awhile the Japanese were inclined to protest against the Chinese building program, but their attitude changed. Prominent Japanese officials expressed the belief that there was plenty of room in Manchuria for all the railroads that were likely to be built for some time. They argued that the Chinese lines, by helping the opening up of the country, would create so much more railroad business that the Japanese line would benefit.

Japan, in these arguments and policy changes, must have already had some plans concerning Manchuria. At the first opportunity, it seemed, Japan took advantage of a miniature war with Shanghai to declare the independence of Manchuria from China, and erect a pro-Japanese puppet state in that country.

The creation of this new state completely altered the status of the railways in Manchuria as a part of China. The new government immediately began a program of connecting all the railways in the country with the South Manchuan Railway.

28 Clark, op. cit., p. 30.
the Mudken-Antung Railway, and the Changchun-Kanei system ending at Seisin or Rashin in Korea, which are Japanese-owned or -controlled lines. The money to build the Chinese lines had been advanced by the Japanese government, and it was a comparatively simple matter to call in the loans. Thus, China lost the greater part of the lines she had built.

The World War, too, created material changes in the ownership of the railroads in "China Proper". She joined the Allies, England and France, in the war against Germany, and, as a consequence, received in return the German interests in the railroads. When China declared war in 1917, she expropriated the Tientsin-Pukow Railway. Japan, also an ally of France and England, seized the province of Shantung the center of German interests, and took over the Sahntung Railway. In the agreements reached at the Washington Conference in 1921-22, China purchased Japan's interest on a loan basis.

In 1920 the Consortium (organized by American, British, French, and Japanese banking groups) sought further investments in China. If they had succeeded, they might have become involved in the Manchurian question, but China borrowed needed money from Japan. Experience with the other powers

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29 Ibid., p. 27.
30 Ibid., p. 27.
had resulted in demands for privileges which, by now, the Chinese were determined to refuse. They asked for loans with which to purchase railway equipment, but railroad construction was retained as their own personal right.

Huluato, a Manchurian port, is a good example of this new policy of China. The contract for the construction of a modern port was let to a Dutch syndicate. This company was simply employed to do a specific piece of work for the Chinese Government, as any contractor might be employed anywhere. Payments were made monthly in specified amounts, and bank guaranties and deposits were provided to see that the money was forthcoming when due. The actual work of construction was under the charge of the Dutch syndicate, but neither it nor the Dutch Government was to have any interest in the port or its facilities.

China, at the close of the World War, sought to regain control of the Chinese Eastern Railway for which she had granted Russia the concession in 1896. However, Russia had a lease on the property until 1939 when China had the right to buy it back. The Chinese objected to the extra-territorial powers enjoyed by Russia in the operation of the road, and desired some voice in the railway management. In the spring of 1929 the local authorities at Harbin tried to take control.

Ibid., p. 33.
of the line, and war between China and Russia nearly resulted from the incident. Diplomatic relations were severed and China gained practically no more control of the line than it had hitherto enjoyed.

Under Russian management, the railway has not expanded to any large extent. The railway itself, in distance between terminals, is essentially the same as it was when Japan took the southern extension. But in the last fifteen years numerous short branches, sidings, etc. have been built which has increased the mileage from approximately 1,725 kilometers to 2,267 kilometers. 32

The solution to this problem of the Chinese Eastern Railway has not yet been solved. When the time arrives, the present year, for the expiration of Russia's lease, the question will be how much should China pay for the line and where would she get the money? The original agreement said that the price should be the construction cost plus accumulated debts. Both of these items are very much larger than they should be on a business basis, and no one seems to know what the exact amount is. Reports have it that Russia is asking $250,000,000 in gold, and China has offered $10,000,000 in gold. 33 In view of the present Japanese occupation of China, there is little

32 Ibid., p. 31.
33 Ibid., p. 31.
likelihood that the problem of the Chinese Eastern Railway will be solved this year (1939).

The greatest activity in railroad building during this period was in Manchuria where Japan had managed to gain control of the South Manchuria Railway. This road had been built by the Russian Government as an extension of the Chinese Eastern Railway, but it had come into the hands of the Japanese through another war with Russia. The Japanese Government, when it gained control of the road, formed a company not only for the improvement and development of the road, but the interests of the whole territory as well. Rapid progress in Western civilization has been made by this portion of the country. The Chinese have built roads along the flat plains with money furnished by the Japanese only to see the Japanese take the province and the roads also. All that remains to China in this portion of it is a part of the old Chinese Eastern Railway which is supposed to pass from Russian ownership to that of the Chinese Government this present year.

The part played by foreign governments, then, in the development of railroads in China has been no small one. However, China seems to have very definitely made up her mind that foreign powers have not always been actuated by interest for China in their pleas for further privileges and concessions. China will, from here on unless hopelessly defeated in battle,
maintain more stoutly than before her independence and more reluctantly grant foreigners extra-territorial rights in her own country.

In looking back over the history of the development of railroads in China, the outstanding characteristic that may be noted is the influence exerted on this development by foreign powers. A brief summary of the period from 1900 down to the present will emphasize this phase of the question.

The major portion of the railroad lines of China have been built with the aid of foreign loans. These loans have taken various forms, either being secured directly from the revenues of the railroad or been granted for concession privileges. Much ill will was created in the minds of the Chinese people through the administration of these foreign concessions. Russia, Germany, and France each gained extra-territorial rights in China through railroad concessions, and the Chinese rebelled against such usurpation, as they called it. These rights included control of the territory on each side of the railroad, supervision and construction of the road, and control of the revenue derived. Some of the loans were secured by the customs revenue, and this curtailed the income that China otherwise might have used herself in building roads. In an uprising, the Boxer Rebellion, the Chinese sought to
overthrow the foreign interests that had gained financial power in the country. The result of this left China much deeper in debt for she had to pay for the damages incurred in the destruction of property owned by foreigners.

China, disillusioned by these experiences with foreign powers, now determined to build her own railway lines. She had borrowed money from Belgium to build a line from Peking to Hankow, and found out that in reality the French were furnishing the money for the enterprise. In 1908 an Anglo-French loan was made with which China purchased outright controlling interest in the line from Belgium. Chinese private citizens sought to build a road into Szechwan with contributions, but the plan failed.

Foreign loans were also sought by China for reorganization of the government. France, America, Great Britain, and Germany negotiated a loan, but America withdrew when she learned the terms the other nations demanded. The loan was finally secured, and China became more subservient to foreign interests than before.

China, however, seemed determined not to grant other railway concessions. The result has been that the railroad development has not increased a great deal because of lack of funds. The main trunk-line railway from Peking to Hankow was finally constructed all the way, but the other major developments were the extension of branch lines from this main road.
CHAPTER IV

PRESENT STATUS AND PROBABLE FUTURE
DEVELOPMENTS OF RAILWAYS IN CHINA

September 18, 1931, a bomb exploded on the South Manchurian Railway just outside Mudken. The results were another war between China and Japan. Japanese troops seized Manchurian cities, and in the ensuing year the puppet state of Manchuko was established by the Japanese Government. Out of this occupation and seizure of Manchuria has grown the present state of war between China and Japan in which Japan has seized the eastern coast of China and gained control of her principal waterways and railroads.

There had been resentment against Japan in China for many years previous to this war over the South Manchurian Railway Company in 1931. Japan had taken the railway away from Russia, modernized it, and built branches connecting the different parts of the country. The Chinese had been denied any part of the administration of the railroad, and they feared Japan had designs on the entire country. Manchuria is rich in natural resources, especially coal and iron, and the Japanese needed raw materials to further develop her industrial life. China chose passive resistance to Japan’s program, and this took the form
of a boycott of Japanese merchants and manufactured goods.

In Japan, economic conditions were serious before the Chinese boycott started. Japan is dependent upon the sale of raw silk in the United States and of manufactured goods in the low-priced markets of China and other Asiatic countries. 1 Inflation of the currency in Japan had increased the price of commodities, and the cost of living rose. Wages had to be increased to meet the added demands, and this caused an increase in prices. Loss of markets resulted, and from 1920 to 1929 Japan went through a period of depression, which aggravated the stock market crash in the United States in 1929. As a result Japan's markets in the United States suffered.

Boycott of Japanese goods by the Chinese was a hard blow to Japanese finance. 2 In places it was eighty per cent effective. There was a decline of forty per cent in Japanese exports to China in 1931.

Japanese officials were angered and alarmed over the situation. Japan was dependent upon exports for revenue to support its government and army. Japanese trading firms in China found it almost impossible to conduct business. Japanese banks were boycotted, and small Japanese industrial and business units in China were completely snuffed out. In

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1 Gibson, op. cit., p. 189.
2 Ibid., p. 247.
November 1931, it was reported that most of the small Japanese merchants in China faced bankruptcy. Chinese people were arrested and detained in jails on proof that they had bought and sold Japanese goods.

The second Sino-Japanese War and the establishment of the state of Manchuko did not improve this situation. The boycott increased in intensity and range, and Japan, in 1936, again attacked China. A fleet of warships and Japanese troops appeared before Shanghai and captured the city after weeks of hard fighting. This particular Japanese army then began a drive into the interior up the Yangtze River Valley with its objective as Hankow, the provisional seat of the Chinese Republic.

Three different fronts of attack have been utilized by the Japanese, each one having for its object the capture and control of a railway, the route from Hankow to Canton. The most publicised attack has been the one on Shanghai and the drive up the Yangtze River towards Hankow. While this was in progress, Japanese troops advanced on Canton in southern China. Their objective was to capture this city and gain control of the railroad from this point north. On October 21, 1939, the city fell, and the army moved northward up the railway line

\[ \text{Ibid.}, \ p. \ 248. \]
toward Hankow. From the north a mechanized army moved across the province of Honan and captured Sinyiang on the Hankow-Peiping branch of the Peking-Canton branch. Hankow fell before these three invading armies in November and the Japanese army had thereby gained control of the vital line of communication that had been supplying the Chinese army with munitions. It is estimated that by the capture of Canton alone the Chinese munitions supplies will dwindle by sixty per cent. Imports now will have to be routed over the still unfinished highway from Burma to Yunnan or the French narrow-gauge railway from Indo-China to the same remote provincial capital. A network of railways around Hankow served as a distributing center for the munitions shipped into Hong Kong and from there to Canton and up the Canton-Hankow Railway. These railroads are now also in control of the Japanese army. During the course of the war until September 26, 1938, the Canton-Hankow railroad line was bombed in 1,300 places. Speedy repair work by the Chinese held the delays in service down to a minimum, and the trains continued to run. In spite of war and heavy war supply shipments, the line made money, and the net profit for last fiscal year was $4,000,000.

In Tokyo a big question has been how far to carry the

4 *Newsweek*, Nov. 14, 1938, p. 16.
5 *Newsweek*, Oct. 31, 1938, p. 15.
war into China, before operations cease. Informed quarters have stated that once Japan took Hankow and gained possession of the railway connecting it and Peking, no further invasion was contemplated.

At the present time, it would seem as if Japan is going to follow this course of slowing down military operations since she has gained her objective, Hankow and the rail and water transportation system around it. Large numbers of troops have been recalled and sent to Manchouko.\(^7\) The tension in the European situation has caused Japan to watch Russia for developments from that direction.

Foreign interests have been extremely concerned over the trade situation in China. In 1899, United States Secretary Hay created what is known as the Open Door policy.\(^8\) He obtained from the major powers a promise not to discriminate against other nations' commerce in their various spheres of influence in China. Under this policy foreigners have developed trade relations and have invested a great deal of money in China. Table VI shows the approximate amount of these investments in December, 1930.\(^9\) It has been impossible to obtain exact statistics for no one knows more than in rough approximation what the foreign investments in China are. No government records are kept, and the size of the national debt can only

\(^7\) *Newsweek*, April 24, 1939, p. 24.

\(^8\) *Newsweek*, Dec. 19, 1938, p. 19.

\(^9\) Clark, op. cit., p. 45.
## TABLE 6
FOREIGN INVESTMENTS IN CHINA*

<table>
<thead>
<tr>
<th>Nation</th>
<th>Amount</th>
<th>Per Cent of Total Loans</th>
<th>Per Cent of Investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>British</td>
<td>35,000,000</td>
<td>25.3</td>
<td>14.0</td>
</tr>
<tr>
<td>Japanese</td>
<td>29,500,000</td>
<td>21.3</td>
<td>11.8</td>
</tr>
<tr>
<td>American</td>
<td>6,100,000</td>
<td>4.4</td>
<td>12.2</td>
</tr>
<tr>
<td>French and Belgium</td>
<td>27,800,000</td>
<td>27.3</td>
<td>75.6</td>
</tr>
<tr>
<td>German and Austrian</td>
<td>24,800,000</td>
<td>17.9</td>
<td>9012</td>
</tr>
<tr>
<td>Russian</td>
<td>5,000,000</td>
<td>3.6</td>
<td>9.1</td>
</tr>
<tr>
<td>Others</td>
<td>100,000</td>
<td>.2</td>
<td>.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>138,300,000</td>
<td>100.0</td>
<td>19.8</td>
</tr>
</tbody>
</table>

*Approximate figures, as of Dec. 31, 1930. Pounds sterling equivalents. Boxer indemnity balances excluded from all figures. In connection with these figures the following points should be noted:

The amount for the total foreign investments is somewhat higher than the figure of U.S. $3,000,000,000 which frequently is given. Since the $3,000,000,000 was calculated, however, substantial new investments, chiefly in property, have been made in China by foreigners. These new investments have been made mainly by Americans in electric power plants, and by Japanese in mining and manufacturing. The amount of the foreign loans also has increased through continuing defaults of interest and principal payments—the Chinese Financial Readjustment Commission in 1925 estimated that, even without any new borrowing, China's debts were increasing at the rate of
TABLE 6

<table>
<thead>
<tr>
<th>Amount</th>
<th>Per Cent of Property</th>
<th>Per Cent of Investments</th>
<th>Amount</th>
<th>Per Cent of Investments</th>
</tr>
</thead>
<tbody>
<tr>
<td>215,000,000</td>
<td>39.3</td>
<td>66.0</td>
<td>250,000,000</td>
<td>35.7</td>
</tr>
<tr>
<td>220,500,000</td>
<td>39.2</td>
<td>88.2</td>
<td>250,000,000</td>
<td>35.7</td>
</tr>
<tr>
<td>43,900,000</td>
<td>7.8</td>
<td>87.8</td>
<td>50,000,000</td>
<td>7.2</td>
</tr>
<tr>
<td>12,200,000</td>
<td>2.2</td>
<td>24.4</td>
<td>50,000,000</td>
<td>7.2</td>
</tr>
<tr>
<td>2,700,000</td>
<td>.5</td>
<td>9.8</td>
<td>27,500,000</td>
<td>3.9</td>
</tr>
<tr>
<td>50,000,000</td>
<td>8.9</td>
<td>90.9</td>
<td>55,000,000</td>
<td>7.8</td>
</tr>
<tr>
<td>17,400,000</td>
<td>3.1</td>
<td>99.4</td>
<td>17,500,000</td>
<td>2.5</td>
</tr>
<tr>
<td>561,700,000</td>
<td>100.0</td>
<td>80.2</td>
<td>700,000,000</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Some Yuan 200,000,000 a year through accumulation of interest and unpaid principal. The figure 700,000,000 (U.S. $3,500,000,000) is reasonably close to the present total foreign investment in China. The Boxer indemnity balances have not been included in the above figures because this indemnity in its origin was not a foreign investment in China, strictly speaking, even though nominally the indemnity was to pay for property and lives destroyed, and because the outstanding balances have all been "remitted" in one form or another to China or (in the cases of France and Belgium) transformed into loans. These French and Belgian loans are included in the table, and explain the comparatively large amount of French and Belgian loans.
be roughly estimated. By these figures it may be seen that Britons, Japanese, and Americans together own 85.3 per cent of all the foreign property in China, and hold 51.0 per cent of all the foreign financial obligations (excluding the Boxer indemnity balances). Their investments comprise 78.6 per cent of the total foreign investments in China. In the past five years, they had had, on the average, 75.9 per cent of China's foreign trade. A total of 52,257,000 pounds have been advanced by foreigners for railway construction in China on the direct security of the lines themselves. Of this, 43,320,000 pounds have not yet been paid. In addition another 11,000,000 pounds has been loaned for railway activities.

In view of these facts, it is not to be supposed that the foreign powers with investments in China have favored the present Japanese activities in that country. It will be remembered that in 1931 Japan set up the puppet Japanese state of Manchoukuo out of Manchuria, and maneuvered to shut off the trade of other nations until the Open Door policy was almost completely obliterated. In December, 1938, Japanese Foreign Minister Hachiro Arita summoned the American Ambassador to the Tokio Foreign Office and replied to a note

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10 Ibid., p. 59.
11 Ibid., p. 59.
the United States had sent to Japan protesting against economic discrimination in China.  Briefly, the reply was this: the Open Door was applied in no other country, Japan could not be expected to do so in China. Japan has protested the presence of foreign ships in the Yangtze River on account of the danger of war activities, but between October 26, date of the capture of Hankow, and November 21, 1938, officials reported the arrival of 1,738 commercial ships all flying the Japanese Flag. In the middle of November, 1938, Japan announced the formation of a monopolistic corporation, capitalized at $27,700,00, to exploit Central China. It would take over the Yangtze Valley power, communication, navigation, and steel industries.

The attitude that this Central China Development Company will take toward foreign investments is indicated in different comments from officials in Tokio. War Minister Itagaki stated that troops would be kept in the Yangtze Valley after the war was over. Barracks were being constructed he said, and measures were being taken to furnish provisions and clothes for the soldiers. Navy Minister Yenai said the navy intended to continue to hold the Yangtze River, and Foreign Minister Arita cautiously suggested a plan for taking over foreign interests in China. If war was declared, he said, military

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13 Ibid., p. 19.
14 *Newsweek*, Nov. 21, 1938. p. 21.
action would take no cognizance of extra-territorial rights and other interests of foreign powers. He admitted that Japan was going to soon take over fifteen basic industries and put them on a full war footing.

To meet this situation, the United States, Great Britain, and France have either to accede to the terms of Japanese trade restrictions or counter by offering aid to the Chinese officials. Evidently, the latter course has been chosen. In December, the United States Export-Import Bank granted $25,000,000 worth of credit for the purchase of agricultural implements and machinery. Prompt use of this credit was made by China and 1,000 trucks were immediately purchased to carry Russian supplies over her new motor road from Siberia. This act was followed by the Treasury Department offering China financial aid in marketing its silver in this country. England has advanced China $2,500,000 for supplies, and France has been shipping in supplies to China through French Indo-China.

China, in the meantime, has not been inactive. She has used the pause in military activities to build up a war industry in the inaccessible portion of west China and in reorganization of her army. At the provisional capital in

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17 Ibid., p. 16.
Chungking, Chinese commanders stated that they would "trickle" 600,000 troops through the Japanese lines to carry on guerrilla activities. Recent activities show that they have succeeded to some extent. At Kaifeng, the railway was torn up, and at Tatung, in north China, coal mines were flooded. Officials of the puppet governments that have been set up in the conquered regions have been assassinated. Pearl Buck, writer on China, asserts that "Free China has gone to work". Cooperative businesses have been established back in the free provinces. These include fuel alcohol manufacture, spinning, knitting, tanning, mining, and transportation. Technicians have made a survey of the provinces of Hupeh, Szechwan, Sikong and Yunnan and planned future developments there.

From these indications, it would seem that China is a long way from being conquered by Japan. The conflict may last an indeterminate length of time, and no constructive work will go on as long as the internal peace of the country is threatened. Then, too, Japan has not the capital necessary for the development of industry and the building of railway lines. The present war has drained the Japanese treasury, and the Japanese people are now taxed almost to the limits of their capacity to pay. The money for

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18 Newsweek, April 24, 1939. p. 24.
19 Pearl S. Buck, "Free China Gets to Work", Asia, March, 1939.
development will have to come from other sources than China or Japan. The North China Development Company has evidently been giving this subject some consideration. Its president, Kenji Kodama, stated on its organization that the company had no thought of monopoly, and that foreign investments would not be opposed. According to interpretations of this statement, foreign capital will be "invited to participate in China's reconstruction" after the war is over. Presumably, when that time comes businesses and governments cooperating with the Japanese Government will receive preferential treatment, while others that do not will be discriminated against until their trade will be restricted if not curtailed altogether. Of course these things are all preceded with an "if". If China should happen to be victorious, the country will be so ravaged and exhausted that it would be many years before it would be financially able to foster an extensive construction program. If Japan could be able to hold the territory she has already conquered without guerrilla harassment, a rapid development of the country would probably ensue. Added railway lines would be built by foreign capital that would be attracted by a stable, organized government. Trade has improved the financial and social life of China and

20 Newsweek, Nov. 21, 1938.
21 Ibid.
Manchuria where ever it has been developed, and there is no reason to prevent its doing so again. Statistics prove this.

The first factories were built in China in 1890, and the first railway system to any extent was completed in the decade 1890-1900. In 1890 China's import trade had increased sixty per cent over that of the previous decade and exports had advanced twelve per cent. China's trade for the year 1910 was three times as much as the totals for the twenty years previous. The following statistics show the trend of trade relations as China developed.

TABLE 7

<table>
<thead>
<tr>
<th>City</th>
<th>1913 (In million HK Taels)</th>
<th>1926</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Imports</td>
<td>Exports</td>
</tr>
<tr>
<td>Canton..</td>
<td>61</td>
<td>115</td>
</tr>
<tr>
<td>Shanghai</td>
<td>340</td>
<td>260</td>
</tr>
<tr>
<td>Hankow</td>
<td>86</td>
<td>100</td>
</tr>
<tr>
<td>Tientsin</td>
<td>121</td>
<td>45</td>
</tr>
<tr>
<td>Darien..</td>
<td>57</td>
<td>69</td>
</tr>
</tbody>
</table>

The building of the railway line from Canton to Hankow has greatly facilitated the marketing of tea. Formerly, the

22 Julean Arnold, "China's Post War Trade", Annals of the American Academy, p. 82.
23 Ibid., p. 82.
24 Cheng, op. cit., p. 162.
tea leaves had to be transported by human carriers, and the cost of this plus the limited poundage greatly restricted the sale of the product. With the building of the railway, the tea fields of China were given an outlet and the tea exports last year (1937) increased four per cent over the previous year, amounting to 89,632,863 pounds and valued at over $30,000,000. In 1938, the Soviet Union contracted to buy $15,000,000 worth of tea. Already shipped from Hankow to Hong Kong by September were over 975,000 pounds of brick tea from Hunen to Hupeh. The added revenue from the greater sale and the higher price made possible through selling in a foreign market will bring a higher standard of living to Chinese farmers.

In 1907, Japan took over a section of the Chinese Eastern Railway known as the South Manchurian Railway, 423 miles long. Since this time the mileage has increased to over 1200 miles. The Railway Company has developed the port of Darien and the foreign trade of the country has increased enormously. Three years after the Russo-Japanese War the total trade reached $40,000,000. In the first year after the close of the European War it had risen to nearly $500,000,000. The foreign trade returns for the ten years, 1911-1920, are as follows:

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25 *Time*, September 26, 1938.

26 *Manchuria, op. cit.*, p. 57.
### TABLE 8
FOREIGN TRADE OF MANCHURIA

<table>
<thead>
<tr>
<th>Year</th>
<th>Dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1911</td>
<td>$128,396,678</td>
</tr>
<tr>
<td>1912</td>
<td>132,265,545</td>
</tr>
<tr>
<td>1913</td>
<td>138,616,747</td>
</tr>
<tr>
<td>1914</td>
<td>150,994,486</td>
</tr>
<tr>
<td>1915</td>
<td>113,661,378</td>
</tr>
<tr>
<td>1916</td>
<td>160,213,640</td>
</tr>
<tr>
<td>1917</td>
<td>271,138,053</td>
</tr>
<tr>
<td>1918</td>
<td>318,773,987</td>
</tr>
<tr>
<td>1919</td>
<td>490,247,506</td>
</tr>
<tr>
<td>1920</td>
<td>429,431,476</td>
</tr>
</tbody>
</table>

One of the results that this increased has brought to Manchuria has been the establishment of schools for the children. In 1907 there were but two elementary schools, one for Japanese children at Liayyang under the Y.K.C.A., and the other one for Chinese children at Chenkingsai established by the Buddhist mission. Today the South Manchurian Railway Company maintains twenty-five elementary schools for Japanese and thirteen for Chinese children; eleven girl's schools for practical courses; one girl's high school; three commercial schools each for Japanese and Chinese boys; two high schools; an industrial college; a school of elementary mining; a medical college; and twenty kindergartens and play grounds.\(^{27}\)

In addition to these schools there are two libraries and

other educational institutions. These schools cannot but have an effect on the social life of the country, and on raising of the standard of living.

Manchuria has been a part of China. Railroads have developed it until it compares favorably with other portions of the world in many respects. There is no reason to conclude that railways will not do as much for China once the country secures adequate systems of communication. Natural barriers, lack of capital, religious beliefs, political uprisings, and foreign wars have all conspired to hold down the railroad mileage until it presents the most extensive field for railway enterprise anywhere in the world. It is estimated that 100,000 miles of railways are needed to connect the different parts of China and furnish needed transportation for Chinese products. Once this is accomplished, be it next year or three decades, China will completely emerge from the cocoon it has woven about itself and take on the new manners and methods of living that the industrial age has brought about.

In reviewing the history of the development of the railroads in China, it may be seen that it has been a struggle between the forces of industrialism of the West, and the ingrown conservatism and opposition to change of the East. Due to unusual conditions existing in China, the struggle for
progress has been more pronounced there than elsewhere.

Natural barriers had fostered Chinese isolation, and the character of the Chinese religion and philosophy had materially aided the isolationist concept. The exact history or age of the land is unknown, but records show that it is one of the oldest in existence. The Pacific Ocean shut the Chinese people off from contact on the West with the more modern nations, and mountains and deserts hemmed them in on other sides. Ancestor worship demanded many sons to carry on the traditions of the country, and early marriages and plural wives populated the land until one of the most outstanding things about the country today is the enormous number of people that live on it.

The Chinese developed a culture of their own, and one that they felt to be superior to that of other nations. They raised their living on the soil, the standard of living was low, and it did not take much to satisfy their needs. They felt no desire nor need of the trade of other nations, and for centuries they refused to let traders from other lands work within the country. The waterways of the country sufficed as means of communication and transportation of goods. Some occupation had to be provided for the millions of people, and one of the most popular worked out was that of human carriers
for the transportation of articles from one part of the country to the other. Far back in the mountains, human porters carried their loads on their backs over steep hills down to the valleys below, where they were transferred to junks pulled up and down the rivers and canals by ropes drawn by dozens of men. China was self-sufficient, and she felt no need of other people or new ways of doing things. The consequence was that she resisted the efforts of other nations to introduce railroads and other progressive institutions.

When China did realize the need for railroads and the benefits to be derived from their operation, she was in no position to build them. The lack of foreign trade left the country without almost any income from this source, and the Chinese people were too poor to be taxed to any extent. China had no money with which to build the roads. Right at the time when she might have been able to do something about it, she was defeated in a war with Japan, and forced to pay a large war indemnity. This put the country in debt, and under obligations to the countries that had helped her against Japan. When these countries demanded pay for their help in the form of railroad concessions and extra-territorial privileges, China was almost compelled to yield. In this way, Russia, Germany, France and England gained territory and privileges within China,
and began to try to develop the country.

The extra-territorial privileges and the railroad concession granted Russia have been the cause of more than one war, and indirectly influence the course of the one between China and Japan now in progress. Japan wanted this portion of China for herself and in acquiring it, incurred the enmity and suspicion of the Chinese people. The Chinese have refused to trade with Japan because of this feeling, and Japan has been determined to capture the markets of China, potentially the greatest ones in the world. Other countries with large investments in China have been forced to maintain a "hands-off" policy or be drawn into the conflict now in progress between China and Japan.

In the meantime, the development of China has been hindered and retarded. Railway development which had been progressing gradually since 1900 has been completely stopped, and since Japan has gained control of the one main trunk line of the country, the old methods of transportation over the mountain routes east of the country are again being utilized. Many perplexing questions of foreign control have yet to be settled, and China has suffered much at the hands of those who would have developed the country.
BIBLIOGRAPHY

Major Books Dealing with Chinese Railways


Manchuria: Land of Opportunities, New York, South Manchurian Railway, 1922.

Meng, Chih, China Speaks, New York, MacMillan Co., 1932.


Sokolsky, George B., The Tinder Box of Asia, Doubleday, Doran & Co., 1922.


Ware, Edith B., Business and Politics in China, New Haven, Yale University Press, 1932.


Young, C. W., Japanese Jurisdiction in the South Manchurian Railway Area, Baltimore, John Hopkins Press, 1931.

Books of Brief Mention on Chinese Railroads


Buck, George J., Chinese Farm Economy, Chicago, University of Chicago Press, 1930.


Chesterton, (Mrs.) Cecil, Young China and New Japan, Philadelphia, J. B. Lippincott Co., 1917.


Crow, Carl, Four Hundred Million Customers, New York, Harper and Brothers, 1937.


Harris, N. D., Europe and the East, Boston, Houghton Mifflin, Co., 1926.


Hunt, Frazier, This Bewildered World, New York, Frederick A. Stokes Co., 1934.


Miller, George J., Life in Asia, Bloomington, Ill., McKnight and McKnight, 1936.


Scherar, J. A. B., Japan's Advance, Tokyo, Hokuseido Press, 1934.


Wu, Chao-Chu, Nationalists Program for China, New Haven, Yale University Press, 1929.
Periodicals Dealing with Chinese Railways

Buck, Pearl S., "Free China Gets to Work ", Asia, (March 1939).


"Japan," Time, Vol. XXXII (December 12, 1938), 22.


